DEPARTMENT OF TRANSPORTATION
BALTIMORE CITY

ST. PAUL AND CALVERT STREETS TWO WAY STUDY

Two-Way Operations Analysis

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Prepared by:

Sabra, Wang & Associates, Inc.

7055 Samuel Morse Dr., Ste. 100, Columbia, MD 21046 | 443-741-3500 | sabra-wang.com

Table of Contents

I. INTRODUCTION 1

II. INITIAL TWO-WAY ANALYSIS 1
- A. Proposed Geometry and Street Cross Sections 1
- B. Proposed Signal Timing 1
- C. Re-balanced Multi-Modal Traffic Volumes 2
- D. Initial Two-Way Traffic Operations Analysis 2
- E. Initial Two-Way Corridor Travel Times 7

III. OPTIONS TO IMPROVE TWO-WAY TRAFFIC OPERATIONS 9
- A. Traffic Diversions 11
- B. Signal Re-timing 11
- C. Dedicated Turn Lanes 14
- D. On-Street Parking Displacement 21
- E. Transit Operations 21
- F. Additional Considerations under Two-Way Traffic Flow 22

IV. LOGICAL TERMINI 26
- A. Northern Termini 26
- B. Southern Termini 27

V. COSTS TO CONVERT ST. PAUL AND CALVERT STREET CORRIDORS 27

Note:

This report addresses the analysis of two-way traffic operations along the study corridor. A separate report titled *Existing Conditions Analysis*, addresses the analysis of existing traffic operations along the corridor.

List of Tables

Table 1: Intersection Level of Service - Delay Ranges 2
Table 2: Initial Two-Way Level of Service St. Paul Street 5
Table 3: Initial Two-Way Level of Service Calvert Street 6
Table 4: Potential Mitigation Option Tool Box 10
Table 5: St. Paul Street LOS with Diversions/Signal Timing Changes 12
Table 6: Calvert Street LOS with Diversions/Signal Timing Changes 13
Table 7: Two-Way with Dedicated Turn Lanes/Rush Hour Lanes Level of Service – St. Paul Street 16
Table 8: Two-Way with Dedicated Turn Lanes/Rush Hour Lanes Level of Service – Calvert Street 17

List of Figures

Figure 1: Initial Two-Way Level of Service 4
Figure 2: Existing Corridor Travel Time 8
Figure 3: Initial Two-Way Flow Corridor Travel Time 8
Figure 4: Benefit of Dedicated Turn Lanes 15
Figure 5: Two-Way with Dedicated Turn Lanes/Rush Hour Lanes Level of Service 18
Figure 6: Two-Way Travel Time with Toolbox Improvement Options 19
Figure 7: Travel Time Comparison - Existing, Two-lane Two-Way, and Two-Way with Toolbox Options 20
Figure 8: Intersection Conflict Point Diagram 22
Figure 9: Curbside Parking Displacement 24
Figure 10: Existing and Proposed Bicycle Facilities 25

Appendices

Appendix A – Typical Cross Sections
Appendix B – Two-Way Volume Diagram
Appendix C – Two-Way HCM Reports
Appendix D – Existing Conditions Travel Times
Appendix E – Initial Two-Way Travel Times
Appendix F –Options to Improve Two-way Operations Capacity Analysis Reports
Appendix G – Dedicated Turn Lanes/Rush Hour Lanes Capacity Analysis Reports
Appendix H – Dedicated Turn Lanes/Rush Hour Lanes Travel Times
Appendix I – Parking Restrictions Diagram

I. Introduction

In response to community requests, the Baltimore City Department of Transportation is carrying out a study of the St. Paul and Calvert Streets corridor from Fayette Street to E. University Parkway. The purpose is to investigate the impact of converting both streets from one-way traffic operations to two-way traffic operations. A previous report titled *St. Paul St. & and Calvert St. Two-Way Traffic Study* presents existing conditions in the study area. This analysis was performed based on a proposed geometry of two-way traffic where there is one lane in each direction and this study presents the two-way flow traffic analysis including:

- Defining the proposed two-way geometry / roadway configuration
- Detailing the alternative analysis methodology and results
- Defining the options to improve two-way flow and logical transition points from one-way to two-way

II. Initial Two-Way Analysis

A. Proposed Geometry and Street Cross Sections

The roadway geometry used to analyze the corridor conversion assumed a two-way, two-lane cross-section on both St. Paul Street and Calvert Street. This cross-section would allow for full-time parking on both sides of each street and also allow two-way traffic on each street (one lane in the northbound direction and one lane in the southbound direction). Proposed two-way cross-sections were developed for each block (the length between intersections), and grouped together in typical segments (multiple blocks where the curb to curb street width is identical). Conceptual schematics are located in **Appendix A**.

B. Proposed Signal Timing

Existing signal timing (i.e. cycle lengths of individual intersections, timing to coordinate adjacent signals, and green, yellow, and red intervals within each signal cycle) was retained to maintain coordination of the grid network, specifically the progression for east-west traffic. The proposed new direction of traffic was assumed to operate concurrently with the existing one-way phase along St. Paul and Calvert Streets.

C. Re-balanced Multi-Modal Traffic Volumes

The existing traffic count volumes, compiled from new counts collected in September 2015, were used to develop the expected traffic volumes under a two-way traffic conversion. Assuming after a two-way conversion distribution of traffic volumes would ultimately reach equilibrium between the two streets all existing traffic volumes, including left and right turns to and from St. Paul Street and Calvert Street at cross streets, were assigned evenly between St. Paul Street and Calvert Street. Half of the existing northbound traffic on Calvert Street was assumed to use St. Paul Street under two-way operations, and half of the existing southbound traffic on St. Paul Street was assumed to use Calvert Street. (A sensitivity analysis assuming an uneven traffic distribution – e.g. more traffic remaining on St. Paul was also performed and is discussed later in the report). **Appendix B** contains a two-way traffic volume diagram for the critical intersections.

D. Initial Two-Way Traffic Operations Analysis

Intersection capacity analyses were performed using the 2000 Highway Capacity Manual (HCM) methodology for the 61 signalized study area intersections under two different peak periods, morning and evening weekday rush hours. The performance measure of effectiveness used was the Level of Service (LOS).

What is Level of Service?

LOS is a qualitative measure describing operational conditions within a traffic stream based on the amount of delay experienced at an intersection. LOS values range from A to F, where LOS A represents optimal conditions, and LOS F represents saturated or failing conditions.

Table 1, shows the letter grades and their corresponding delay values measured in seconds for different Levels of Service. The Baltimore City DOT standard for acceptable LOS is a LOS D.

Table 1: Intersection Level of Service - Delay Ranges

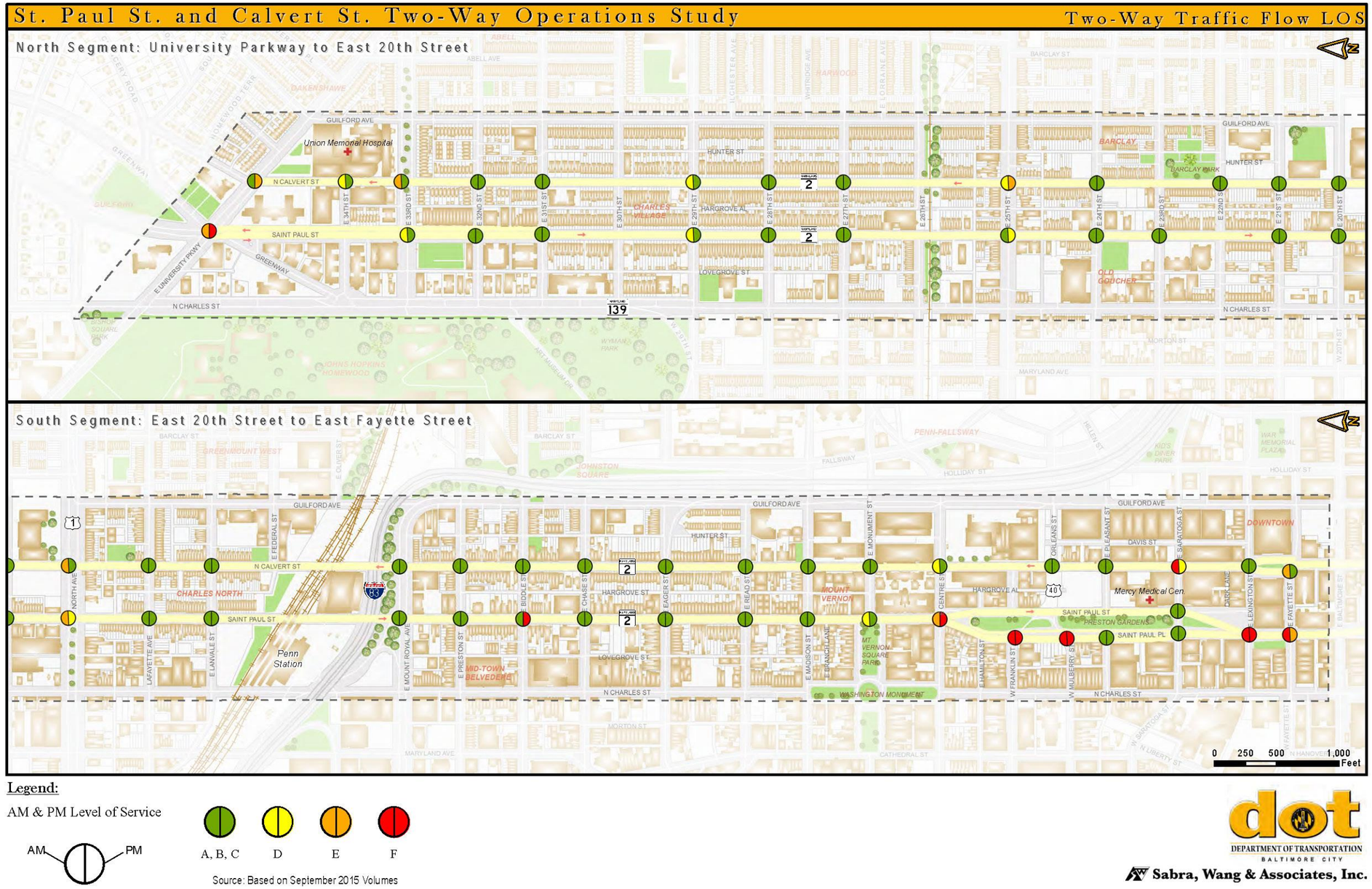
Signalized intersections	
Level of service	**Delay range (sec)**
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

The capacity analysis was used to identify operational deficiencies induced by two-way conversion that impede vehicle traffic flow along St. Paul and Calvert Streets. The results of the analysis are shown in Figure 1 and detailed in Table 2 and Table 3. Detailed HCM worksheets under the two-way conversion are located in **Appendix C**. Of the 61 signalized intersections, 14 are forecasted to operate at LOS of E or F during at least one of the peak hours due to increased average vehicle delays. The increased delays are due to the reduced number of through travel lanes, and subsequent blocking of through traffic by right and left-turning vehicles. The 14 intersections forecasted to operate a LOS E or F include:

- St. Paul Street at:
    - University Parkway
    - North Avenue
    - Biddle Street
    - Centre Street
    - Franklin Street
    - Mulberry Street
    - Lexington Street
    - Fayette Street

- Calvert Street at:
    - University Parkway
    - 33rd Street
    - 25th Street
    - North Avenue
    - Saratoga Street
    - Fayette Street

Figure 1: Initial Two-Way Level of Service



Legend:

AM & PM Level of Service

Source: Based on September 2015 Volumes

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Table 2: Initial Two-Way Level of Service St. Paul Street

Overall Level of Service - St. Paul Street				
Intersection	Existing AM	Existing PM	Two-way AM	Two-way PM
St. Paul Street at University Parkway	D	D	E	F
St. Paul Street at E 33rd Street	E	C	D	C
St. Paul Street at E 32nd Street	A	B	A	B
St. Paul Street at E 31st Street	A	A	A	B
St. Paul Street at E 29th Street	B	B	D	C
St. Paul Street at E 28th Street	A	A	A	B
St. Paul Street at E 27th Street	A	A	A	B
St. Paul Street at E 25th Street	B	B	B	D
St. Paul Street at E 24th Street	A	A	A	B
St. Paul Street at E 23rd Street	A	A	A	B
St. Paul Street at E 21st Street	A	B	A	B
St. Paul Street at E 20th Street	A	A	A	A
St. Paul Street at North Avenue	E	C	F	D
St. Paul Street at E Lafayette Avenue	B	B	A	B
St. Paul Street at E Lanvale Avenue	A	A	B	B
St. Paul Street at E Mount Royal Avenue	B	A	B	B
St. Paul Street at E Preston Street	A	A	A	B
St. Paul Street at E Biddle Street	A	B	A	F
St. Paul Street at E Chase Street	A	A	A	B
St. Paul Street at E Eager Street	A	A	A	A
St. Paul Street at E Read Street	A	A	B	B
St. Paul Street at E Madison Street	A	A	A	B
St. Paul Street at E Monument Street	D	A	D	B
St. Paul Street at E Centre Street	A	A	D	F
Upper St. Paul Street at E Franklin Street	C	C	F	F
Upper St. Paul Street at E Mulberry Street	A	B	F	F
Lower St. Paul Street at E Pleasant Street	B	B	B	B
Upper St. Paul Street at E Saratoga Street	A	C	C	C
Lower St. Paul Street at E Saratoga Street	B	C	B	B
St. Paul Street at E Lexington Street	D	B	F	F
St. Paul Street at E Fayette Street	A	A	F	E

Table 3: Initial Two-Way Level of Service Calvert Street

Overall Level of Service - Calvert Street				
Intersection	Existing AM	Existing PM	Two-way AM	Two-way PM
Calvert Street at University Parkway	C	D	C	E
Calvert Street at E 34th Street	A	A	D	A
Calvert Street at E 33rd Street	B	C	E	C
Calvert Street at E 32nd Street	A	A	C	A
Calvert Street at E 31st Street	A	A	A	A
Calvert Street at E 29th Street	B	A	D	B
Calvert Street at E 28th Street	A	B	A	B
Calvert Street at E 27th Street	A	A	B	B
Calvert Street at E 25th Street	C	C	D	F
Calvert Street at E 24th Street	A	A	A	A
Calvert Street at E 22nd Street	A	A	C	B
Calvert Street at E 21st Street	A	A	A	A
Calvert Street at E 20th Street	B	B	B	B
Calvert Street at North Avenue	C	D	E	F
Calvert Street at E Lafayette Avenue	A	A	B	B
Calvert Street at E Lanvale Avenue	A	A	A	A
Calvert Street at E Mount Royal Ave	B	B	B	B
Calvert Street at E Preston Street	A	A	A	A
Calvert Street at E Biddle Street	A	A	B	A
Calvert Street at E Chase Street	A	A	B	A
Calvert Street at E Eager Street	A	A	B	A
Calvert Street at E Read Street	A	A	B	A
Calvert Street at E Madison Street	A	A	B	B
Calvert Street at E Monument Street	A	A	B	A
Calvert Street at E Centre Street	B	B	D	C
Calvert Street at Bath Street	A	A	B	A
Calvert Street at E Pleasant Street	A	A	A	B
Calvert Street at E Saratoga Street	C	B	F	D
Calvert Street at E Lexington Street	A	B	B	A
Calvert Street at E Fayette Street	B	B	E	C

E. Initial Two-Way Corridor Travel Times

Level of service (LOS) is a qualitative measure of the operating conditions of a transportation network. LOS is based on the industry standard of the nationally published *Highway Capacity Manual* by the Transportation Research Board, and is a widely accepted performance measure by Federal, State and Local governments for intersections. However, LOS alone does not always fully capture real world traffic conditions as it only assesses each intersection indepenently. Some limitations of intersection LOS is that it does not reflect the interaction between intersections that (e.g. vehicles queuing from a downstream intersection and blocking an upstream intersection) that may occur in a traditional urban street grid. Vehicle travel time, defined as the length of time including driving time and stopped time due to signal delay, to travel from one point in the corridor to another, was chosen as the second measure of performance to provide a better indication of the performance of the overall street grid.

Travel times along both St. Paul Street and Calvert Street were estimated using a traffic simulation software model (SimTraffic) that employs car-following logic to represent individual vehicles moving through a transportation network, reflecting real-world behavior based on field-documented traffic volumes, signal timing and roadway geometry. Multiple simulations of the existing and two-way conditions model were performed and averaged to compare travel times under each scenario. Existing modeled travel times were calibrated based on several dozen field-driven rush hour measurements, supplemented with publicly available GPS-based speed data so that the model is properly able to predict future conditions. Existing travel times are shown in Figure 2 and detailed in **Appendix D**.

Existing travel times in the northbound direction on Calvert Street average between 13 and 16 minutes during the AM peak hour and between 11 and 14 minutes during the PM peak hour. Existing travel times in the southbound direction on St. Paul Street average between 16 and 19 minutes during the AM peak hour and 11 and 14 minutes during the PM peak hour. With the initial two-way conversion, all modeled peak hour travel times increase to over 60 minutes for both directions on St. Paul Street and Calvert Street. This finding assumes no other changes to the network after the two-way conversion, beyond the assumed equal redistribution of northbound and southbound traffic volume and two-way two-lane geometry, such as traffic diversion to other streets, signal timing changes, etc. Initial two-way travel times are shown in Figure 3 and detailed in **Appendix E**.

Figure 2: Existing Corridor Travel Time

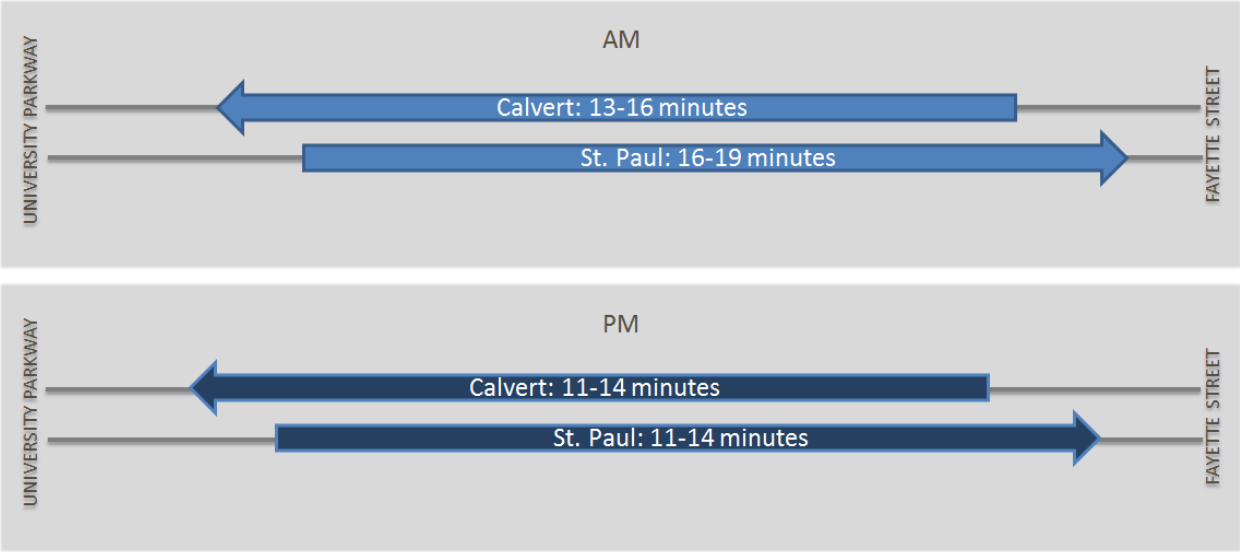
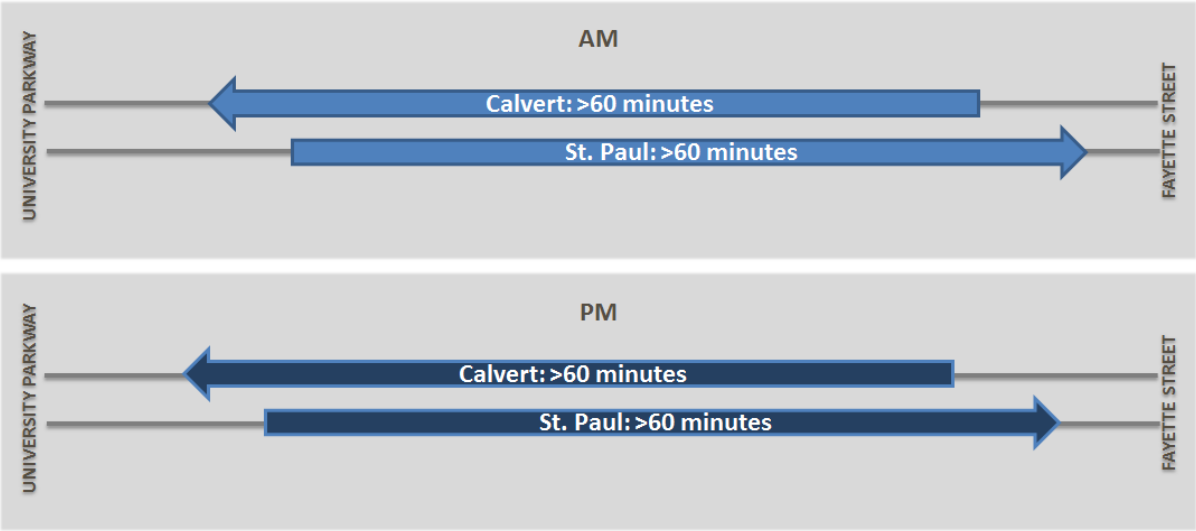


Figure 3: Initial Two-Way Flow Corridor Travel Time



III. Options to Improve Two-Way Traffic Operations

Although the two-way traffic pattern generally provides the same number of total northbound and southbound travel lanes between the two streets, the provision of two-way traffic patterns will reduce the capacity of the roadway network to carry traffic for several reasons including: 1) the increased demand at intersections to serve through and turning vehicles from directions that were previously prohibited, and 2) the inability of through vehicles to maneuver around turning vehicles, stopped buses, or vehicles making parking maneuvers.

The initial two-way analysis resulted in multiple failing intersections (e.g. LOS E or F) and significant increases in corridor travel times as outlined in Section II; therefore, options to improve the initial two-way traffic operations are summarized in Table 4. These options include traffic diversions, signal re-timing, dedicated left and/or right turn lanes, and additional rush hour travel lanes. These options were tested for the critical intersections (i.e. intersections with LOS E or F under the initial two-way analysis).

Table 4: Potential Mitigation Option Tool Box

Mitigation Option	Description	Advantage	Disadvantage
Traffic Diversion	Encourage traffic to use other north-south streets	Reduces demand on St. Paul/ Calvert Street	Increases traffic volumes on other adjacent streets, potentially over capacity of those streets
Signal Re-Timing	Provide additional signal timing/ phasing for new through and turn movements	Increases capacity for new movements	Reduces capacity for existing movements; May also disrupt progression of east-west traffic
Dedicated Turn Lanes - Roadway widening	Widen roadway at key intersections to provide additional turn lanes	Reduces conflicts between through and turning traffic	Expensive cost of right-of-way and construction; Reduces sidewalk width and increases pedestrian exposure in roadway
Dedicated Turn Lanes – Parking Restrictions	Restriction of parking near intersections to provide pocket turn lanes	Provides turn lanes without widening roadway	Reduces available on-street parking during rush hours or permanently displaces parking spaces
Turn Restrictions	Prohibition of left-turns at key intersections during rush hour	Eliminates conflicts between through and turning vehicles	Requires enforcement, increases right turns and volumes on adjacent blocks; adds travel time to reach destination
Transit Service Operations	Optimize transit service operations to minimize bus delay in traffic through scheduling, stop improvements and technology	Improves bus operations to maintain schedules and service levels	Cost of bus stop improvement and technology; May increase walking distance between bus stops, require longer bus stops,

A. Traffic Diversions

With roadway capacity on St. Paul Street and Calvert Street reduced due to increased delays at intersections under the two-way conversion, it would be expected that drivers may attempt to find alternative north-south routes on adjacent corridors. Therefore, testing a modest diversion percentage of 10% and 20% of existing traffic volumes away from St. Paul Street and Calvert Street (assumed to be distributed evenly across adjacent parallel streets) was performed at critical intersections to see if the level of service improved. These modest diversion percentages did not improve the LOS and therefore it would be expected that a diversion percentage of greater than 25% (at least 250 vehicles per lane per direction per rush hour) would be necessary to improve intersection LOS to acceptable levels. It would be unrealistic to achieve a percentage diversion of existing traffic volumes greater than 25% based current traffic and roadway conditions. Furthermore, the Maryland Avenue/Cathedral Street Cycle Track (protected bike lane) will substantially reduce the capacity of this southbound route to the point where it could not accommodate traffic diverted from St. Paul Street and in fact, some of the existing traffic on that route will have to divert.

B. Signal Re-timing

Signal re-timing is another option for improving the initial two-way level of service. Currently there is signal progression for southbound traffic on St. Paul Street and northbound traffic on Calvert. Introducing traffic in the opposite direction will result higher travel times and lower lane capacity because it will be running against the existing progression. Accordingly, without revising the signal timing to rebalance the progression, the contra flow lanes may have lower volumes. Minor signal timing changes (i.e. adjusting of green intervals) were tested at critical intersections. The results indicated that minor signal timing changes did not improve LOS at most intersections. Major signal timing changes such as longer or shorter cycle lengths and revising the coordination of traffic signals along St. Paul and Calvert Streets as well as major east-west streets would require extensive changes to a larger portion of the street network grid.

Results of the 10% diversion, 20% diversion, and Signal Re-timing are shown below in Table 5 and Table 6 for the key failing intersections along St. Paul Street and Calvert Street, respectively. Detail HCM worksheets for signal re-timing and traffic diversion analysis of two-way traffic operations are located in **Appendix F**.

Table 5: St. Paul Street LOS with Diversions/Signal Timing Changes

Overall Level of Service - St. Paul Street						
Intersection	Two-way with 10% Diversion AM	Two-way with 10% Diversion PM	Two-way with 20% Diversion AM	Two-way with 20% Diversion PM	Two-way with Signal Timing AM	Two-way with Signal Timing PM
St. Paul Street at University Parkway	D	F	D	F	E	F
St. Paul Street at E 33rd Street	D	C	C	C	D	C
St. Paul Street at E 29th Street	D	B	D	B	D	C
St. Paul Street at E 25th Street	B	C	B	C	B	D
St. Paul Street at North Avenue	F	D	F	C	F	D
St. Paul Street at E Biddle Street	A	F	A	F	A	F
St. Paul Street at E Centre Street	D	F	D	F	D	F
Upper St. Paul Street at E Saratoga St.	C	C	C	C	C	C
Lower St. Paul Street at E Saratoga St.	B	C	B	C	B	B
St. Paul Street at E Lexington Street	F	F	F	F	F	F
St. Paul Street at E Fayette Street	E	C	C	C	F	E

Table 6: Calvert Street LOS with Diversions/Signal Timing Changes

Overall Level of Service - Calvert Street						
Intersection	Two-way with 10% Diversion AM	Two-way with 10% Diversion PM	Two-way with 20% Diversion AM	Two-way with 20% Diversion PM	Two-way with Signal Timing AM	Two-way with Signal Timing PM
Calvert Street at University Parkway	C	E	B	D	C	D
Calvert Street at E 33rd Street	D	C	C	C	D	C
Calvert Street at E 29th Street	D	B	C	B	D	B
Calvert Street at E 25th Street	C	E	C	E	D	D
Calvert Street at North Avenue	D	F	D	F	E	F
Calvert Street at E Biddle Street	B	A	B	A	B	A
Calvert Street at E Centre Street	C	C	C	C	D	C
Calvert Street at E Saratoga Street	F	C	F	C	F	D
Calvert Street at E Lexington Street	A	A	A	A	B	A
Calvert Street at E Fayette Street	D	C	C	C	E	C

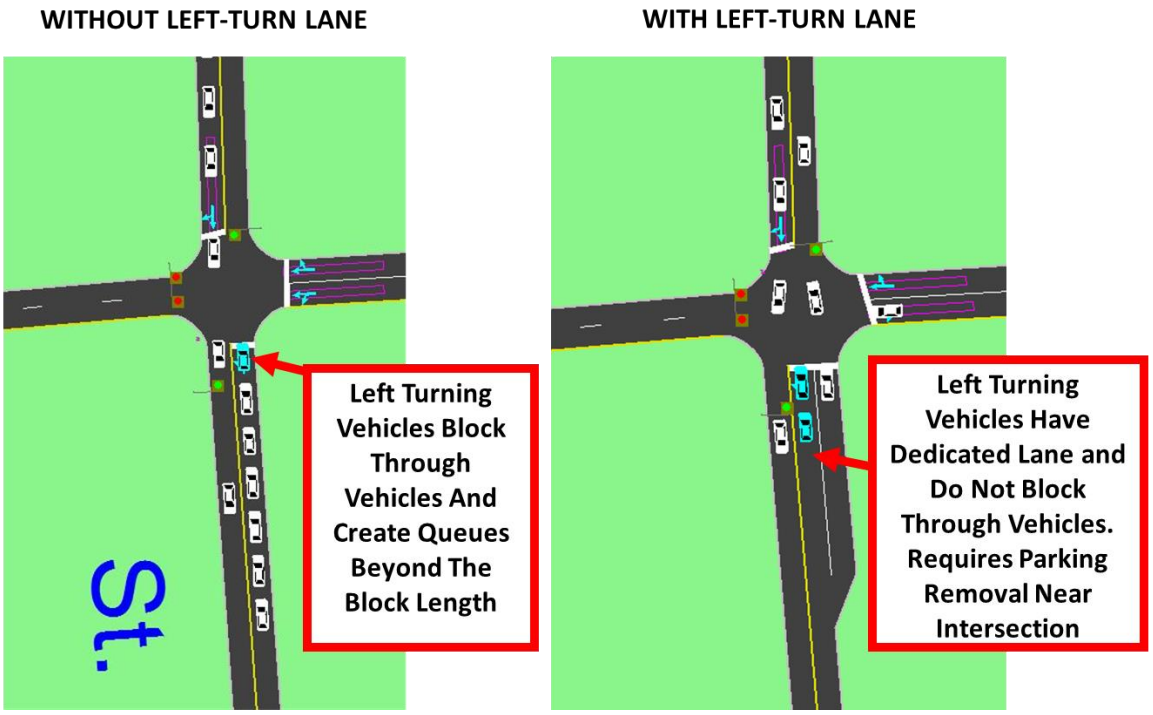
C. Dedicated Turn Lanes

Providing dedicated turn lanes at key intersections or providing additional travel lanes during rush hours on key blocks, is another option to improve traffic operations by reducing conflicts between turning vehicles and through traffic, thereby reducing delays. As shown in Figure 4, turning vehicles in a single lane network can cause queuing (implying vehicle delay) and block through traffic. However, creating dedicated left or right turn lanes requires (among other roadway changes such as signal timing, pavement marking and traffic signing) adequate right-of-way width to accommodate additional lanes. DOT has several methods for creating dedicated turn lanes. These include:

1) Constructing additional roadway width to the existing cross-section to provide the turn lane,
2) implementing of full-time (all-day) or rush hour only parking restrictions near intersections to create short turn lane pockets, or
3) restricting left-turns completely at all times or during rush hours to eliminate the conflict. (Parking restrictions and potential parking displacement is discussed in further detail in the next section).

Dedicated turn lanes or rush hour travel lanes were modeled at all intersections with LOS E or F under the initial two-way conversion scenario. A minimum number of lane assignment changes (e.g. from a shared through left lane to dedicated left turn lane) were made to improve all overall LOS to a LOS D or better. The improvements were then verified in SimTraffic simulations to assess corridor travel time. To be conservative, a 10% growth factor was applied to existing through and turning vehicle volumes to account for potential future traffic growth due to regional growth, as well as new jobs and households along the corridor. The improvements involving dedicated turn lanes or rush hour travel lanes show the most significant impact on improving traffic flow under two-way operation.

Figure 4: Benefit of Dedicated Turn Lanes



The LOS for each study intersection under the dedicated turn lanes or rush hour lanes scenario is shown in Table 7 and Table 8 and Figure 5. Detailed HCM worksheets are located in **Appendix G**. The addition of turn lanes and peak hour travel lanes improves all intersection LOS to a LOS D or better.

An evaluation of travel times for the two-way scenario with applied toolbox options was performed with SimTraffic. Modeled travel times on Calvert Street averaged between 22 and 25 minutes (existing was 14-17 minutes) during the AM peak hour and between 15 and 18 minutes (existing was 12-15 minutes) during the PM peak hour. Mitigated travel times on St. Paul Street averaged between 14 and 17 minutes (existing was 17-20 minutes) during the AM peak hour and 15 and 18 minutes (existing was 12-15 minutes) during the PM peak hour. The travel time results are shown in Figure 6 and detailed in **Appendix H** A comparison of the travel times for the existing, initial two-lane two-way, and two-way with dedicated turn lanes or rush hour travel lanes scenarios is shown in Figure 7.

Table 7: Two-Way with Dedicated Turn Lanes/Rush Hour Lanes Level of Service – St. Paul Street

Overall Level of Service – St. Paul Street		
Intersection	Two-way with Turn / Rush Hour Lanes AM	Two-way with Turn/ Rush Hour Lanes PM
St. Paul Street at University Pkwy	D	D
St. Paul Street at E 33rd Street	D	C
St. Paul Street at E 32nd Street	A	B
St. Paul Street at E 31st Street	A	B
St. Paul Street at E 29th Street	D	B
St. Paul Street at E 28th Street	B	C
St. Paul Street at E 27th Street	A	B
St. Paul Street at E 25th Street	C	C
St. Paul Street at E 24th Street	A	B
St. Paul Street at E 23rd Street	A	B
St. Paul Street at E 21st Street	A	B
St. Paul Street at E 20th Street	A	A
St. Paul Street at North Avenue	C	C
St. Paul Street at E Lafayette Ave	A	B
St. Paul Street at E Lanvale Ave	B	B
St. Paul Street at E Mount Royal Ave	B	B
St. Paul Street at E Preston Street	A	A
St. Paul Street at E Biddle Street	A	C
St. Paul Street at E Chase Street	A	B
St. Paul Street at E Eager Street	A	A
St. Paul Street at E Read Street	B	A
St. Paul Street at E Madison Street	A	B
St. Paul Street at E Monument St.	D	B
St. Paul Street at E Centre Street	B	B

Table 8: Two-Way with Dedicated Turn Lanes/Rush Hour Lanes Level of Service – Calvert Street

Overall Level of Service – Calvert Street		
Intersection	Two-way with Turn/ Rush Hour Lanes AM	Two-way with Turn/ Rush Hour Lanes PM
Calvert Street at University Pkwy	D	D
Calvert Street at E 34th Street	C	A
Calvert Street at E 33rd Street	D	C
Calvert Street at E 32nd Street	C	A
Calvert Street at E 31st Street	A	A
Calvert Street at E 29th Street	D	C
Calvert Street at E 28th Street	A	B
Calvert Street at E 27th Street	B	B
Calvert Street at E 25th Street	D	D
Calvert Street at E 24th Street	A	A
Calvert Street at E 22nd Street	C	B
Calvert Street at E 21st Street	A	A
Calvert Street at E 20th Street	B	B
Calvert Street at North Avenue	D	D
Calvert Street at E Lafayette Ave	B	B
Calvert Street at E Lanvale Ave	A	A
Calvert Street at E Mount Royal Ave	B	C
Calvert Street at E Preston Street	B	B
Calvert Street at E Biddle Street	B	A
Calvert Street at E Chase Street	A	B
Calvert Street at E Eager Street	B	B
Calvert Street at E Read Street	A	A
Calvert Street at E Madison Street	B	C
Calvert Street at E Monument St.	B	B
Calvert Street at E Centre Street	D	C

Figure 5: Two-Way with Dedicated Turn Lanes/Rush Hour Lanes Level of Service

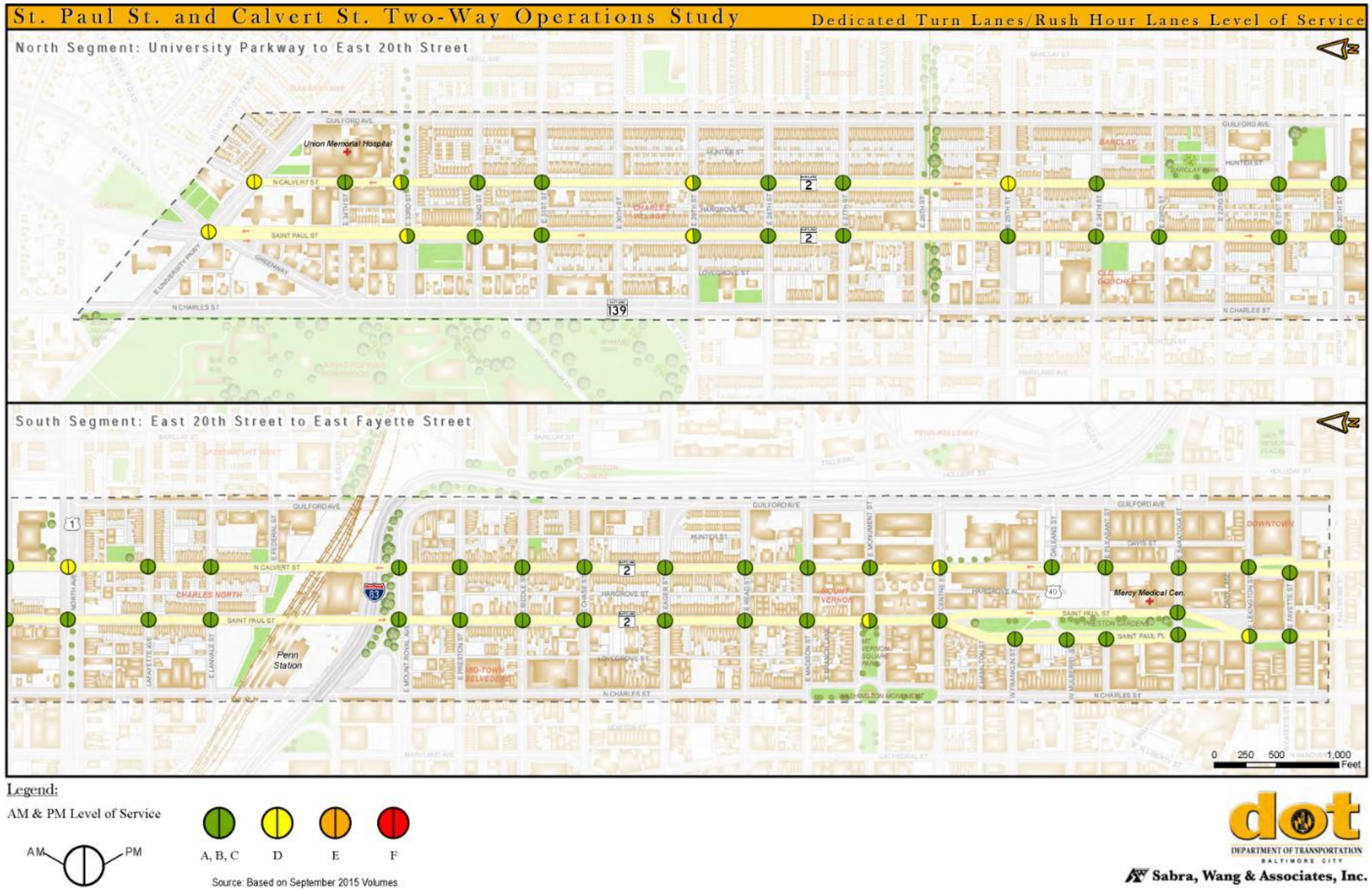


Figure 6: Two-Way Travel Time with Toolbox Improvement Options

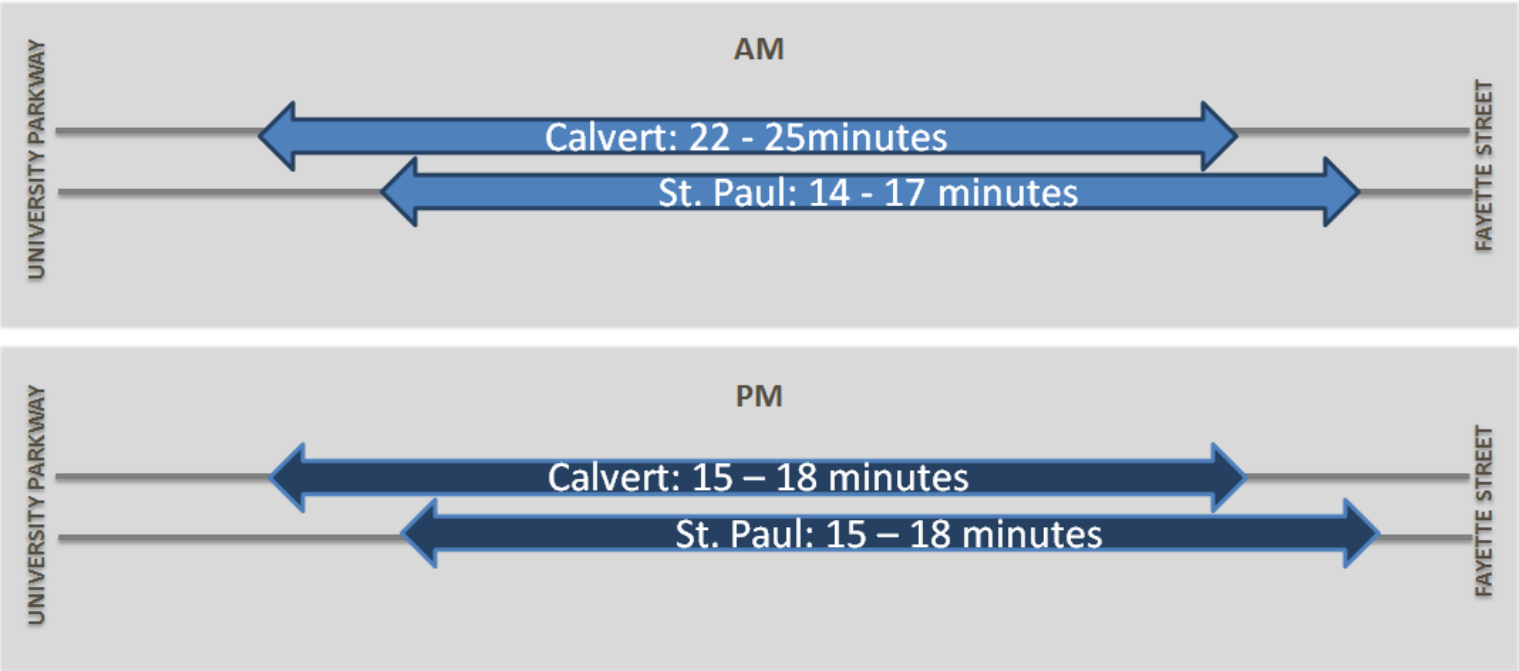
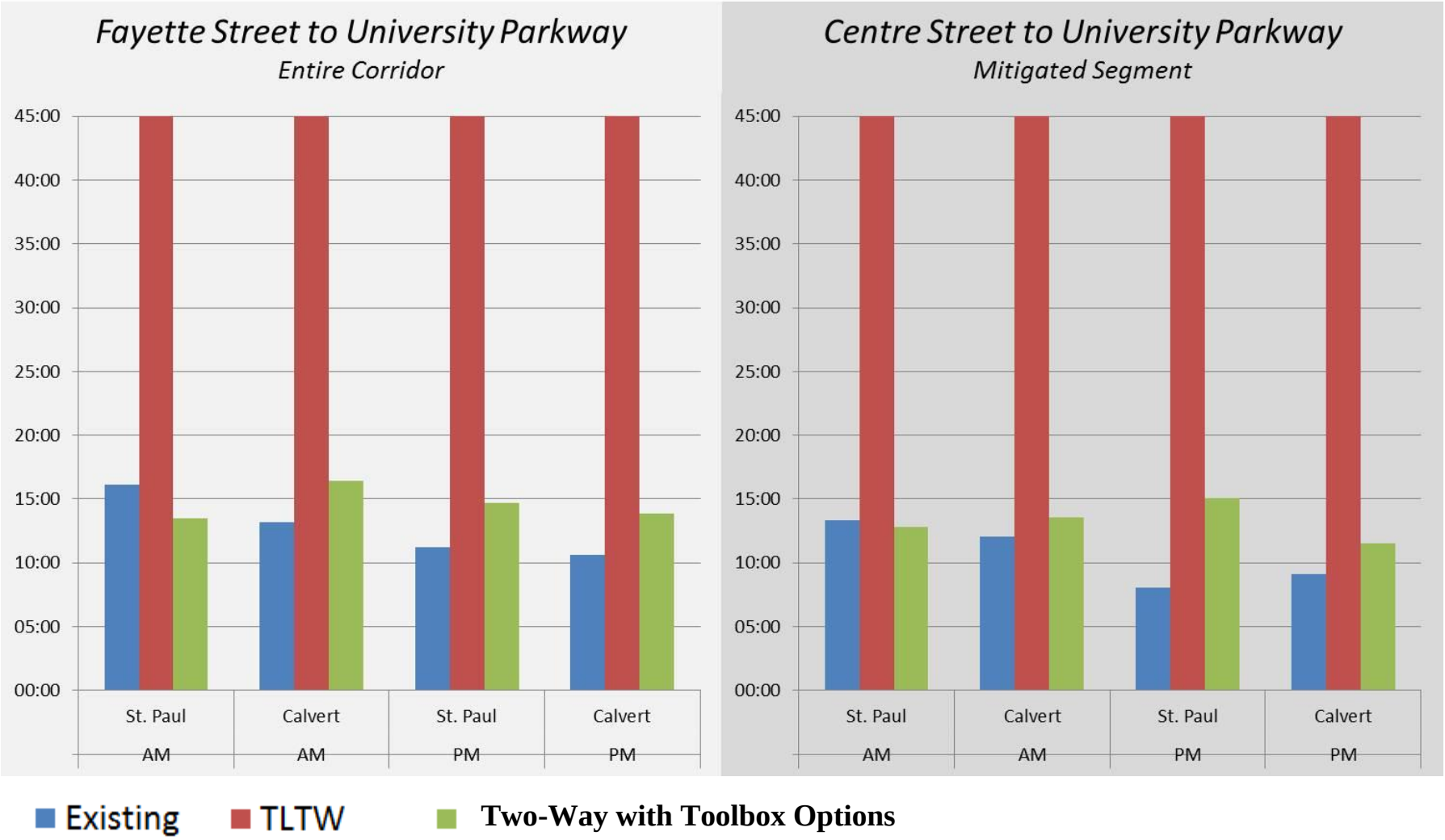


Figure 7: Travel Time Comparison - Existing, Two-lane Two-Way, and Two-Way with Toolbox Options



D. On-Street Parking Displacement

The demand for on-street parking in select neighborhoods along the corridor exceeds supply, as noted in the existing conditions report. Any part-time or full-time elimination of existing parking would need to be carefully balanced with other traffic operation options, as well as evaluated on a block-by-block level for replacement opportunities on the surrounding streets. It is also important to note that the 2013 *Mount Vernon Neighborhood Master Plan Parking Study* identified several strategies to better manage on-street parking including options to ***increase on-street parking capacity which can compensate for any displaced parking spaces on St. Paul and Calvert Street***.

With the dedicated turn lanes and peak hour restrictions strategy, some existing parking spaces may need to be restricted and/ or eliminated. An initial assessment identifies 123 parking spaces and a single loading zone (~5 vehicle spaces) along St. Paul Street and Calvert Street that would need to be relocated to accommodate the turn lanes. Peak hour restrictions could potentially impact approximately 46 parking spaces on St. Paul Street during the AM peak hour and for approximately 15 spaces on Calvert Street during the PM peak hour. Figure 9 illustrates potential locations of parking displacement throughout the corridor and parking restrictions are detailed in **Appendix I**. Some of the displaced on-street parking spaces removed along St. Paul Street and Calvert Street could be replaced on side streets, or through bus stop relocations and this can be evaluated during the design phase if the conversion proceeds.

E. Transit Operations

Existing transit services in the corridor provide local, limited stop and express services. Particularly along St. Paul, some blocks are served by up to a dozen separate bus routes, carrying over 30,000 passengers per day, and there are over 30 bus stops along the length of the corridor. The implementation of two-way traffic operations may reduce the efficiency of transit operations if the overall vehicle travel times increase. However, there are several options available to improve transit operations under two-way flow, including but not limited to 1) consolidation of bus stops to reduce the number of times buses need to stop, 2) off-board fare payment to reduce time stopped for passenger boarding , 3) relocating bus stops from the near side of an intersection to the far side of an intersection to reduce the conflicts when buses merge in and out of traffic, 4) running larger (e.g. articulated) buses to provide more transit capacity, 5) adjusting transit schedules to better reflect actual travel times, 6) re-routing buses to use parallel streets such as

southbound Calvert under two-way flow, and 7) evaluating the feasibility of providing signal priority for transit vehicles to reduce the amount of time buses are stopped at red lights.

F. Additional Considerations under Two-Way Traffic Flow

Traffic and Pedestrian Safety

Pedestrian infrastructure deficiencies were noted in Section IIIC of the existing conditions report. Crash data shows that crashes that occurred along the corridor over the three year study period are typically intersection related, and intersections with higher pedestrian volumes (33rd, 25th, North, Madison, and Fayette) experienced the highest numbers of pedestrian crashes. As shown in Figure 8, at a typical four-leg intersection with two-way traffic flow on all streets, there are over 32 vehicle-vehicle conflict points, where multiple vehicles could desire to cross the same point simultaneously. Additionally, there are 16 vehicle-pedestrian conflict points. The conversion from one-way to two-way would increase the number of existing vehicle-pedestrian conflict points, as well as increase the complexity of signal phasing to serve increased demands for left-turns. Improvements to pedestrian crossings such as bumpouts, pavement markings and signal phasing/ timing are some options to address the additional conflicts, but may reduce traffic capacity.

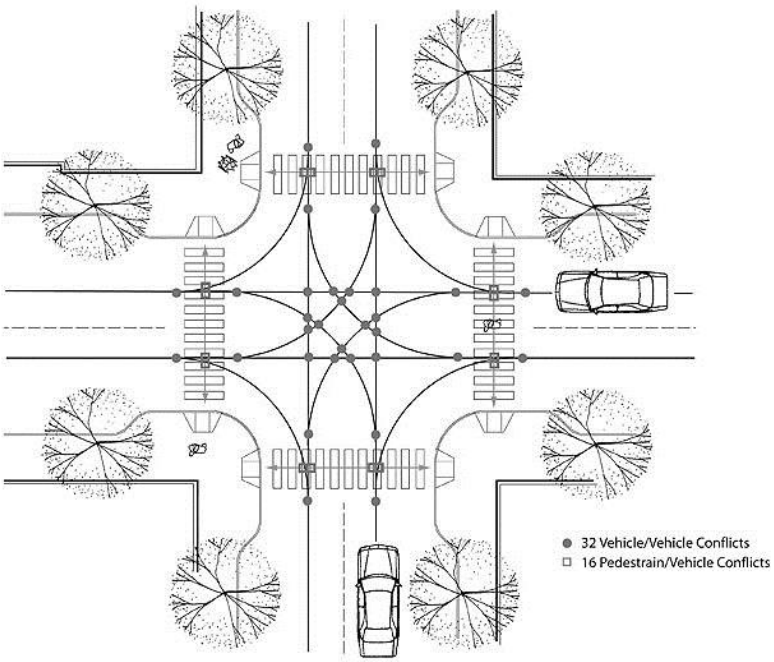


Figure 8: Intersection Conflict Point Diagram[1]

[1] Image Source: Institute of Transportation Engineers

Bicycle Compatibility

Calvert and St. Paul Streets has limited bicycle infrastructure (e.g. dedicated bicycle lanes). There is a marked bicycle lane along St. Paul Street from University Parkway to Mount Royal Avenue. The existing or proposed two-way roadway geometry does not provide enough width in most street blocks to create a continuous provision of additional striped or protected bicycle lanes for the full length of the study corridor. Furthermore, the City's *2015 Bicycle Master Plan Update* identifies two parallel streets (Guilford Avenue and Maryland/ Cathedral Street) to provide high quality bicycle facilities; a bicycle boulevard on Guilford Avenue (e.g. where through vehicle traffic volumes are restricted at key intersections to provide a low-stress bicycle route) and a cycle track on Maryland Avenue/ Cathedral Street (e.g. a bicycle lane physical separated and protected from motorized traffic by parked vehicles, flex posts and/ or raised curb). The existing and proposed bicycle networks are illustrated in Figure 10.

http://www.ite.org/css/online/DWUT10.html

Figure 9: Curbside Parking Displacement

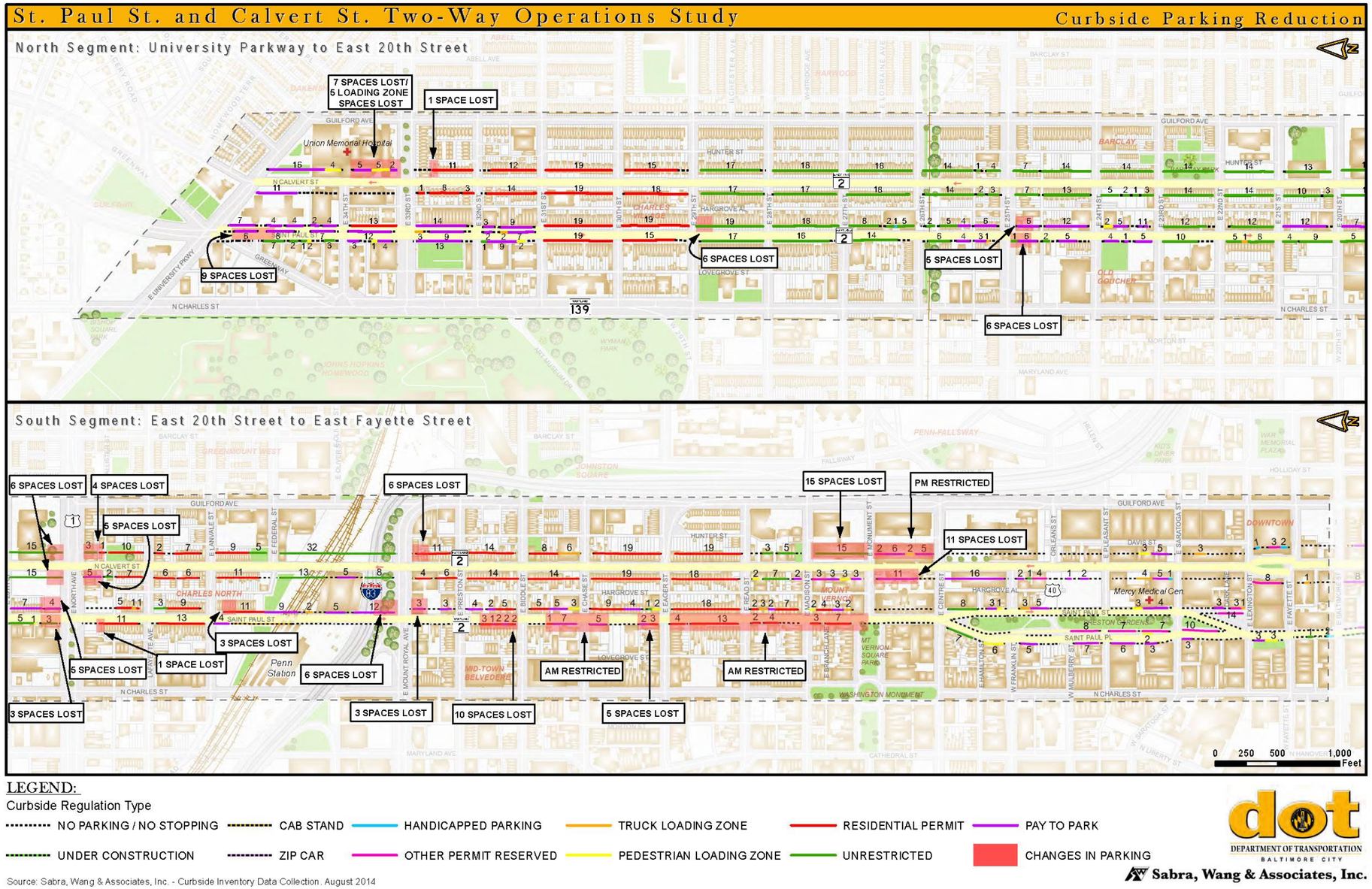
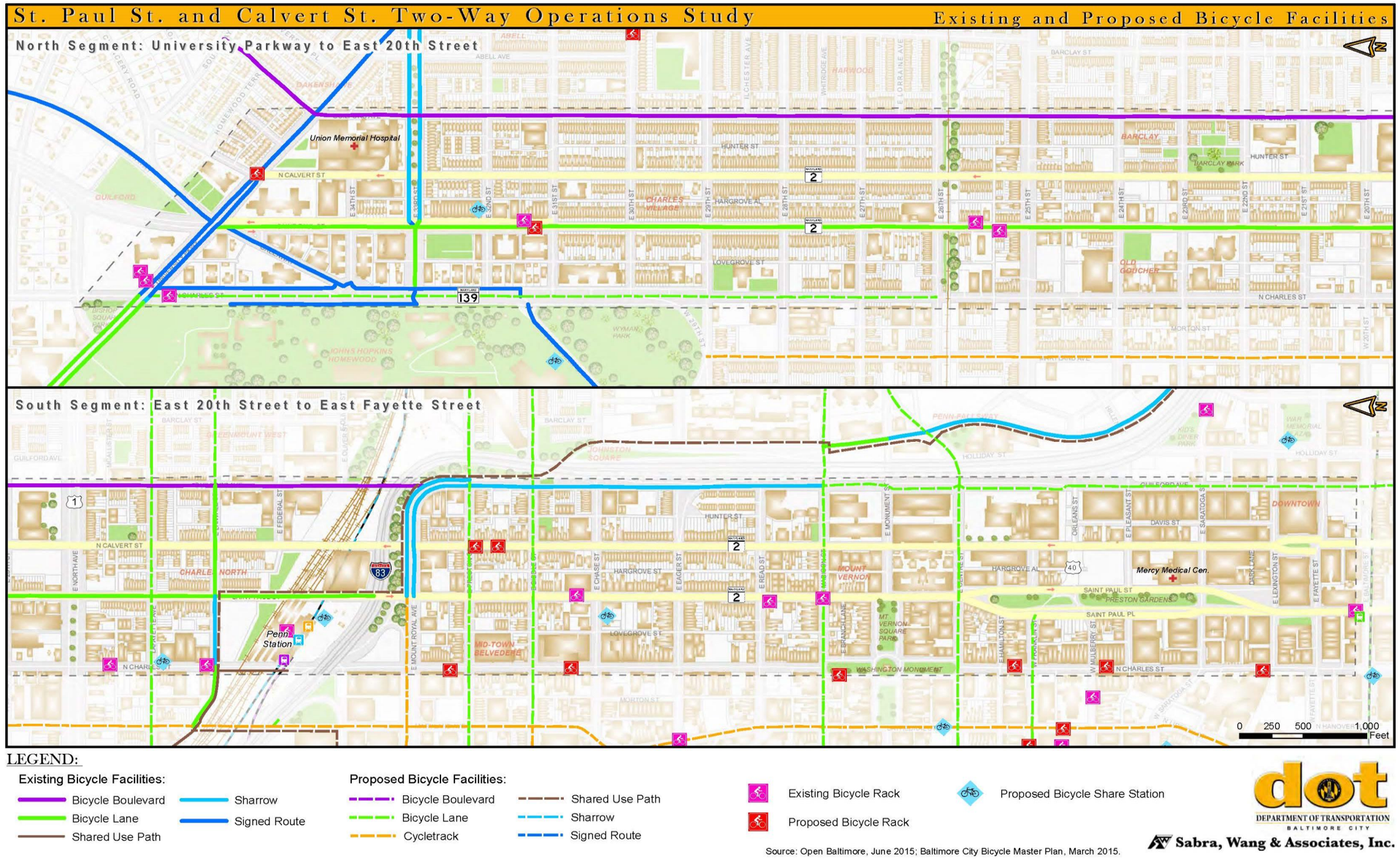


Figure 10: Existing and Proposed Bicycle Facilities



LEGEND:

Existing Bicycle Facilities:
- Bicycle Boulevard
- Bicycle Lane
- Shared Use Path
- Sharrow
- Signed Route

Proposed Bicycle Facilities:
- Bicycle Boulevard
- Bicycle Lane
- Cycletrack
- Shared Use Path
- Sharrow
- Signed Route

- Existing Bicycle Rack
- Proposed Bicycle Rack
- Proposed Bicycle Share Station

Source: Open Baltimore, June 2015; Baltimore City Bicycle Master Plan, March 2015.

DEPARTMENT OF TRANSPORTATION BALTIMORE CITY

Sabra, Wang & Associates, Inc.

IV. Logical Termini

This study did not include the entire length of St. Paul and Calvert Streets that fall within the City limits, and therefore considering where and how to transition from two-way to one-way is required. This is known as defining logical termini. Determination of logical termini is necessary for any transportation improvement project to define rational end points for the project. Logical termini need to take into account the following aspects:

- Where it makes sense to end a two-way segment within a one-way network
- Where impacts to traffic in the transition between one-way to two-way flow can be managed
- Where impacts to adjacent land uses are minimized
- Where impacts to other modes of travel (e.g. transit and bicycle routes) are minimized
- Connections to other major roadway networks (e.g. freeway ramps)
- Functional classification changes in roadway

Various northern and southern potential termini are discussed below for their respective advantages and disadvantages.

A. Northern Termini

University Parkway is the northern study limit, however, it may not serve as an optimal transition between one-way and two-way traffic flow. At the north end of the study area, Calvert Street ends one block north of University Parkway, thus resulting in the majority of the traffic entering the corridor on the north end originating from St. Paul Street which is two-way north of University Parkway. Under two-way operations, the shifting of southbound traffic from St. Paul Street to Calvert Street via University Parkway results in failing intersection LOS and vehicle queues blocking both intersections. Additionally, the impacts to major institutions would be impacted by converting St. Paul and Calvert Streets to two-way north of 33rd Street.

33rd Street is a major east-west route, and is located south of major institutions, thus designating this intersection as the northern limit of two-way traffic flow would avoid impacts to any anchor institution.

B. Southern Termini

Fayette Street is the southern limit of the study corridor, however may not serve as the optimal terminus of two-way flow. Under two-way operations extending south to Fayette Street, over half of the study intersections south of Centre Street were determined to be LOS E or F. In addition to the impact to major institutions, the analysis shows that traffic volumes in the Central Business District would not be able to support the traffic demand on these two corridors under two-way flow.

Moving the southern terminus to **Mt. Royal Avenue** will create the most balanced use of the study streets. This section includes the lowest volume east-west side streets which allow for more green time on St. Paul Street and Calvert Street. It also is a primarily residential section without any major institutions so garage and emergency vehicle access will not need to be modified.

V. Costs to Convert St. Paul and Calvert Street Corridors

To convert St. Paul Street and Calvert Street to two-way flow within the study area would cost an estimated $280,000 per block with a traffic signal and $100,000 per block without a traffic signal. This planning-level cost estimate includes new street signs, reconstruction of traffic signals (e.g. poles, mast arms, and signal indications), pedestrian-scale streetlights, pavement markings, ADA ramp improvements and bus stop modifications/relocations (e.g. bench, shelter, kiosks). If all 80 blocks were converted, the potential cost could total up to $18.0 million. It should also be noted that this cost estimate does not include the potential cost association with repaving the corridors within the study area.

APPENDIX A

TYPICAL CROSS SECTIONS

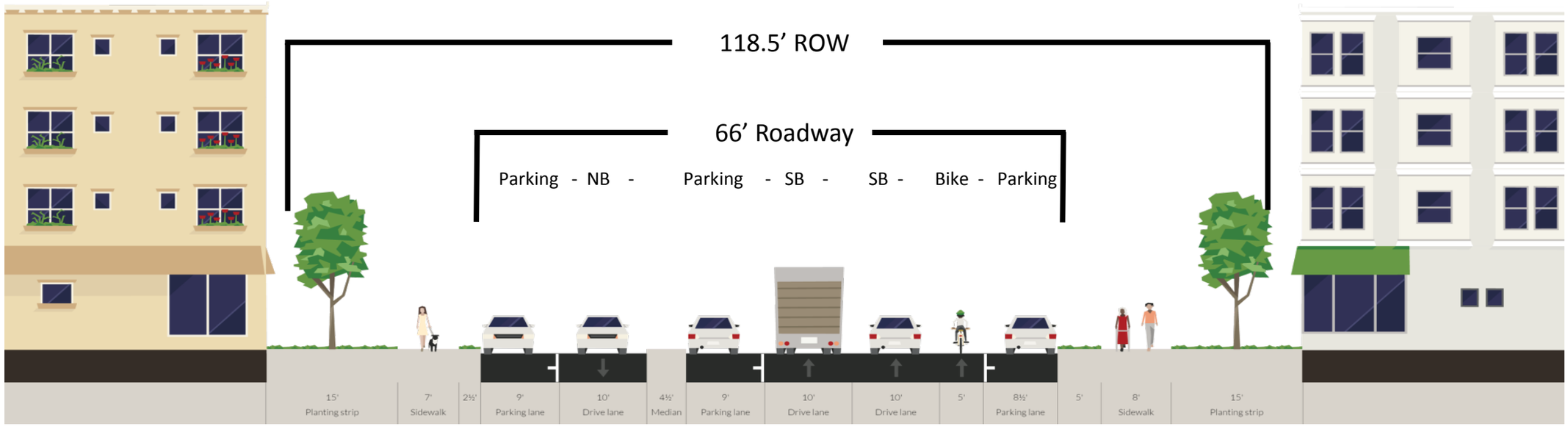
St. Paul Street

Roadway Cross Sections

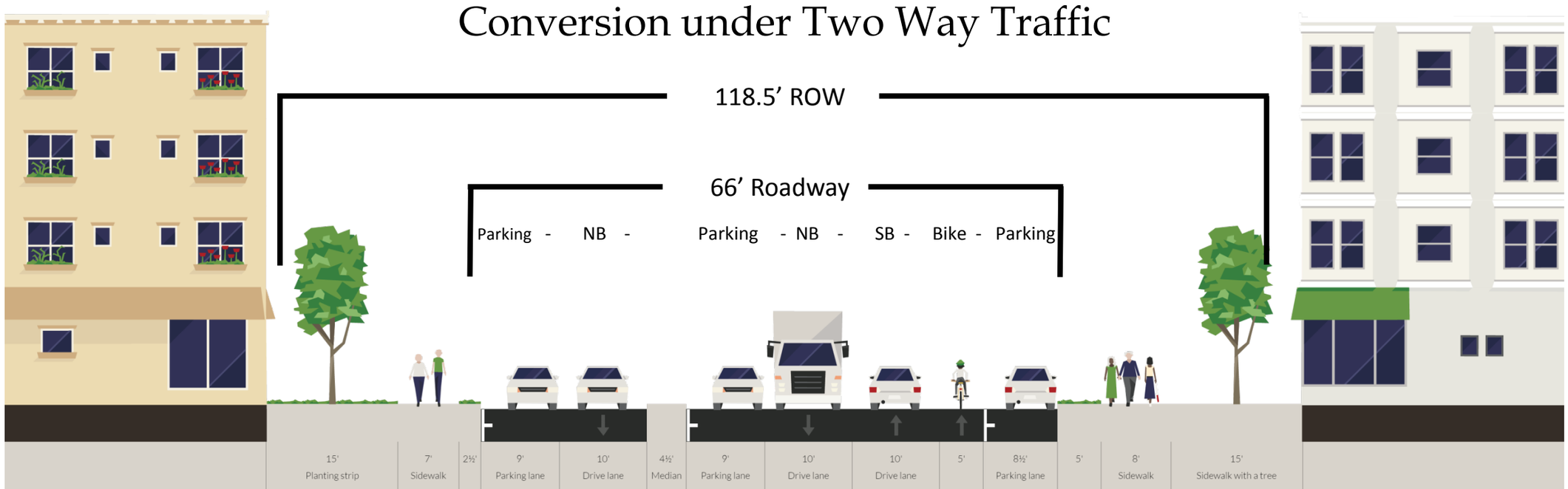
Sabra, Wang & Associates, Inc.

St. Paul Street: University Parkway to 31st Street

Existing

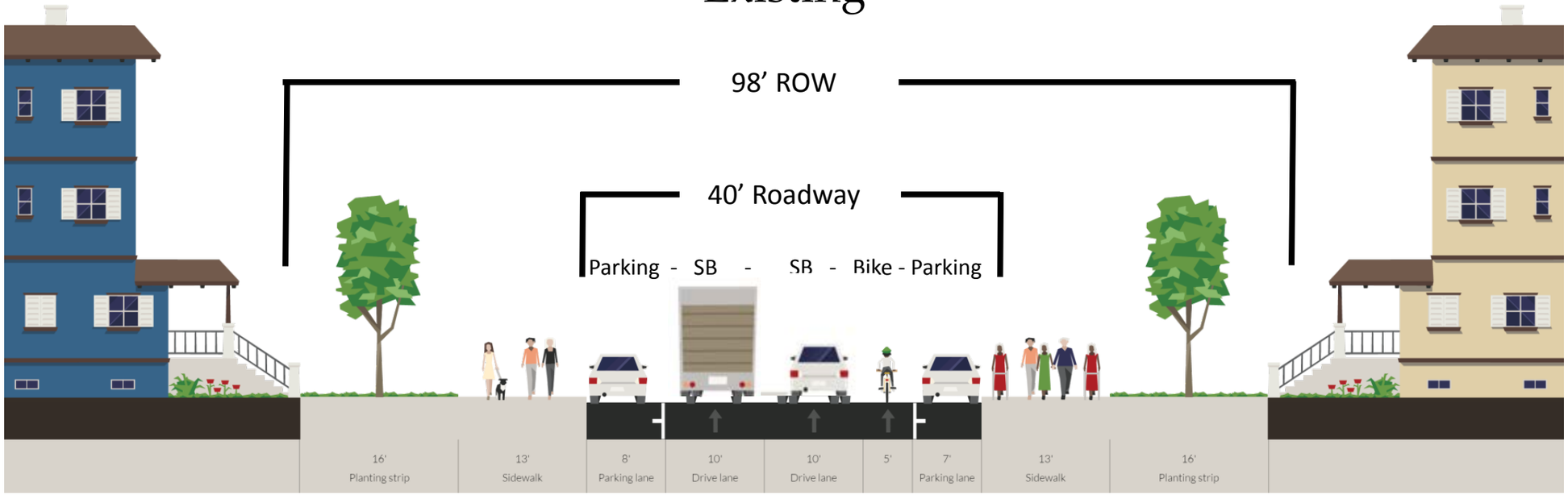


Conversion under Two Way Traffic

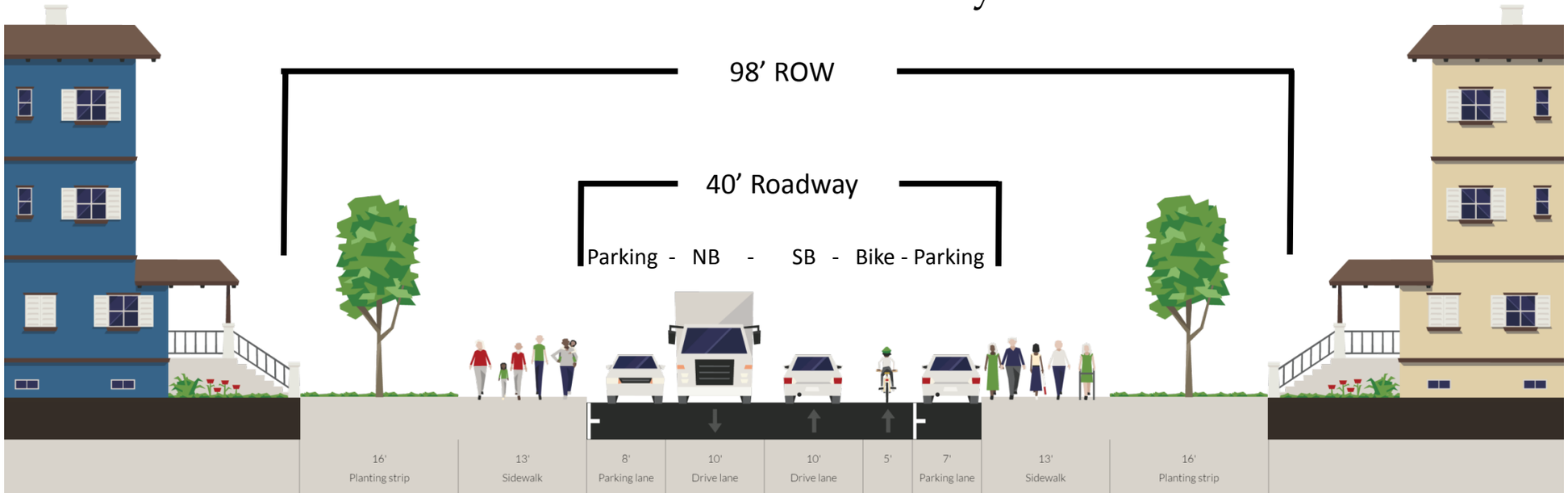


St. Paul Street: 31st Street to Lanvale Street

Existing

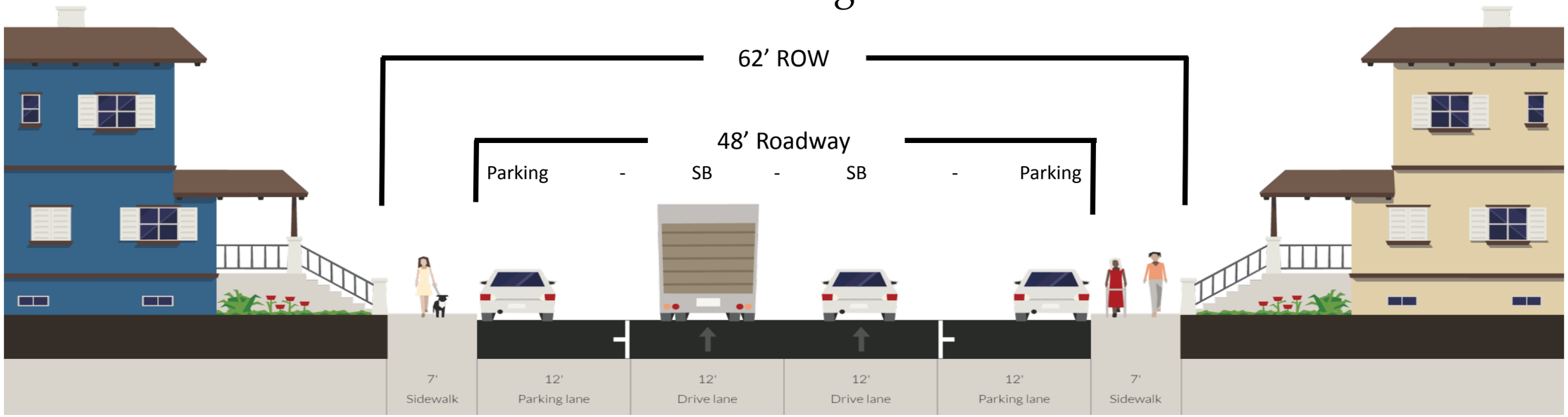


Conversion under Two Way Traffic

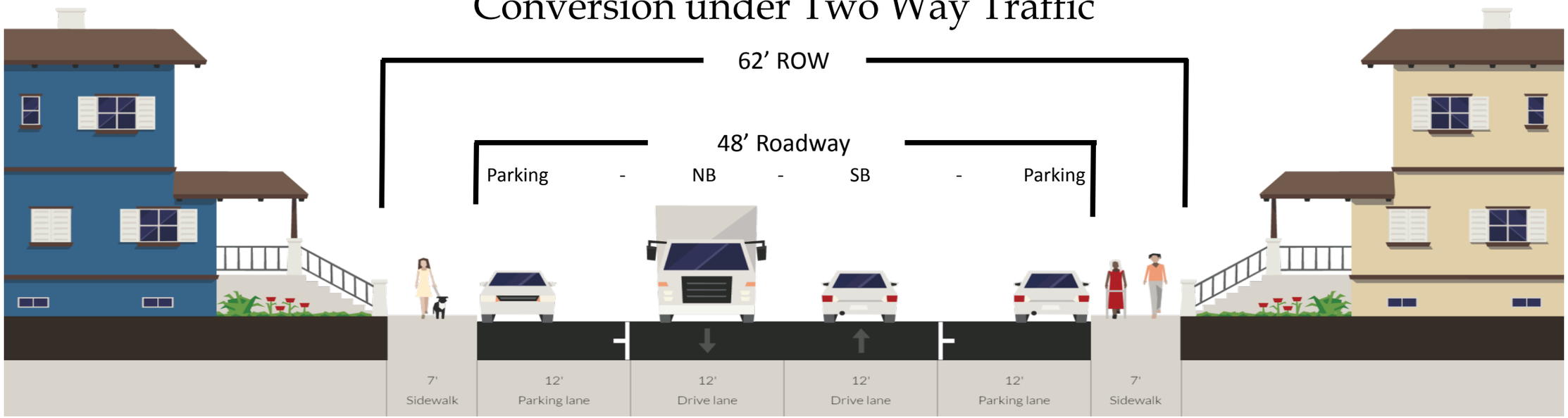


St. Paul Street: Lanvale Street to Mount Royal Avenue

Existing

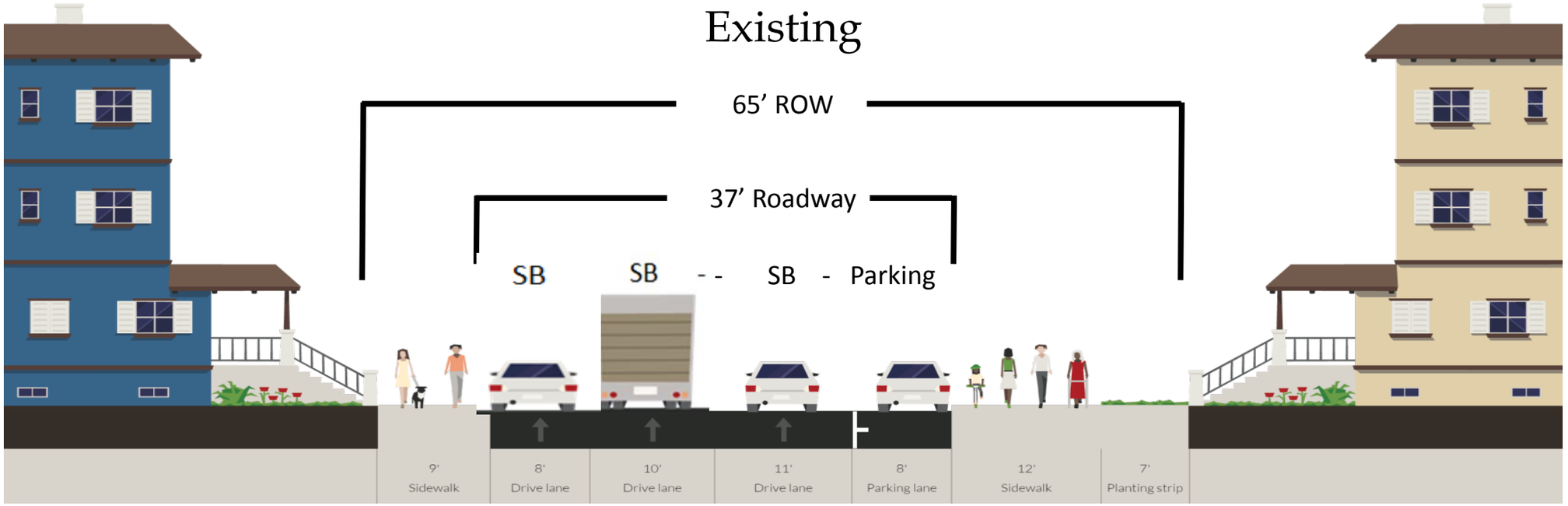


Conversion under Two Way Traffic

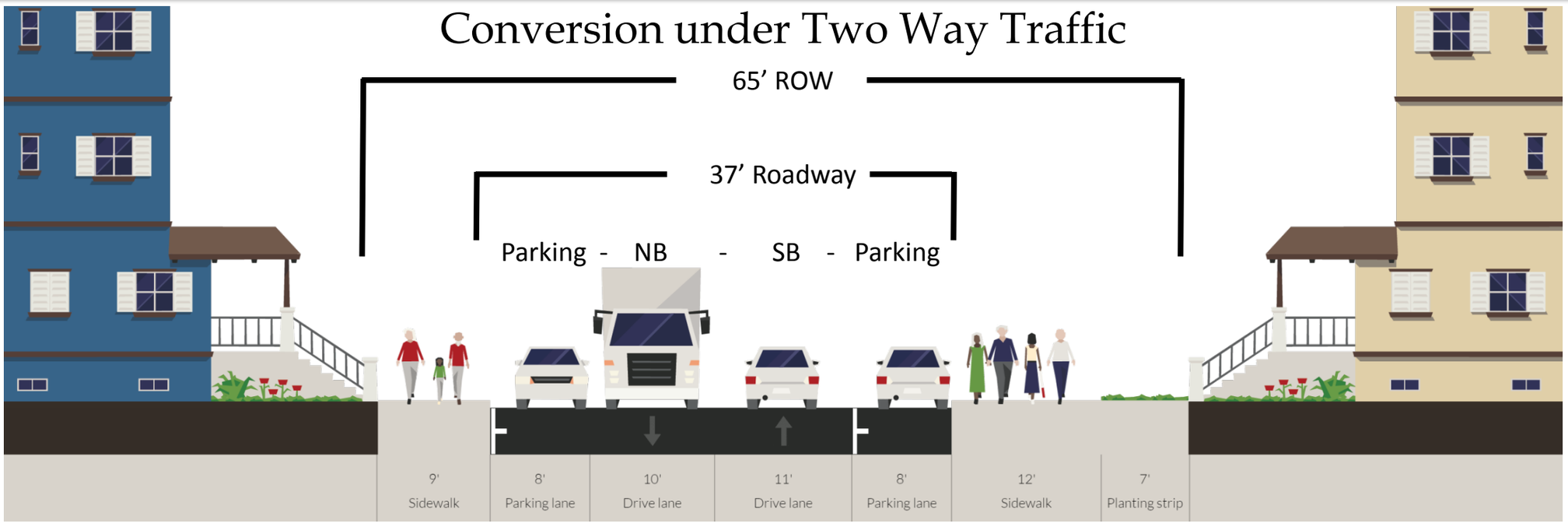


St. Paul Street: Mount Royal Avenue to Centre Street

Existing



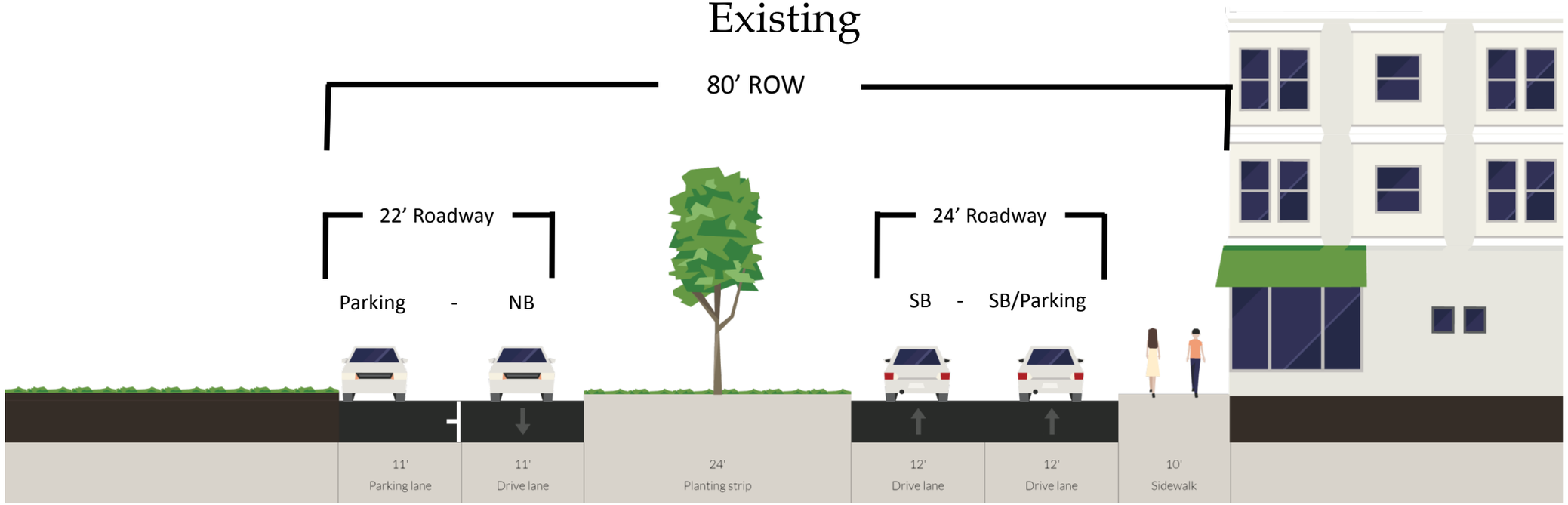
Conversion under Two Way Traffic



St. Paul Place: Centre Street to Lexington

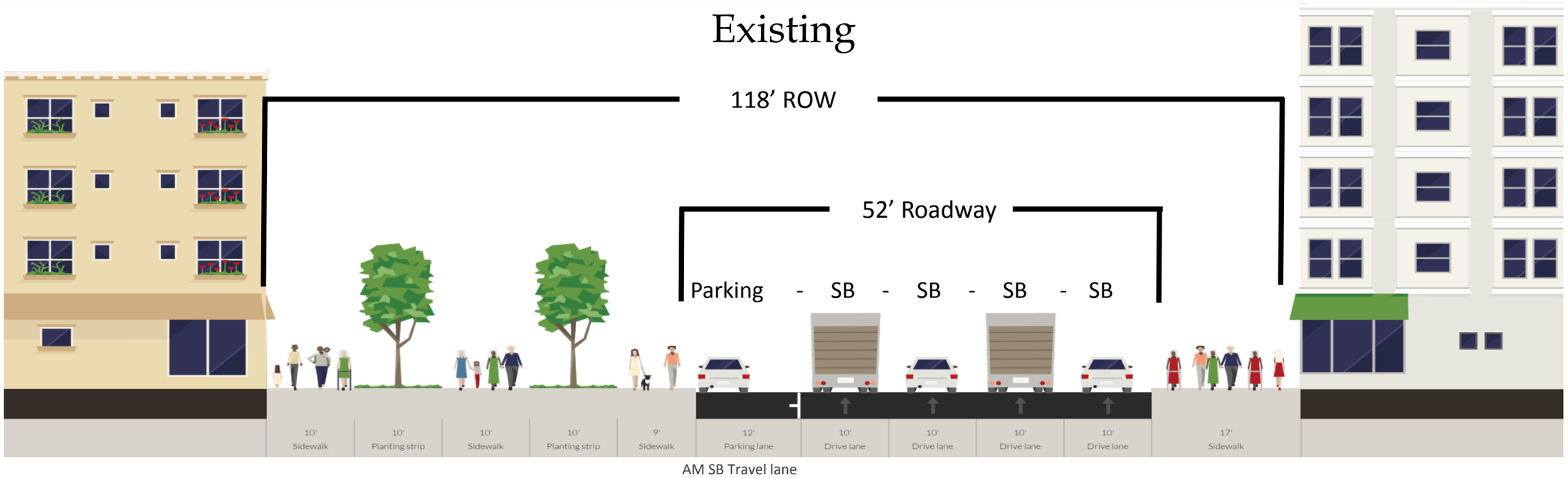
4B

Existing

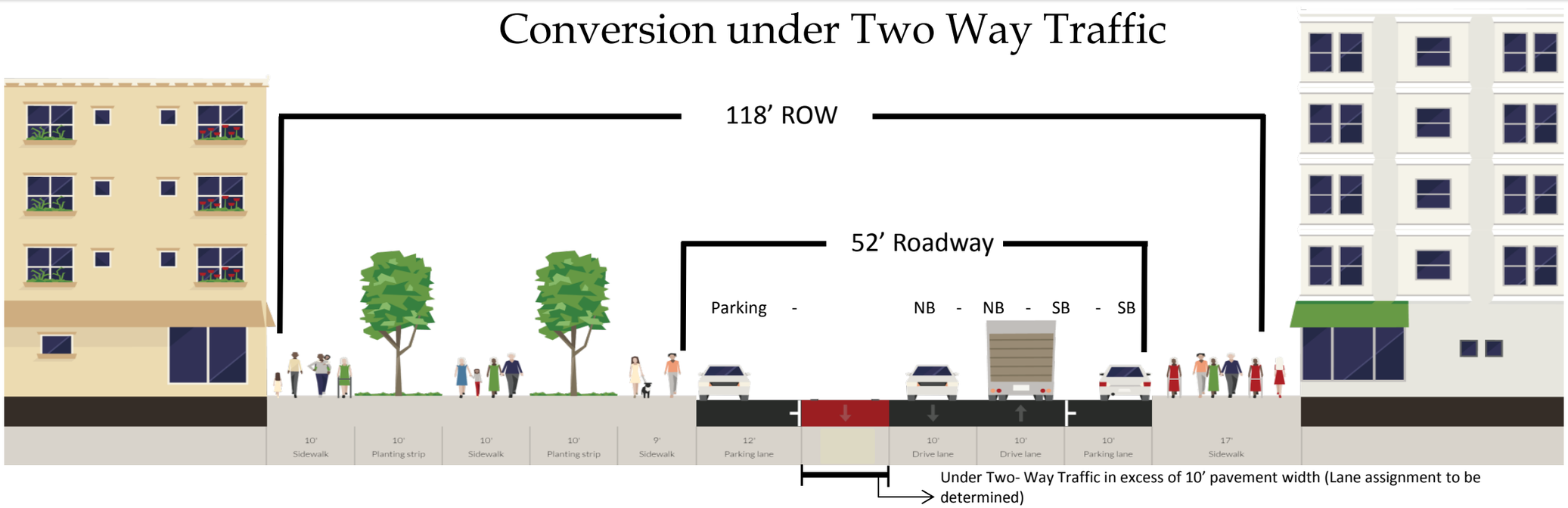


St. Paul Street: Lexington Street to Fayette

Existing



Conversion under Two Way Traffic



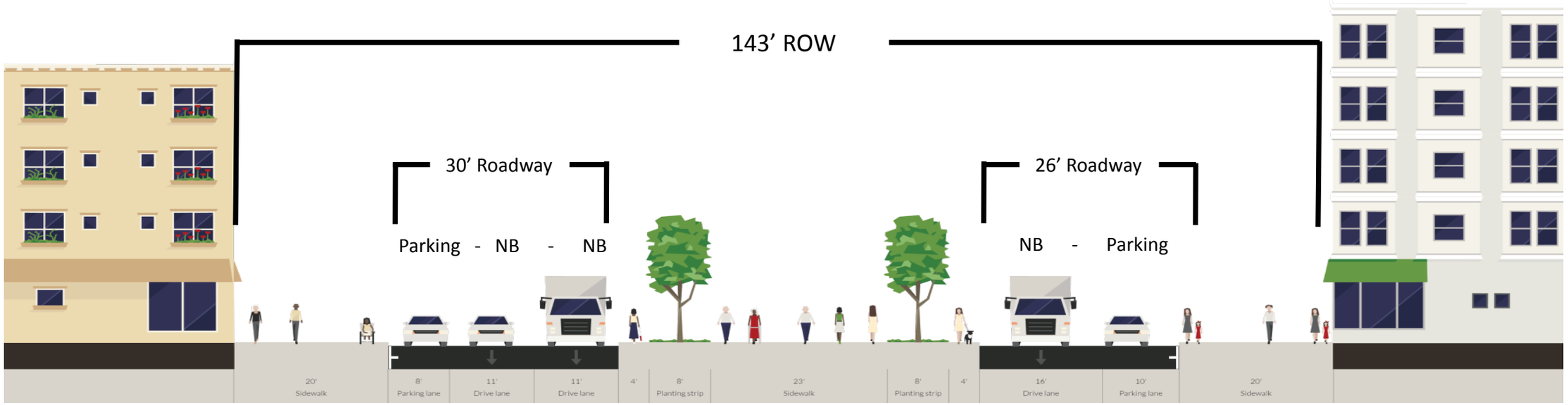
Calvert Street

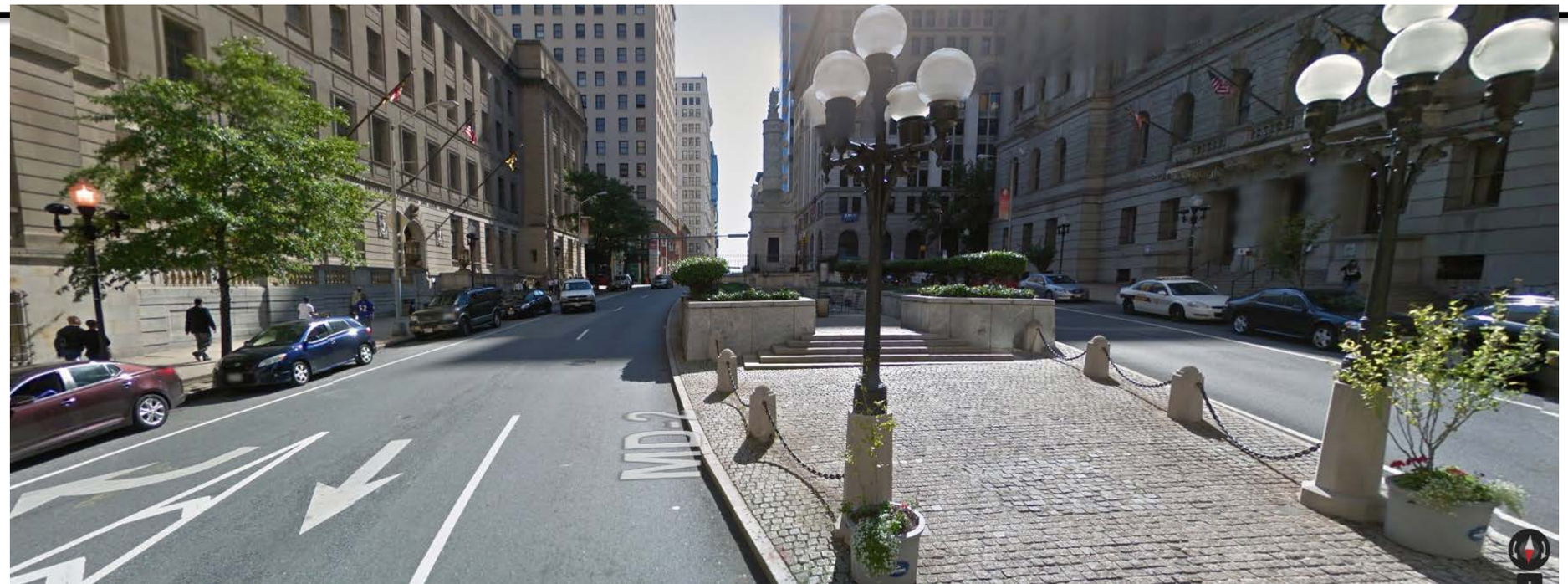
Roadway Cross Sections

Sabra, Wang & Associates, Inc.

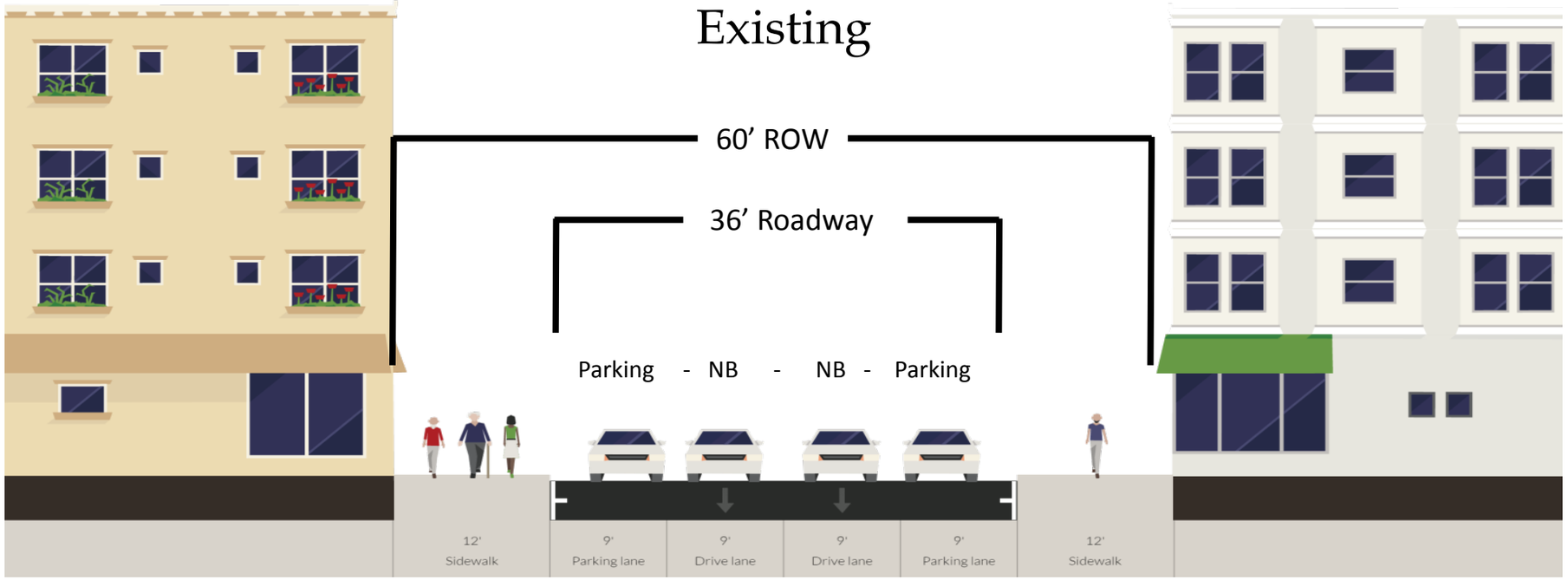
Calvert Street: Fayette Street to Lexington Street

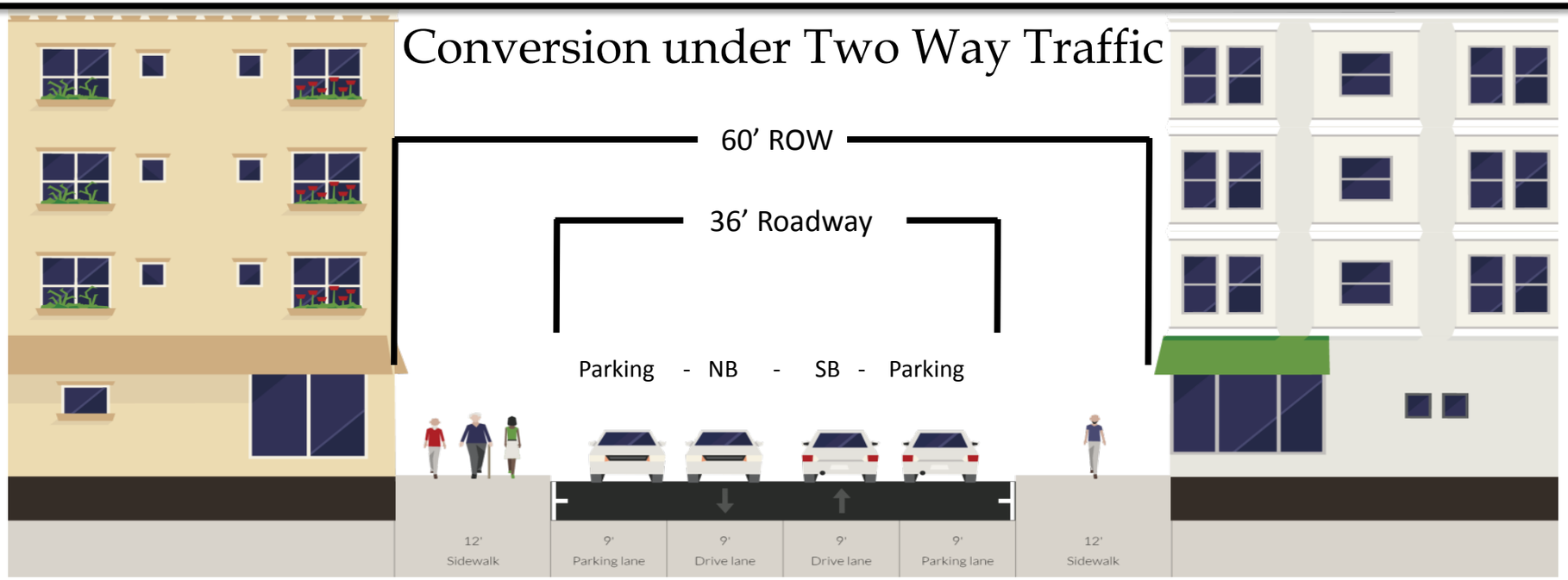
Existing





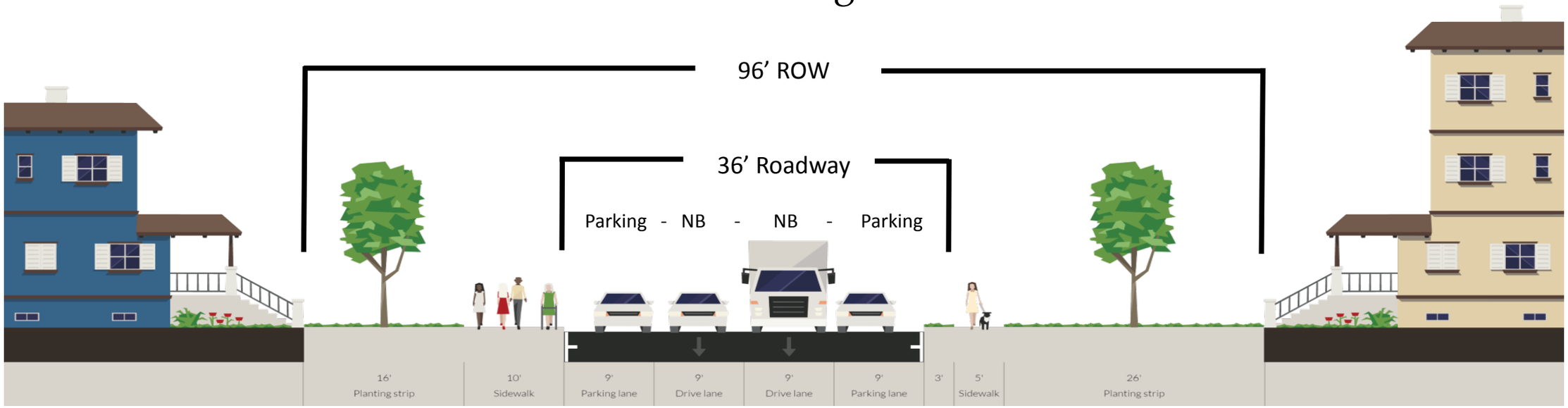
Calvert Street: Lexington Street to Mt. Royal Avenue



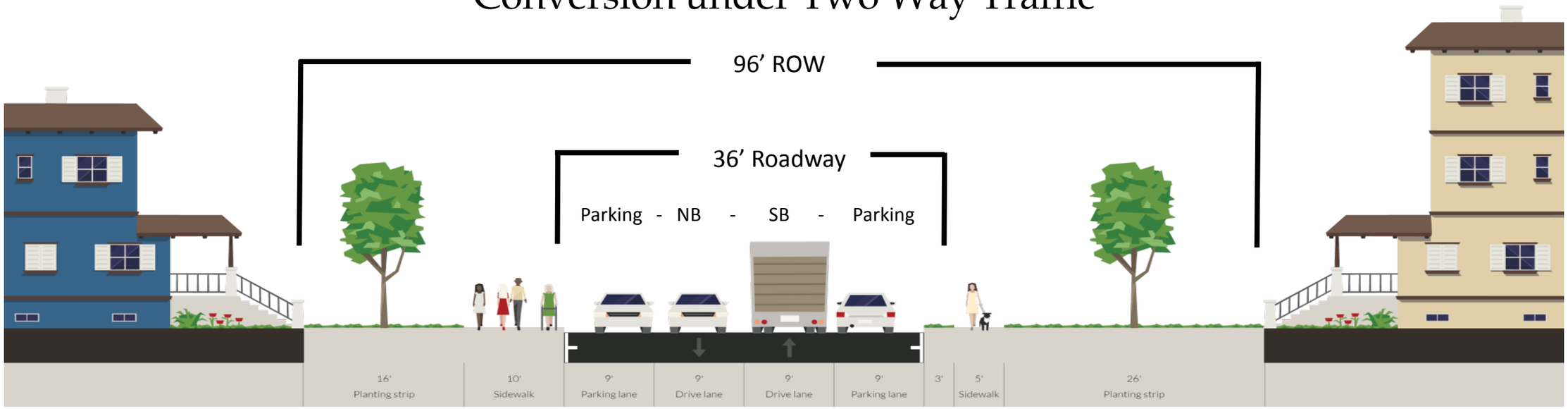


Calvert Street: Mt Royal Avenue to University Parkway

Existing



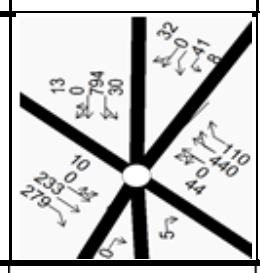
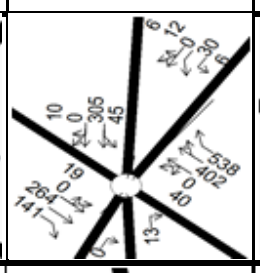
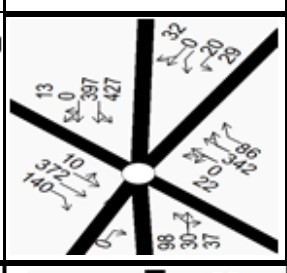
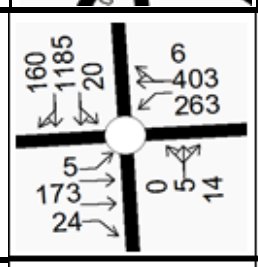
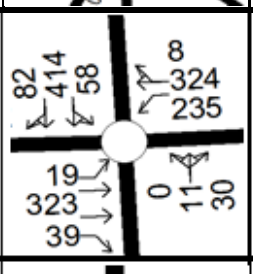
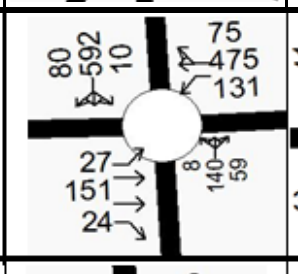
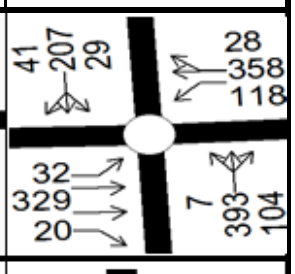
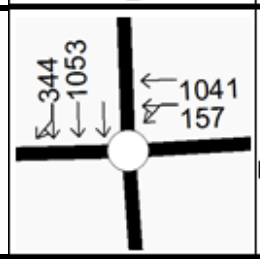
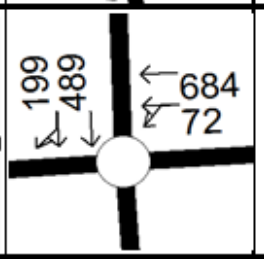
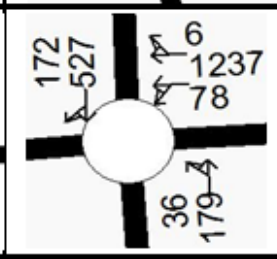
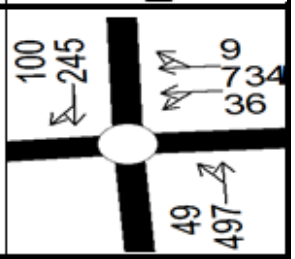
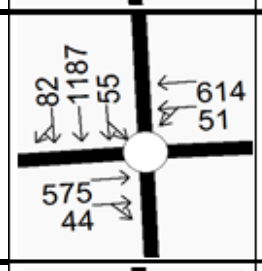
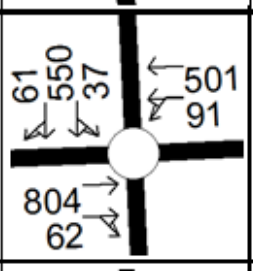
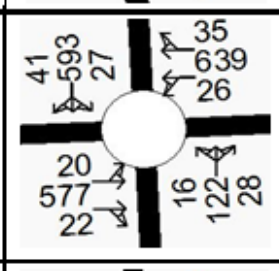
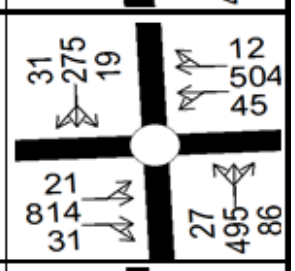
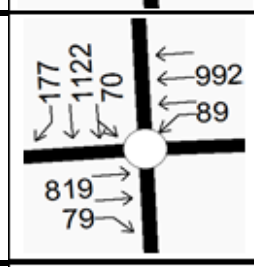
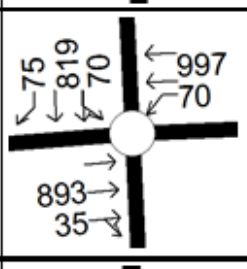
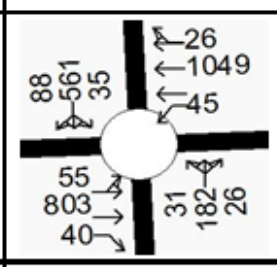
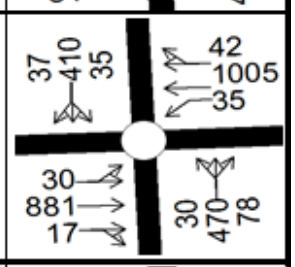
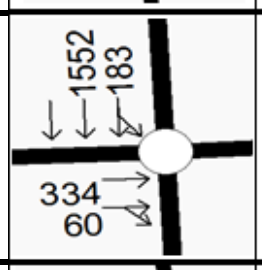
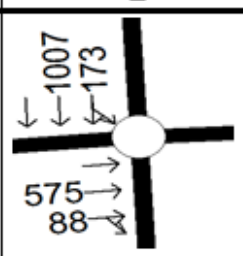
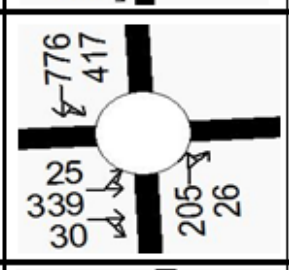
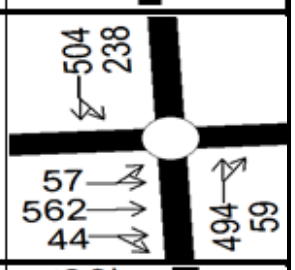
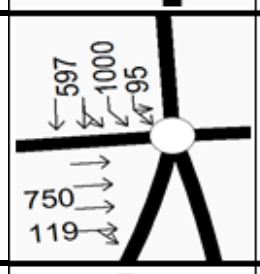
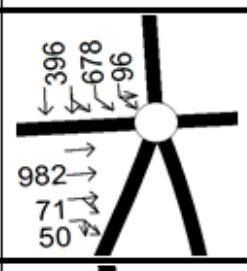
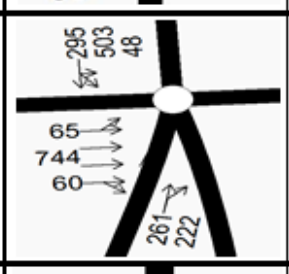
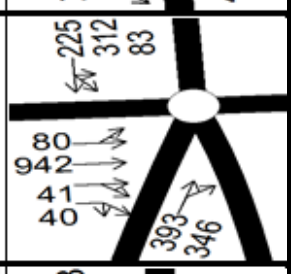
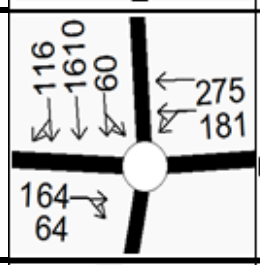
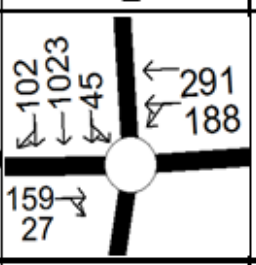
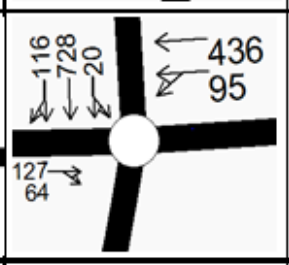
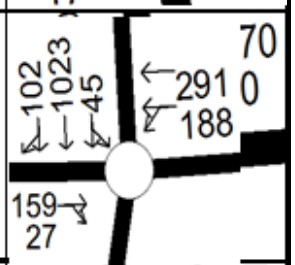
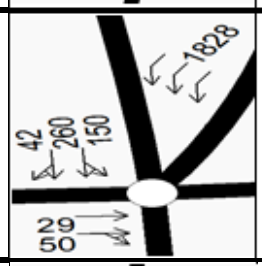
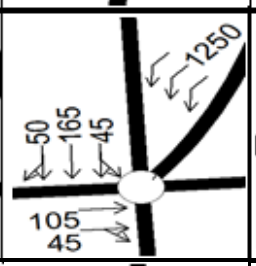
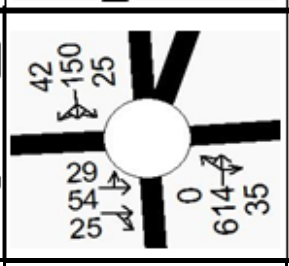
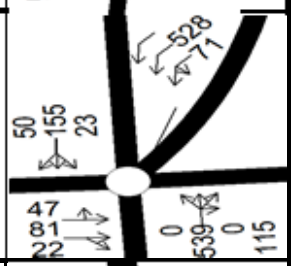
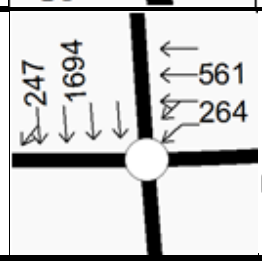
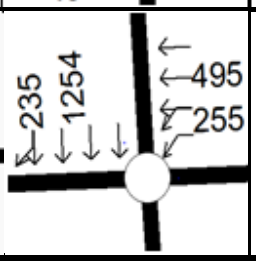
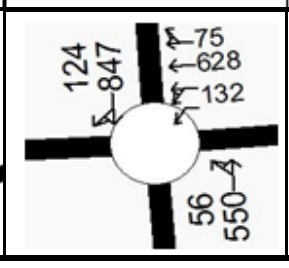
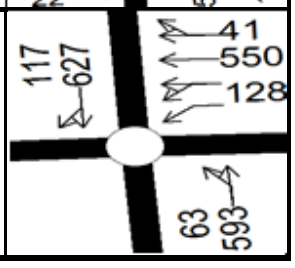
Conversion under Two Way Traffic



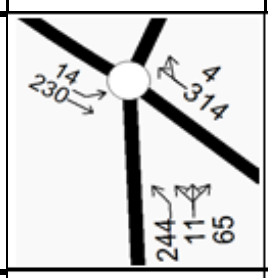
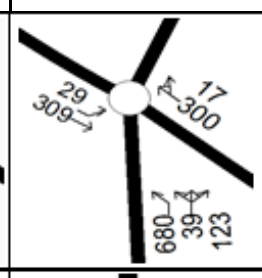
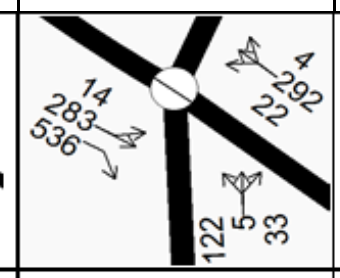
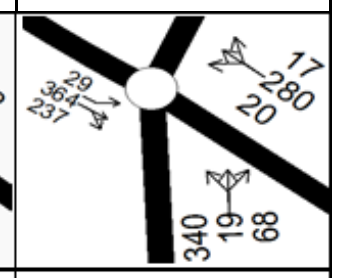
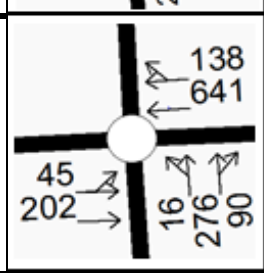
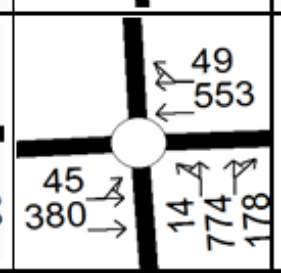
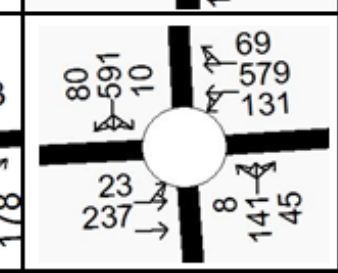
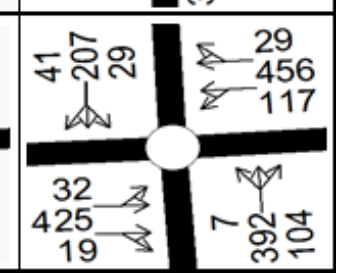
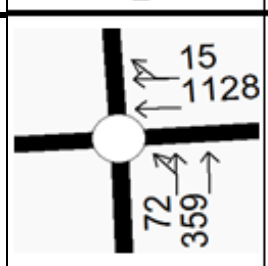
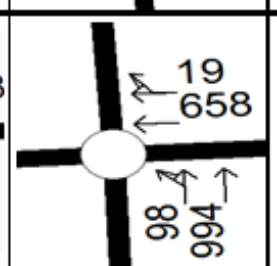
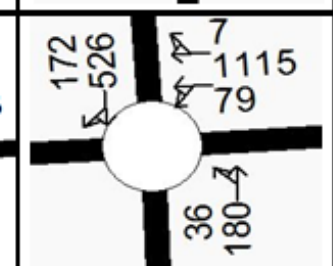
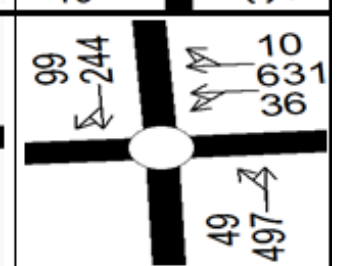
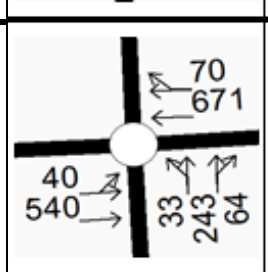
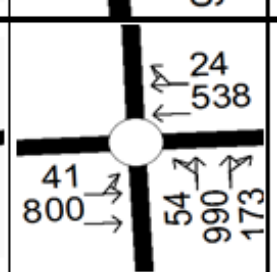
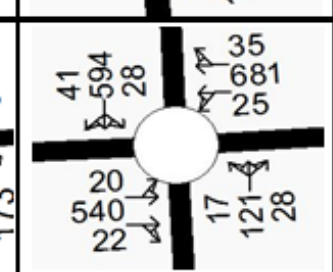
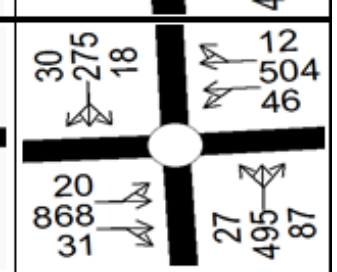
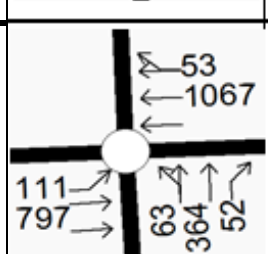
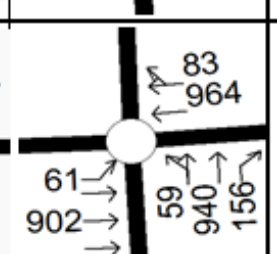
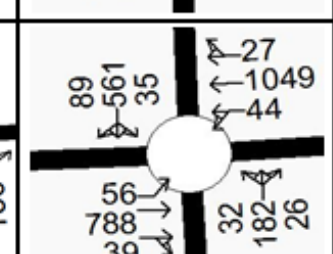
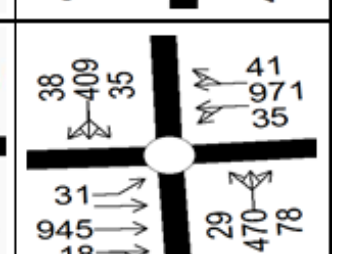
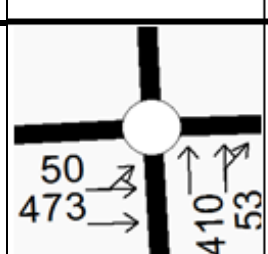
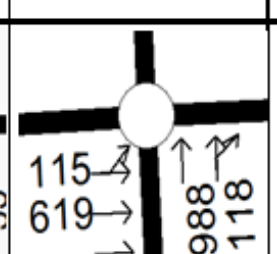
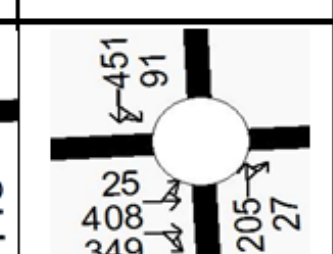
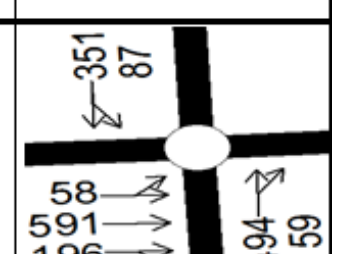
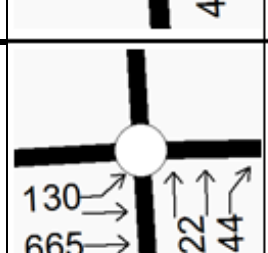
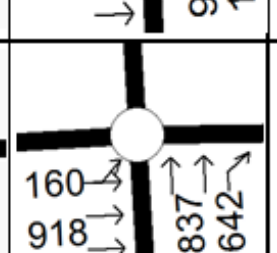
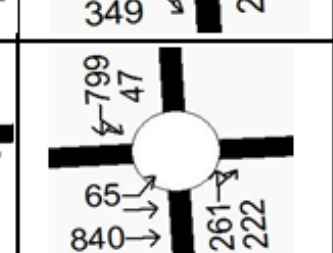
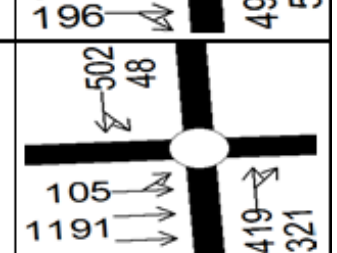
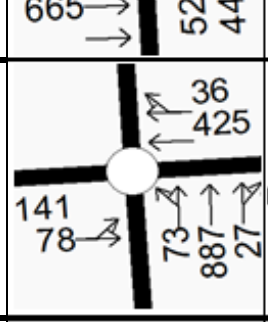
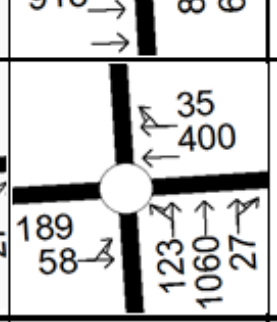
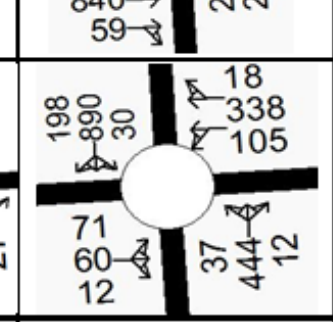
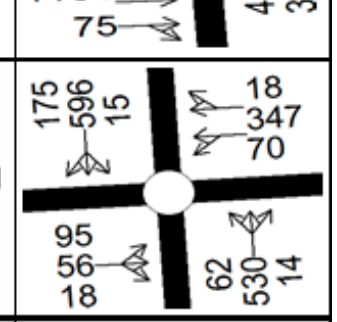
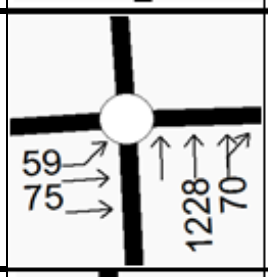
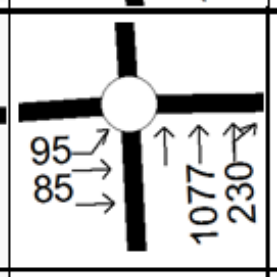
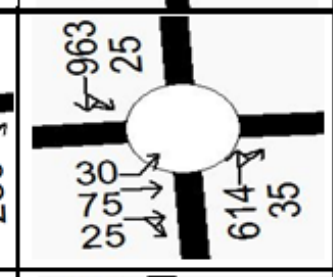
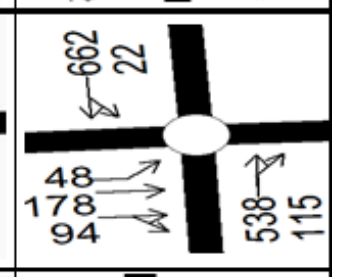
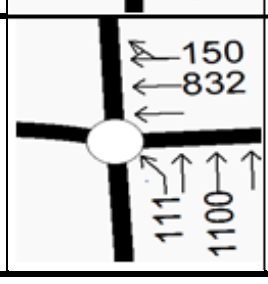
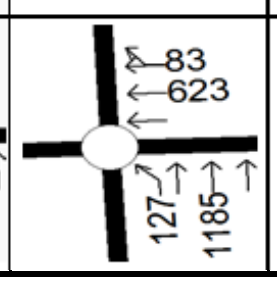
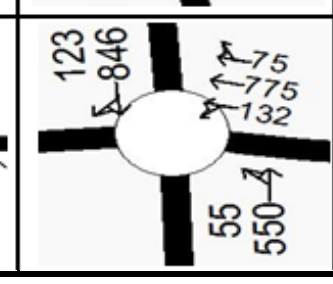
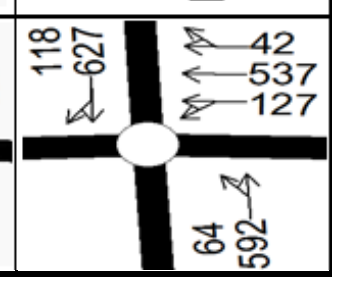
APPENDIX B

TWO-WAY VOLUME DIAGRAM

St. Paul Street Volumes

Intersection	Existing AM Lane Configuration and Volumes	Existing PM Lane Configuration and volumes	Proposed AM Lane Configuration and Volumes	Proposed PM Lane Configuration and Volumes
St. Paul Street at E. University Parkway				
St. Paul Street at E. 33rd Street				
St. Paul Street at E. 29th Street				
St. Paul Street at E. 25th Street				
St. Paul Street at E. North Avenue				
St. Paul Street at E. Biddle Street				
St. Paul Street at E. Centre Street				
St. Paul Street (Upper) at Saratoga Street				
St. Paul Street (Lower) at Saratoga Street				
St. Paul Street at E. Lexington Street				
St. Paul Street at E. Fayette Street				

Calvert Street Volumes

Intersection	Existing AM Lane Configuration and Volumes	Existing PM Lane Configuration and volumes	Proposed AM Lane Configuration and Volumes	Proposed PM Lane Configuration and Volumes
N. Calvert Street Street at E. University Parkway				
N. Calvert Street at E. 33rd Street				
N. Calvert Street at E. 29th Street				
N. Calvert Street at E. 25th Street				
N. Calvert Street at E. North Avenue				
N. Calvert Street at E. Biddle Street				
N. Calvert Street at E. Centre Street				
N. Calvert Street at Saratoga Street				
N. Calvert Street at E. Lexington Street				
N. Calvert Street at E. Fayette Street				

APPENDIX C

TWO-WAY HCM REPORTS

Two-way HCM Reports:

AM Peak Hour

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Future Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.93		1.00	0.99		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.97			1.00	
Flt Protected		1.00	1.00		1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3077	1286		2927	1236		1516			2989	
Flt Permitted		0.94	1.00		0.90	1.00		0.21			0.72	
Satd. Flow (perm)		2889	1286		2644	1236		320			2211	
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)	10	384	144	23	353	89	101	31	38	440	409	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	53	0	0	53	0
Lane Group Flow (vph)	0	394	144	0	385	80	0	117	0	0	809	0
Confl. Peds. (#/hr)	2		21	21		2	29		7	7		29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Effective Green, g (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.35			0.35	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		821	365		751	351		112			775	
v/s Ratio Prot												
v/s Ratio Perm		0.14	0.11		c0.15	0.06		c0.37			0.37	
v/c Ratio		0.48	0.39		0.51	0.23		1.05			1.04	
Uniform Delay, d1		48.9	47.6		49.5	45.2		53.6			53.6	
Progression Factor		0.52	0.54		0.76	0.79		1.00			1.00	
Incremental Delay, d2		1.7	2.6		2.3	1.4		98.7			44.5	
Delay (s)		27.0	28.1		40.1	36.9		152.2			98.1	
Level of Service		C	C		D	D		F			F	
Approach Delay (s)		27.3			39.5			152.2			98.1	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	69.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	143.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NER2	SWL2	SWL	SWT	SWR
Lane Configurations					
Traffic Volume (vph)	0	29	20	0	32
Future Volume (vph)	0	29	20	0	32
Ideal Flow (vphpl)	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1	
Lane Util. Factor		1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00	0.95	
Flpb, ped/bikes		0.99	0.95	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	0.95	1.00	
Satd. Flow (prot)		1526	1468	1309	
Flt Permitted		0.95	0.95	1.00	
Satd. Flow (perm)		1526	1468	1309	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	30	21	0	33
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	30	21	33	0
Confl. Peds. (#/hr)	21	7	21		29
Turn Type	Free	Perm	Perm	NA	
Protected Phases				4	
Permitted Phases	Free	4	4		
Actuated Green, G (s)		37.9	37.9	37.9	
Effective Green, g (s)		37.9	37.9	37.9	
Actuated g/C Ratio		0.23	0.23	0.23	
Clearance Time (s)		7.1	7.1	7.1	
Lane Grp Cap (vph)		350	337	300	
v/s Ratio Prot				c0.03	
v/s Ratio Perm		0.02	0.01		
v/c Ratio		0.09	0.06	0.11	
Uniform Delay, d1		49.9	49.7	50.2	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		0.5	0.4	0.7	
Delay (s)		50.4	50.0	51.0	
Level of Service		D	D	D	
Approach Delay (s)				50.5	
Approach LOS				D	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Future Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.88		1.00			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		1.00			0.97				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1614	1211		1605			1479				
Flt Permitted		0.97	1.00		0.96			0.96				
Satd. Flow (perm)		1576	1211		1543			1479				
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	322	609	25	332	5	139	6	38	0	0	0
RTOR Reduction (vph)	0	0	253	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	338	356	0	362	0	0	177	0	0	0	0
Confl. Peds. (#/hr)	29		30	30		29	9		19	19		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		96.4	96.4		96.4			55.4				
Effective Green, g (s)		96.4	96.4		96.4			55.4				
Actuated g/C Ratio		0.58	0.58		0.58			0.34				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		920	707		901			496				
v/s Ratio Prot												
v/s Ratio Perm		0.21	c0.29		0.23			0.12				
v/c Ratio		0.37	0.50		0.40			0.36				
Uniform Delay, d1		18.2	20.2		18.6			41.4				
Progression Factor		0.71	1.05		1.00			1.00				
Incremental Delay, d2		0.8	1.7		1.3			2.0				
Delay (s)		13.6	23.0		20.0			43.4				
Level of Service		B	C		B			D				
Approach Delay (s)		19.6			20.0			43.4			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Future Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	3.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.91			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.99			1.00			0.99			0.98	
Flt Protected	0.95	1.00			1.00			0.99			1.00	
Satd. Flow (prot)	1386	2745			3947			1419			1420	
Flt Permitted	0.95	1.00			0.86			0.86			0.97	
Satd. Flow (perm)	1386	2745			3394			1233			1386	
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)	58	812	40	45	1081	28	33	188	27	36	578	92
RTOR Reduction (vph)	0	3	0	0	2	0	0	4	0	0	5	0
Lane Group Flow (vph)	58	849	0	0	1152	0	0	244	0	0	701	0
Confl. Peds. (#/hr)	26		40	40		26	32		38	38		32
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	13.0	51.0			35.0			49.0			49.0	
Effective Green, g (s)	13.0	51.0			35.0			49.0			49.0	
Actuated g/C Ratio	0.12	0.46			0.32			0.45			0.45	
Clearance Time (s)	3.0				5.0			5.0			5.0	
Lane Grp Cap (vph)	163	1272			1079			549			617	
v/s Ratio Prot	0.04	c0.31										
v/s Ratio Perm					c0.34			0.20			c0.51	
v/c Ratio	0.36	0.67			1.07			0.44			1.14	
Uniform Delay, d1	44.6	22.9			37.5			21.1			30.5	
Progression Factor	1.65	0.45			0.90			1.00			0.85	
Incremental Delay, d2	0.5	0.3			47.2			2.6			74.4	
Delay (s)	74.3	10.7			80.8			23.7			100.2	
Level of Service	E	B			F			C			F	
Approach Delay (s)		14.7			80.8			23.7			100.2	
Approach LOS		B			F			C			F	

Intersection Summary			
HCM 2000 Control Delay	60.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	121.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Future Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0	3.0	4.0	4.0			5.0			5.0	
Lane Util. Factor		0.95	1.00	1.00	0.91			1.00			1.00	
Frpb, ped/bikes		1.00	0.89	1.00	1.00			0.99			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			0.99			0.98	
Flt Protected		1.00	1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)		2760	1105	1386	3962			1415			1414	
Flt Permitted		0.76	1.00	0.95	1.00			0.87			0.97	
Satd. Flow (perm)		2113	1105	1386	3962			1241			1380	
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)	59	854	43	48	1116	28	33	194	28	37	597	94
RTOR Reduction (vph)	0	0	32	0	3	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	913	11	48	1141	0	0	251	0	0	724	0
Confl. Peds. (#/hr)	46		33	33		46	64		55	55		64
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4				2			2		
Actuated Green, G (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Effective Green, g (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Actuated g/C Ratio		0.25	0.25	0.07	0.36			0.56			0.56	
Clearance Time (s)		3.0	3.0	4.0				5.0			5.0	
Lane Grp Cap (vph)		537	281	100	1440			699			777	
v/s Ratio Prot				0.03	c0.29							
v/s Ratio Perm		c0.43	0.01					0.20			c0.52	
v/c Ratio		1.70	0.04	0.48	0.79			0.36			0.93	
Uniform Delay, d1		41.0	30.9	49.0	31.3			13.1			22.0	
Progression Factor		1.28	3.44	1.42	1.00			1.00			0.40	
Incremental Delay, d2		322.8	0.3	1.5	0.4			1.4			16.1	
Delay (s)		375.4	106.6	71.2	31.7			14.6			24.9	
Level of Service		F	F	E	C			B			C	
Approach Delay (s)		363.3			33.3			14.6			24.9	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	130.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.91	1.00					1.00			1.00	
Frt		1.00	0.85					0.97			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		4237	1250					1514			6000	
Flt Permitted		0.99	1.00					1.00			0.74	
Satd. Flow (perm)		4237	1250					1514			6000	
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)	123	630	45	0	0	0	0	518	163	77	871	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	753	45	0	0	0	0	671	0	0	948	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		35.0	35.0					67.0			67.0	
Effective Green, g (s)		36.0	36.0					67.0			66.0	
Actuated g/C Ratio		0.33	0.33					0.61			0.60	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		1386	409					922			3600	
v/s Ratio Prot			0.04					c0.44				
v/s Ratio Perm		0.18									0.16	
v/c Ratio		0.54	0.11					0.73			0.26	
Uniform Delay, d1		30.3	25.8					15.1			10.5	
Progression Factor		0.87	1.06					0.39			0.35	
Incremental Delay, d2		1.4	0.5					0.5			0.2	
Delay (s)		27.8	27.8					6.3			3.8	
Level of Service		C	C					A			A	
Approach Delay (s)		27.8			0.0			6.3			3.8	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	121.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Future Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.97			1.00			0.97	
Flpb, ped/bikes				0.51	0.97			1.00			1.00	
Frt				1.00	0.99			1.00			0.98	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				651	3711			1557			6000	
Flt Permitted				0.95	1.00			0.30			1.00	
Satd. Flow (perm)				651	3711			473			6000	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	136	647	77	58	567	0	0	873	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	82	778	0	0	625	0	0	1001	0
Confl. Peds. (#/hr)	134		223	223		134	166		119	119		166
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				42.0	42.0			62.0			62.0	
Effective Green, g (s)				41.0	41.0			62.0			61.0	
Actuated g/C Ratio				0.37	0.37			0.56			0.55	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				242	1383			266			3327	
v/s Ratio Prot											0.17	
v/s Ratio Perm				0.13	0.21			c1.32				
v/c Ratio				0.34	0.56			2.35			0.30	
Uniform Delay, d1				24.8	27.4			24.0			13.1	
Progression Factor				0.36	0.35			0.67			0.41	
Incremental Delay, d2				2.7	1.2			615.6			0.2	
Delay (s)				11.6	10.7			631.7			5.6	
Level of Service				B	B			F			A	
Approach Delay (s)		0.0			10.8			631.7			5.6	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	164.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Future Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4685			1559			1522	
Flt Permitted				0.95	1.00			0.26			1.00	
Satd. Flow (perm)				2600	4685			404			1522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	475	1644	33	52	622	0	0	717	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	394	1758	0	0	674	0	0	901	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			2			1 2	
Permitted Phases							2					
Actuated Green, G (s)				41.0	51.0			37.0			50.0	
Effective Green, g (s)				40.0	49.0			37.0			49.0	
Actuated g/C Ratio				0.36	0.45			0.34			0.45	
Clearance Time (s)				3.0				3.0				
Lane Grp Cap (vph)				945	2257			135			677	
v/s Ratio Prot				0.15	c0.28						c0.59	
v/s Ratio Perm					0.09			c1.67				
v/c Ratio				0.42	0.78			4.99			1.33	
Uniform Delay, d1				26.3	25.9			36.5			30.5	
Progression Factor				0.19	0.22			1.00			0.78	
Incremental Delay, d2				0.6	1.3			1813.2			149.8	
Delay (s)				5.7	7.0			1849.7			173.6	
Level of Service				A	A			F			F	
Approach Delay (s)		0.0			6.7			1849.7			173.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	380.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL
Lane Configurations									
Traffic Volume (vph)	29	54	25	614	35	25	150	42	860
Future Volume (vph)	29	54	25	614	35	25	150	42	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		6.0			4.0		4.0
Lane Util. Factor		0.95		1.00			1.00		*0.91
Frt		0.97		0.99			0.97		0.99
Flt Protected		0.99		1.00			0.99		1.00
Satd. Flow (prot)		2832		1553			1515		4500
Flt Permitted		0.99		1.00			0.31		1.00
Satd. Flow (perm)		2832		1553			475		4500
Peak-hour factor, PHF	0.86	0.92	0.92	1.00	1.00	0.94	0.94	0.94	0.82
Adj. Flow (vph)	34	59	27	614	35	27	160	45	1049
RTOR Reduction (vph)	0	0	0	50	0	0	0	0	0
Lane Group Flow (vph)	0	120	0	599	0	0	232	0	1049
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0
Turn Type	Perm	NA		NA		Perm	NA		Prot
Protected Phases		4		3			3		2
Permitted Phases	4					3			
Actuated Green, G (s)		25.0		19.0			19.0		51.0
Effective Green, g (s)		24.0		19.0			21.0		53.0
Actuated g/C Ratio		0.22		0.17			0.19		0.48
Clearance Time (s)		3.0		6.0			6.0		6.0
Lane Grp Cap (vph)		617		268			90		2168
v/s Ratio Prot				0.39					c0.23
v/s Ratio Perm		0.04					c0.49		
v/c Ratio		0.19		2.24			2.58		0.48
Uniform Delay, d1		35.1		45.5			44.5		19.3
Progression Factor		1.01		0.73			0.57		0.47
Incremental Delay, d2		0.7		557.5			738.3		0.7
Delay (s)		36.3		590.8			763.5		9.7
Level of Service		D		F			F		A
Approach Delay (s)		36.3		590.8			763.5		9.7
Approach LOS		D		F			F		A

Intersection Summary			
HCM 2000 Control Delay	280.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Future Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1530			2951			1554			1551	
Flt Permitted		0.76			0.95			0.96			0.98	
Satd. Flow (perm)		1178			2797			1497			1524	
Peak-hour factor, PHF	1.00	0.84	0.84	0.79	0.79	0.79	1.00	1.00	1.00	0.91	0.91	0.91
Adj. Flow (vph)	70	162	15	13	511	23	36	443	12	11	275	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	247	0	0	547	0	0	491	0	0	302	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		57.0			57.0			47.0			47.0	
Effective Green, g (s)		56.0			56.0			47.0			46.0	
Actuated g/C Ratio		0.51			0.51			0.43			0.42	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		599			1423			639			637	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.20			c0.33			0.20	
v/c Ratio		0.41			0.38			0.77			0.47	
Uniform Delay, d1		16.8			16.5			26.9			23.2	
Progression Factor		0.37			0.36			1.97			0.95	
Incremental Delay, d2		2.0			0.7			0.8			0.2	
Delay (s)		8.1			6.6			53.9			22.3	
Level of Service		A			A			D			C	
Approach Delay (s)		8.1			6.6			53.9			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.7%	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)	12	115	21	0	0	0	0	316	26	55	687	0
Future Volume (vph)	12	115	21	0	0	0	0	316	26	55	687	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frt		0.98						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		2898						1549			1559	
Flt Permitted		1.00						1.00			0.95	
Satd. Flow (perm)		2898						1549			1493	
Peak-hour factor, PHF	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. Flow (vph)	12	115	21	0	0	0	0	316	26	55	687	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	134	0	0	0	0	0	338	0	0	742	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						46.0			47.0	
Actuated g/C Ratio		0.32						0.58			0.59	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		941						890			877	
v/s Ratio Prot								0.22				
v/s Ratio Perm		0.05									c0.50	
v/c Ratio		0.14						0.38			0.85	
Uniform Delay, d1		19.1						9.2			13.5	
Progression Factor		1.17						0.16			1.04	
Incremental Delay, d2		0.3						1.2			5.2	
Delay (s)		22.7						2.7			19.2	
Level of Service		C						A			B	
Approach Delay (s)		22.7			0.0			2.7			19.2	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
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 (vph)	9	42	15	35	131	11	41	238	21	19	707	78
Future Volume (vph)	9	42	15	35	131	11	41	238	21	19	707	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.99			0.99	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1506			1536			3500			1542	
Flt Permitted		0.97			0.94			0.86			0.99	
Satd. Flow (perm)		1467			1464			3500			1530	
Peak-hour factor, PHF	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. Flow (vph)	9	42	15	35	131	11	41	238	21	19	707	78
RTOR Reduction (vph)	0	0	0	0	0	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	66	0	0	177	0	0	297	0	0	799	0
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)		27.0			27.0			47.0			47.0	
Effective Green, g (s)		26.0			26.0			46.0			47.0	
Actuated g/C Ratio		0.32			0.32			0.58			0.59	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		476			475			2012			898	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.12			0.08			c0.52	
v/c Ratio		0.14			0.37			0.15			0.89	
Uniform Delay, d1		19.1			20.7			7.9			14.3	
Progression Factor		0.75			0.95			0.15			0.91	
Incremental Delay, d2		0.6			2.2			0.1			7.7	
Delay (s)		14.9			22.0			1.3			20.7	
Level of Service		B			C			A			C	
Approach Delay (s)		14.9			22.0			1.3			20.7	
Approach LOS		B			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	325	189	36	136	512	0	0	748	0
Future Volume (vph)	0	0	0	325	189	36	136	512	0	0	748	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frt					0.99			1.00			1.00	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					2859			3200			1565	
Flt Permitted					0.97			0.45			1.00	
Satd. Flow (perm)					2859			3200			1565	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	325	189	36	136	512	0	0	748	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	550	0	0	648	0	0	748	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					39.0			65.0			65.0	
Effective Green, g (s)					38.0			64.0			65.0	
Actuated g/C Ratio					0.35			0.58			0.59	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					987			1861			924	
v/s Ratio Prot											c0.48	
v/s Ratio Perm					0.19			0.20				
v/c Ratio					0.56			0.35			0.81	
Uniform Delay, d1					29.2			12.1			17.6	
Progression Factor					0.39			0.37			0.37	
Incremental Delay, d2					2.0			0.4			4.1	
Delay (s)					13.3			4.9			10.6	
Level of Service					B			A			B	
Approach Delay (s)		0.0			13.3			4.9			10.6	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	840	59	0	0	0	0	261	222	47	799	0
Future Volume (vph)	65	840	59	0	0	0	0	261	222	47	799	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frpb, ped/bikes	1.00	0.99						0.97			1.00	
Flpb, ped/bikes	0.91	1.00						1.00			1.00	
Frt	1.00	0.99						0.94			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1355	4192						3500			1559	
Flt Permitted	0.95	1.00						1.00			0.95	
Satd. Flow (perm)	1355	4192						3500			1492	
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	875	61	0	0	0	0	272	231	49	832	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	68	936	0	0	0	0	0	503	0	0	881	0
Confl. Peds. (#/hr)	42		57	57		42	31		54	54		31
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	30.0	30.0						42.0			42.0	
Effective Green, g (s)	31.0	31.0						41.0			42.0	
Actuated g/C Ratio	0.39	0.39						0.51			0.52	
Clearance Time (s)	5.0	5.0						3.0			3.0	
Lane Grp Cap (vph)	525	1624						1793			783	
v/s Ratio Prot		c0.22						0.14				
v/s Ratio Perm	0.05										c0.59	
v/c Ratio	0.13	0.58						0.28			1.13	
Uniform Delay, d1	15.8	19.3						11.1			19.0	
Progression Factor	1.24	1.34						1.00			0.52	
Incremental Delay, d2	0.3	1.0						0.4			65.8	
Delay (s)	19.9	27.0						11.5			75.6	
Level of Service	B	C						B			E	
Approach Delay (s)		26.5			0.0			11.5			75.6	
Approach LOS		C			A			B			E	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	449	4	24	349	0	0	697	26
Future Volume (vph)	0	0	0	95	449	4	24	349	0	0	697	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			5.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					0.97			1.00			1.00	
Frt					1.00			1.00			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					4101			1559			1554	
Flt Permitted					0.99			0.94			1.00	
Satd. Flow (perm)					4101			1463			1554	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	98	463	4	25	360	0	0	719	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	565	0	0	385	0	0	744	0
Confl. Peds. (#/hr)	23		87	87		23	38		48	48		38
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					26.0			44.0			44.0	
Effective Green, g (s)					27.0			45.0			44.0	
Actuated g/C Ratio					0.34			0.56			0.55	
Clearance Time (s)					5.0			5.0			5.0	
Lane Grp Cap (vph)					1384			822			854	
v/s Ratio Prot											c0.48	
v/s Ratio Perm					0.14			0.26				
v/c Ratio					0.41			0.47			0.87	
Uniform Delay, d1					20.4			10.4			15.6	
Progression Factor					0.55			0.20			1.04	
Incremental Delay, d2					0.8			1.9			9.0	
Delay (s)					12.0			3.9			25.2	
Level of Service					B			A			C	
Approach Delay (s)		0.0			12.0			3.9			25.2	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	16	47	17	23	389	39	0	797	5
Future Volume (vph)	0	0	0	16	47	17	23	389	39	0	797	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.97			0.99			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					1505			3500			1563	
Flt Permitted					0.99			0.88			1.00	
Satd. Flow (perm)					1505			3500			1563	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	16	47	17	23	389	39	0	797	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	80	0	0	451	0	0	802	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					29.0			45.0			45.0	
Effective Green, g (s)					28.0			44.0			45.0	
Actuated g/C Ratio					0.35			0.55			0.56	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					526			1925			879	
v/s Ratio Prot											c0.51	
v/s Ratio Perm					0.05			0.13				
v/c Ratio					0.15			0.23			0.91	
Uniform Delay, d1					17.9			9.3			15.7	
Progression Factor					1.11			0.82			0.67	
Incremental Delay, d2					0.6			0.3			9.4	
Delay (s)					20.4			7.9			20.0	
Level of Service					C			A			C	
Approach Delay (s)		0.0			20.4			7.9			20.0	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.4%	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)	25	408	349	0	0	0	0	205	27	91	451	0
Future Volume (vph)	25	408	349	0	0	0	0	205	27	91	451	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.93						0.98			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2703						1536			1549	
Flt Permitted		1.00						1.00			0.90	
Satd. Flow (perm)		2703						1536			1409	
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	443	379	0	0	0	0	223	29	99	490	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	849	0	0	0	0	0	252	0	0	589	0
Confl. Peds. (#/hr)	19		16	16		19	42		13	13		42
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		37.0						37.0			37.0	
Effective Green, g (s)		36.0						36.0			37.0	
Actuated g/C Ratio		0.45						0.45			0.46	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1216						691			651	
v/s Ratio Prot								0.16				
v/s Ratio Perm		0.31									c0.42	
v/c Ratio		0.70						0.36			0.90	
Uniform Delay, d1		17.6						14.5			19.9	
Progression Factor		0.77						0.51			0.68	
Incremental Delay, d2		3.2						1.5			14.9	
Delay (s)		16.8						8.9			28.4	
Level of Service		B						A			C	
Approach Delay (s)		16.8			0.0			8.9			28.4	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	22	45	0	0	0	0	198	5	24	543	0
Future Volume (vph)	6	22	45	0	0	0	0	198	5	24	543	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frt		0.91						1.00			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		2687						3500			1561	
Flt Permitted		1.00						1.00			0.99	
Satd. Flow (perm)		2687						3500			1542	
Peak-hour factor, PHF	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. Flow (vph)	6	22	45	0	0	0	0	198	5	24	543	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	73	0	0	0	0	0	202	0	0	567	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						46.0			47.0	
Actuated g/C Ratio		0.32						0.58			0.59	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		873						2012			905	
v/s Ratio Prot								0.06				
v/s Ratio Perm		0.03									c0.37	
v/c Ratio		0.08						0.10			0.63	
Uniform Delay, d1		18.7						7.7			10.8	
Progression Factor		1.46						0.48			0.50	
Incremental Delay, d2		0.2						0.1			2.3	
Delay (s)		27.5						3.8			7.7	
Level of Service		C						A			A	
Approach Delay (s)		27.5			0.0			3.8			7.7	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	101	20	41	215	0	0	686	6
Future Volume (vph)	0	0	0	25	101	20	41	215	0	0	686	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.98			1.00			1.00	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					3006			1641			1652	
Flt Permitted					0.99			0.73			1.00	
Satd. Flow (perm)					3006			1207			1652	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	25	101	20	41	215	0	0	686	6
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	134	0	0	256	0	0	692	0
Confl. Peds. (#/hr)	7		17	17		7	12		46	46		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					38.4			60.4			60.4	
Effective Green, g (s)					38.4			60.4			60.4	
Actuated g/C Ratio					0.35			0.55			0.55	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1049			662			907	
v/s Ratio Prot											c0.42	
v/s Ratio Perm					0.04			0.21				
v/c Ratio					0.13			0.39			0.76	
Uniform Delay, d1					24.4			14.2			19.2	
Progression Factor					1.00			0.34			0.81	
Incremental Delay, d2					0.3			1.5			4.6	
Delay (s)					24.6			6.3			20.2	
Level of Service					C			A			C	
Approach Delay (s)		0.0			24.6			6.3			20.2	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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	0	0	63	483	13	19	200	0	0	468	38
Future Volume (vph)	0	0	0	63	483	13	19	200	0	0	468	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0	4.0		4.0			3.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.93		1.00			1.00	
Flpb, ped/bikes					0.99	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					0.99	1.00		1.00			1.00	
Satd. Flow (prot)					2937	1230		3500			1543	
Flt Permitted					0.99	1.00		0.95			1.00	
Satd. Flow (perm)					2937	1230		3500			1543	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	65	498	13	20	206	0	0	482	39
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	563	13	0	226	0	0	517	0
Confl. Peds. (#/hr)	28		27	27		28	33		20	20		33
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4		4	2					
Actuated Green, G (s)					37.0	37.0		37.0			37.0	
Effective Green, g (s)					36.0	36.0		36.0			37.0	
Actuated g/C Ratio					0.45	0.45		0.45			0.46	
Clearance Time (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1321	553		1575			713	
v/s Ratio Prot											c0.34	
v/s Ratio Perm					0.19	0.01		0.06				
v/c Ratio					0.43	0.02		0.14			0.73	
Uniform Delay, d1					15.0	12.2		12.9			17.4	
Progression Factor					0.21	0.20		0.42			0.70	
Incremental Delay, d2					0.9	0.1		0.2			4.2	
Delay (s)					4.1	2.5		5.6			16.4	
Level of Service					A	A		A			B	
Approach Delay (s)		0.0			4.0			5.6			16.4	
Approach LOS		A			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.0%	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)	2	13	0	0	96	6	10	161	13	0	702	0
Future Volume (vph)	2	13	0	0	96	6	10	161	13	0	702	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		1.00			0.99			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1631			3100			1628			1654	
Flt Permitted		0.98			1.00			0.96			1.00	
Satd. Flow (perm)		1609			3100			1571			1654	
Peak-hour factor, PHF	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. Flow (vph)	2	13	0	0	96	6	10	161	13	0	702	0
RTOR Reduction (vph)	0	0	0	0	4	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	15	0	0	98	0	0	182	0	0	702	0
Confl. Peds. (#/hr)	20		17	17		20	7		12	12		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA			NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		33.4			33.4			65.4			65.4	
Effective Green, g (s)		33.4			33.4			65.4			65.4	
Actuated g/C Ratio		0.30			0.30			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		488			941			934			983	
v/s Ratio Prot					c0.03						c0.42	
v/s Ratio Perm		0.01						0.12				
v/c Ratio		0.03			0.10			0.19			0.71	
Uniform Delay, d1		26.9			27.5			10.2			15.7	
Progression Factor		1.00			0.55			0.41			1.89	
Incremental Delay, d2		0.1			0.2			0.5			3.5	
Delay (s)		27.0			15.2			4.7			33.2	
Level of Service		C			B			A			C	
Approach Delay (s)		27.0			15.2			4.7			33.2	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	66.8%	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)	29	218	32	0	377	20	40	171	4	73	456	0
Future Volume (vph)	29	218	32	0	377	20	40	171	4	73	456	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0			4.0			4.0			6.0	
Lane Util. Factor	1.00	0.95			0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99			1.00			1.00			1.00	
Flpb, ped/bikes	0.98	1.00			1.00			1.00			1.00	
Frt	1.00	0.98			0.99			1.00			1.00	
Flt Protected	0.95	1.00			1.00			0.99			0.99	
Satd. Flow (prot)	1461	2888			2944			1542			1551	
Flt Permitted	0.48	1.00			1.00			0.86			0.92	
Satd. Flow (perm)	735	2888			2944			1338			1440	
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)	30	222	33	0	385	20	41	174	4	74	465	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	30	240	0	0	405	0	0	219	0	0	539	0
Confl. Peds. (#/hr)	18		30	30		18	37		28	28		37
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	32.0	32.0			32.0			37.0			37.0	
Effective Green, g (s)	33.0	33.0			33.0			39.0			37.0	
Actuated g/C Ratio	0.41	0.41			0.41			0.49			0.46	
Clearance Time (s)	5.0	5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)	303	1191			1214			652			666	
v/s Ratio Prot		0.08			c0.14							
v/s Ratio Perm	0.04							0.16			c0.37	
v/c Ratio	0.10	0.20			0.33			0.34			0.81	
Uniform Delay, d1	14.4	15.1			16.0			12.6			18.5	
Progression Factor	0.56	0.50			1.10			0.13			0.55	
Incremental Delay, d2	0.6	0.4			0.7			1.4			8.5	
Delay (s)	8.7	7.9			18.3			3.0			18.6	
Level of Service	A	A			B			A			B	
Approach Delay (s)		8.0			18.3			3.0			18.6	
Approach LOS		A			B			A			B	

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)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	9	6	19	23	4	20	142	1	6	651	23
Future Volume (vph)	4	9	6	19	23	4	20	142	1	6	651	23
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.97			1.00			1.00	
Frt		0.96			0.99			1.00			1.00	
Flt Protected		0.99			0.98			0.99			1.00	
Satd. Flow (prot)		1352			1384			1477			1479	
Flt Permitted		0.97			0.91			0.90			1.00	
Satd. Flow (perm)		1325			1292			1339			1477	
Peak-hour factor, PHF	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. Flow (vph)	4	9	6	19	23	4	20	142	1	6	651	23
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	15	0	0	43	0	0	163	0	0	679	0
Confl. Peds. (#/hr)	15		26	26		15	5		7	7		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		39.4			39.4			59.4			59.4	
Effective Green, g (s)		39.4			39.4			59.4			59.4	
Actuated g/C Ratio		0.36			0.36			0.54			0.54	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		474			462			723			797	
v/s Ratio Prot												
v/s Ratio Perm		0.01			c0.03			0.12			c0.46	
v/c Ratio		0.03			0.09			0.23			0.85	
Uniform Delay, d1		22.9			23.4			13.3			21.6	
Progression Factor		0.54			1.00			0.55			0.35	
Incremental Delay, d2		0.1			0.4			0.7			7.8	
Delay (s)		12.4			23.8			8.0			15.4	
Level of Service		B			C			A			B	
Approach Delay (s)		12.4			23.8			8.0			15.4	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Future Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3124			1640			1582	
Flt Permitted					1.00			0.41			1.00	
Satd. Flow (perm)					3124			685			1582	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	82	1161	7	38	188	0	0	548	179
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	1249	0	0	226	0	0	717	0
Confl. Peds. (#/hr)	14		7	7		14	19		9	9		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					52.4			46.4			46.4	
Effective Green, g (s)					52.4			46.4			46.4	
Actuated g/C Ratio					0.48			0.42			0.42	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1488			288			667	
v/s Ratio Prot											c0.45	
v/s Ratio Perm					0.40			0.33				
v/c Ratio					0.84			0.78			1.07	
Uniform Delay, d1					25.1			27.5			31.8	
Progression Factor					0.59			0.75			1.59	
Incremental Delay, d2					5.5			18.5			50.6	
Delay (s)					20.3			39.2			101.1	
Level of Service					C			D			F	
Approach Delay (s)		0.0			20.3			39.2			101.1	
Approach LOS		A			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	48.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Future Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3120			3115			1608			1635	
Flt Permitted		0.93			0.91			0.91			0.98	
Satd. Flow (perm)		2896			2854			1473			1609	
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)	21	568	23	26	717	37	18	127	29	29	625	43
RTOR Reduction (vph)	0	3	0	0	3	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	609	0	0	777	0	0	167	0	0	695	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		49.8			36.4			43.9			43.9	
Effective Green, g (s)		49.8			36.4			43.9			43.9	
Actuated g/C Ratio		0.45			0.33			0.40			0.40	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1338			944			587			642	
v/s Ratio Prot		c0.06										
v/s Ratio Perm		0.15			c0.27			0.11			c0.43	
v/c Ratio		0.46			0.82			0.29			1.08	
Uniform Delay, d1		20.8			33.8			22.4			33.0	
Progression Factor		0.41			1.34			0.38			0.62	
Incremental Delay, d2		0.9			7.6			1.2			52.0	
Delay (s)		9.5			53.1			9.8			72.3	
Level of Service		A			D			A			E	
Approach Delay (s)		9.5			53.1			9.8			72.3	
Approach LOS		A			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	58	9	4	51	10	9	184	16	14	684	9
Future Volume (vph)	10	58	9	4	51	10	9	184	16	14	684	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.98			0.98			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1587			1593			1616			1645	
Flt Permitted		0.97			0.99			0.97			0.99	
Satd. Flow (perm)		1545			1577			1573			1636	
Peak-hour factor, PHF	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. Flow (vph)	10	58	9	4	51	10	9	184	16	14	684	9
RTOR Reduction (vph)	0	5	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	72	0	0	59	0	0	206	0	0	707	0
Confl. Peds. (#/hr)	9		36	36		9	16		37	37		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		26.9			26.9			71.4			71.4	
Effective Green, g (s)		26.9			26.9			71.4			71.4	
Actuated g/C Ratio		0.24			0.24			0.65			0.65	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		377			385			1021			1061	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.04			0.13			c0.43	
v/c Ratio		0.19			0.15			0.20			0.67	
Uniform Delay, d1		32.9			32.6			7.8			11.9	
Progression Factor		1.11			1.00			0.04			0.17	
Incremental Delay, d2		1.1			0.8			0.4			2.3	
Delay (s)		37.7			33.5			0.8			4.4	
Level of Service		D			C			A			A	
Approach Delay (s)		37.7			33.5			0.8			4.4	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	71.6%	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)	15	13	12	19	15	12	7	166	5	8	717	7
Future Volume (vph)	15	13	12	19	15	12	7	166	5	8	717	7
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.97			1.00			1.00	
Flpb, ped/bikes		0.96			0.96			1.00			1.00	
Frt		0.96			0.96			1.00			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1444			1450			1639			1649	
Flt Permitted		0.92			0.91			0.97			1.00	
Satd. Flow (perm)		1351			1340			1601			1645	
Peak-hour factor, PHF	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. Flow (vph)	15	13	12	19	15	12	7	166	5	8	717	7
RTOR Reduction (vph)	0	8	0	0	8	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	32	0	0	38	0	0	177	0	0	732	0
Confl. Peds. (#/hr)	36		37	37		36	17		31	31		17
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		34.4			34.4			64.4			64.4	
Effective Green, g (s)		34.4			34.4			64.4			64.4	
Actuated g/C Ratio		0.31			0.31			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		422			419			937			963	
v/s Ratio Prot												
v/s Ratio Perm		0.02			c0.03			0.11			c0.44	
v/c Ratio		0.08			0.09			0.19			0.76	
Uniform Delay, d1		26.6			26.7			10.6			17.0	
Progression Factor		1.06			1.00			0.06			0.25	
Incremental Delay, d2		0.3			0.4			0.3			3.1	
Delay (s)		28.6			27.2			0.9			7.3	
Level of Service		C			C			A			A	
Approach Delay (s)		28.6			27.2			0.9			7.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Future Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6			6.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.98			1.00			1.00	
Frt		1.00			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3122			2991			1586			1621	
Flt Permitted		0.84			0.81			0.96			0.99	
Satd. Flow (perm)		2649			2456			1528			1614	
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)	25	258	0	142	629	75	9	153	49	11	642	87
RTOR Reduction (vph)	0	0	0	0	7	0	0	10	0	0	5	0
Lane Group Flow (vph)	0	283	0	0	839	0	0	201	0	0	735	0
Confl. Peds. (#/hr)	36		47	47		36	13		21	21		13
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		58.4			58.4			38.9			38.9	
Effective Green, g (s)		58.4			58.4			38.9			38.9	
Actuated g/C Ratio		0.53			0.53			0.35			0.35	
Clearance Time (s)		6.6			6.6			6.1			6.1	
Lane Grp Cap (vph)		1406			1303			540			570	
v/s Ratio Prot												
v/s Ratio Perm		0.11			c0.34			0.13			c0.46	
v/c Ratio		0.20			0.64			0.37			1.29	
Uniform Delay, d1		13.6			18.4			26.5			35.5	
Progression Factor		0.68			0.10			1.50			0.54	
Incremental Delay, d2		0.3			0.2			2.0			141.2	
Delay (s)		9.5			2.0			41.8			160.5	
Level of Service		A			A			D			F	
Approach Delay (s)		9.5			2.0			41.8			160.5	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	63.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	NBT	NBR	SBL2	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	65	744	60	261	222	48	503	295
Future Volume (vph)	65	744	60	261	222	48	503	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		5.0				4.0
Lane Util. Factor		0.86		1.00				1.00
Frpb, ped/bikes		0.99		0.94				1.00
Flpb, ped/bikes		0.99		1.00				1.00
Frt		0.99		0.94				1.00
Flt Protected		1.00		1.00				0.97
Satd. Flow (prot)		5210		1387				3000
Flt Permitted		1.00		1.00				0.19
Satd. Flow (perm)		5210		1387				3000
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	783	63	275	234	51	529	311
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	914	0	509	0	0	0	891
Confl. Peds. (#/hr)	97		59		115	115		
Turn Type	Perm	NA		NA		custom	Prot	NA
Protected Phases		4		3			2	2 3
Permitted Phases	4					2		
Actuated Green, G (s)		22.0		25.0				43.0
Effective Green, g (s)		23.0		25.0				45.0
Actuated g/C Ratio		0.29		0.31				0.56
Clearance Time (s)		5.0		5.0				
Lane Grp Cap (vph)		1497		433				1837
v/s Ratio Prot				c0.37				c0.12
v/s Ratio Perm		0.18						0.18
v/c Ratio		0.61		1.18				0.49
Uniform Delay, d1		24.6		27.5				10.5
Progression Factor		1.42		1.00				2.12
Incremental Delay, d2		1.4		100.8				0.8
Delay (s)		36.3		128.3				23.1
Level of Service		D		F				C
Approach Delay (s)		36.3		128.3				23.1
Approach LOS		D		F				C

Intersection Summary			
HCM 2000 Control Delay	51.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	59	22	0	0	0	0	316	25	55	688	0
Future Volume (vph)	12	59	22	0	0	0	0	316	25	55	688	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frt		0.96						0.99			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		2849						1549			6400	
Flt Permitted		0.99						1.00			0.95	
Satd. Flow (perm)		2849						1549			6400	
Peak-hour factor, PHF	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. Flow (vph)	12	59	22	0	0	0	0	316	25	55	688	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	93	0	0	0	0	0	337	0	0	743	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						47.0			46.0	
Actuated g/C Ratio		0.32						0.59			0.58	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		925						910			3680	
v/s Ratio Prot								c0.22				
v/s Ratio Perm		0.03									0.12	
v/c Ratio		0.10						0.37			0.20	
Uniform Delay, d1		18.8						8.7			8.2	
Progression Factor		1.45						1.39			0.19	
Incremental Delay, d2		0.2						1.1			0.1	
Delay (s)		27.6						13.1			1.7	
Level of Service		C						B			A	
Approach Delay (s)		27.6			0.0			13.1			1.7	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
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 (vph)	13	26	13	19	3	17	6	165	5	8	717	6
Future Volume (vph)	13	26	13	19	3	17	6	165	5	8	717	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			6.6			6.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			1.00			1.00	
Flpb, ped/bikes		0.98			0.98			1.00			1.00	
Frt		0.97			0.94			1.00			1.00	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1527			1430			1637			1648	
Flt Permitted		0.94			0.88			0.98			1.00	
Satd. Flow (perm)		1458			1291			1605			1645	
Peak-hour factor, PHF	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. Flow (vph)	13	26	13	19	3	17	6	165	5	8	717	6
RTOR Reduction (vph)	0	10	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	42	0	0	26	0	0	175	0	0	731	0
Confl. Peds. (#/hr)	30		23	23		30	20		41	41		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.4			28.4			69.4			69.4	
Effective Green, g (s)		28.4			28.4			69.4			69.4	
Actuated g/C Ratio		0.26			0.26			0.63			0.63	
Clearance Time (s)		5.6			5.6			6.6			6.6	
Lane Grp Cap (vph)		376			333			1012			1037	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.02			0.11			c0.44	
v/c Ratio		0.11			0.08			0.17			0.70	
Uniform Delay, d1		31.2			30.9			8.4			13.5	
Progression Factor		0.56			1.14			1.37			0.11	
Incremental Delay, d2		0.6			0.5			0.3			2.9	
Delay (s)		18.0			35.8			11.9			4.3	
Level of Service		B			D			B			A	
Approach Delay (s)		18.0			35.8			11.9			4.3	
Approach LOS		B			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
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)	2	83	29	0	0	0	0	190	0	8	675	0
Future Volume (vph)	2	83	29	0	0	0	0	190	0	8	675	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		1.00						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.97						1.00			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		1565						1654			1652	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		1565						1654			1648	
Peak-hour factor, PHF	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. Flow (vph)	2	83	29	0	0	0	0	190	0	8	675	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	103	0	0	0	0	0	190	0	0	683	0
Confl. Peds. (#/hr)	4		20	20		4	8		15	15		8
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		29.4						69.4			69.4	
Effective Green, g (s)		29.4						69.4			69.4	
Actuated g/C Ratio		0.27						0.63			0.63	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		418						1043			1039	
v/s Ratio Prot								0.11				
v/s Ratio Perm		0.07									c0.41	
v/c Ratio		0.25						0.18			0.66	
Uniform Delay, d1		31.6						8.5			12.8	
Progression Factor		1.03						1.37			0.10	
Incremental Delay, d2		1.4						0.4			2.6	
Delay (s)		33.9						12.0			3.9	
Level of Service		C						B			A	
Approach Delay (s)		33.9			0.0			12.0			3.9	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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 (vph)	5	66	45	0	0	0	0	198	4	25	544	25
Future Volume (vph)	5	66	45	0	0	0	0	198	4	25	544	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		0.95						1.00			0.99	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		1480						1561			4500	
Flt Permitted		1.00						1.00			0.98	
Satd. Flow (perm)		1480						1561			1532	
Peak-hour factor, PHF	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. Flow (vph)	5	66	45	0	0	0	0	198	4	25	544	25
RTOR Reduction (vph)	0	28	0	0	0	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	88	0	0	0	0	0	201	0	0	592	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						47.0			46.0	
Actuated g/C Ratio		0.32						0.59			0.58	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		481						917			880	
v/s Ratio Prot								0.13				
v/s Ratio Perm		0.06									c0.39	
v/c Ratio		0.18						0.22			0.67	
Uniform Delay, d1		19.4						7.8			11.8	
Progression Factor		0.51						1.20			0.55	
Incremental Delay, d2		0.8						0.5			4.0	
Delay (s)		10.8						9.9			10.5	
Level of Service		B						A			B	
Approach Delay (s)		10.8			0.0			9.9			10.5	
Approach LOS		B			A			A			B	

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)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.1%	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)	9	57	9	4	40	9	9	184	16	13	683	9
Future Volume (vph)	9	57	9	4	40	9	9	184	16	13	683	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1595			1590			1625			1648	
Flt Permitted		0.97			0.99			0.97			0.99	
Satd. Flow (perm)		1561			1572			1582			1639	
Peak-hour factor, PHF	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. Flow (vph)	9	57	9	4	40	9	9	184	16	13	683	9
RTOR Reduction (vph)	0	4	0	0	7	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	71	0	0	46	0	0	206	0	0	705	0
Confl. Peds. (#/hr)	9		23	23		9	10		15	15		10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.9			28.9			69.4			69.4	
Effective Green, g (s)		28.9			28.9			69.4			69.4	
Actuated g/C Ratio		0.26			0.26			0.63			0.63	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		410			413			998			1034	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			0.13			c0.43	
v/c Ratio		0.17			0.11			0.21			0.68	
Uniform Delay, d1		31.3			30.8			8.6			13.1	
Progression Factor		1.33			1.42			0.46			0.10	
Incremental Delay, d2		0.9			0.5			0.5			2.8	
Delay (s)		42.6			44.3			4.4			4.1	
Level of Service		D			D			A			A	
Approach Delay (s)		42.6			44.3			4.4			4.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBT	WBR	NBL	NBT	SBT	SBR2	NER2
Lane Configurations								
Traffic Volume (vph)	16	42	17	23	389	797	5	95
Future Volume (vph)	16	42	17	23	389	797	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0			5.0	4.0		4.0
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00
Frt	1.00	0.96			1.00	1.00		0.86
Flt Protected	0.95	1.00			1.00	1.00		1.00
Satd. Flow (prot)	1486	1499			1560	4500		1353
Flt Permitted	0.95	1.00			0.82	1.00		1.00
Satd. Flow (perm)	1486	1499			1284	4500		1353
Peak-hour factor, PHF	0.83	0.83	0.83	1.00	1.00	0.94	0.94	0.75
Adj. Flow (vph)	19	51	20	23	389	848	5	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	19	71	0	0	412	853	0	127
Turn Type	Split	NA		Perm	NA	NA		Prot
Protected Phases	4	4			2	2		3
Permitted Phases				2				3
Actuated Green, G (s)	19.0	19.0			45.0	45.0		5.0
Effective Green, g (s)	18.0	18.0			45.0	46.0		4.0
Actuated g/C Ratio	0.22	0.22			0.56	0.58		0.05
Clearance Time (s)	3.0	3.0			5.0	5.0		3.0
Lane Grp Cap (vph)	334	337			722	2587		67
v/s Ratio Prot	0.01	c0.05				0.19		c0.09
v/s Ratio Perm					c0.32			
v/c Ratio	0.06	0.21			0.57	0.33		1.90
Uniform Delay, d1	24.3	25.2			11.3	8.9		38.0
Progression Factor	0.69	0.68			0.26	0.47		1.18
Incremental Delay, d2	0.3	1.4			1.4	0.3		453.4
Delay (s)	17.2	18.4			4.4	4.5		498.3
Level of Service	B	B			A	A		F
Approach Delay (s)		18.2			4.4	4.5		
Approach LOS		B			A	A		

Intersection Summary			
HCM 2000 Control Delay	47.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	62	430	12	18	200	0	0	1139	38
Future Volume (vph)	0	0	0	62	430	12	18	200	0	0	1139	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			3.0			4.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					1.00			1.00			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2908			1558			6000	
Flt Permitted					0.99			0.56			1.00	
Satd. Flow (perm)					2908			882			1555	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	63	439	12	18	204	0	0	1162	39
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	512	0	0	222	0	0	1200	0
Confl. Peds. (#/hr)	47		43	43		47	31		70	70		31
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					32.0			42.0			42.0	
Effective Green, g (s)					31.0			42.0			41.0	
Actuated g/C Ratio					0.39			0.52			0.51	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					1126			463			3075	
v/s Ratio Prot											0.20	
v/s Ratio Perm					0.18			c0.25				
v/c Ratio					0.45			0.48			0.39	
Uniform Delay, d1					18.2			12.1			11.9	
Progression Factor					0.33			0.74			0.10	
Incremental Delay, d2					1.2			3.4			0.2	
Delay (s)					7.3			12.3			1.4	
Level of Service					A			B			A	
Approach Delay (s)		0.0			7.3			12.3			1.4	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	32	15	35	197	10	41	237	21	19	708	77
Future Volume (vph)	10	32	15	35	197	10	41	237	21	19	708	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.96			0.99			0.99			0.99	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1496			1545			1539			6400	
Flt Permitted		0.95			0.96			0.86			0.99	
Satd. Flow (perm)		1437			1493			1335			6400	
Peak-hour factor, PHF	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. Flow (vph)	10	32	15	35	197	10	41	237	21	19	708	77
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	57	0	0	242	0	0	296	0	0	804	0
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)		29.0			29.0			45.0			45.0	
Effective Green, g (s)		28.0			28.0			45.0			44.0	
Actuated g/C Ratio		0.35			0.35			0.56			0.55	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		502			522			750			3520	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.16			c0.22			0.13	
v/c Ratio		0.11			0.46			0.39			0.23	
Uniform Delay, d1		17.6			20.2			9.8			9.3	
Progression Factor		0.99			0.91			1.33			0.13	
Incremental Delay, d2		0.4			2.6			1.5			0.1	
Delay (s)		17.9			20.9			14.6			1.3	
Level of Service		B			C			B			A	
Approach Delay (s)		17.9			20.9			14.6			1.3	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	43	14	15	80	13	16	340	17	7	688	27
Future Volume (vph)	12	43	14	15	80	13	16	340	17	7	688	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.98			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1509			1529			1552			1556	
Flt Permitted		0.96			0.97			0.97			1.00	
Satd. Flow (perm)		1464			1493			1502			1552	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Adj. Flow (vph)	12	43	14	15	80	13	16	340	17	8	748	29
RTOR Reduction (vph)	0	0	0	0	6	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	69	0	0	102	0	0	371	0	0	785	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
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)		27.0			27.0			47.0			47.0	
Effective Green, g (s)		26.0			26.0			47.0			46.0	
Actuated g/C Ratio		0.32			0.32			0.59			0.58	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		475			485			882			892	
v/s Ratio Prot												
v/s Ratio Perm		0.05			c0.07			0.25			c0.51	
v/c Ratio		0.15			0.21			0.42			0.88	
Uniform Delay, d1		19.1			19.6			9.0			14.6	
Progression Factor		0.69			1.45			0.38			0.65	
Incremental Delay, d2		0.6			0.9			1.2			12.0	
Delay (s)		13.9			29.4			4.6			21.5	
Level of Service		B			C			A			C	
Approach Delay (s)		13.9			29.4			4.6			21.5	
Approach LOS		B			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	399	4	24	349	0	0	697	27
Future Volume (vph)	0	0	0	95	399	4	24	349	0	0	697	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			5.0			4.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					0.98			1.00			1.00	
Frt					1.00			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					4146			1560			6000	
Flt Permitted					0.99			0.79			1.00	
Satd. Flow (perm)					4146			1236			6000	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	98	411	4	25	360	0	0	719	28
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	513	0	0	385	0	0	747	0
Confl. Peds. (#/hr)	88		46	46		88	37		89	89		37
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					32.0			40.0			40.0	
Effective Green, g (s)					31.0			40.0			41.0	
Actuated g/C Ratio					0.39			0.50			0.51	
Clearance Time (s)					3.0			5.0			5.0	
Lane Grp Cap (vph)					1606			618			3075	
v/s Ratio Prot											0.12	
v/s Ratio Perm					0.12			c0.31				
v/c Ratio					0.32			0.62			0.24	
Uniform Delay, d1					17.1			14.5			10.9	
Progression Factor					0.68			0.30			0.14	
Incremental Delay, d2					0.5			4.0			0.1	
Delay (s)					12.2			8.3			1.6	
Level of Service					B			A			A	
Approach Delay (s)		0.0			12.2			8.3			1.6	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Future Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		2899						1534			1527	
Flt Permitted		1.00						1.00			0.73	
Satd. Flow (perm)		2899						1534			6000	
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)	26	353	31	0	0	0	0	214	27	434	808	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	403	0	0	0	0	0	235	0	0	1242	0
Confl. Peds. (#/hr)	28		40	40		28	40		25	25		40
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1123						805			3075	
v/s Ratio Prot								0.15				
v/s Ratio Perm		0.14									c0.21	
v/c Ratio		0.36						0.29			0.40	
Uniform Delay, d1		17.4						10.7			12.0	
Progression Factor		0.58						0.53			0.15	
Incremental Delay, d2		0.8						0.9			0.4	
Delay (s)		11.0						6.5			2.1	
Level of Service		B						A			A	
Approach Delay (s)		11.0			0.0			6.5			2.1	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SER
Lane Configurations											
Traffic Volume (vph)	30	194	33	363	20	40	171	3	72	456	650
Future Volume (vph)	30	194	33	363	20	40	171	3	72	456	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0			3.0			4.0	4.0
Lane Util. Factor		0.95	1.00	0.95			1.00			1.00	1.00
Frt		1.00	0.85	0.99			1.00			1.00	0.86
Flt Protected		0.99	1.00	1.00			0.99			0.99	1.00
Satd. Flow (prot)		2953	1330	2949			1547			4800	1353
Flt Permitted		0.88	1.00	1.00			0.87			0.93	1.00
Satd. Flow (perm)		2610	1330	2949			1356			1453	1353
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
Adj. Flow (vph)	31	202	34	378	21	42	178	3	75	475	677
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	233	11	399	0	0	223	0	0	550	677
Turn Type	Perm	NA	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4		4			2			2	
Permitted Phases	4		4			2			2		2
Actuated Green, G (s)		28.0	28.0	28.0			46.0			46.0	46.0
Effective Green, g (s)		27.0	27.0	27.0			46.0			45.0	45.0
Actuated g/C Ratio		0.34	0.34	0.34			0.58			0.56	0.56
Clearance Time (s)		3.0	3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		880	448	995			779			817	761
v/s Ratio Prot				c0.14							
v/s Ratio Perm		0.09	0.01				0.16			0.38	c0.50
v/c Ratio		0.26	0.03	0.40			0.29			0.67	0.89
Uniform Delay, d1		19.3	17.7	20.3			8.6			12.3	15.3
Progression Factor		0.37	0.34	0.70			0.42			0.35	1.00
Incremental Delay, d2		0.7	0.1	1.2			0.8			3.5	14.7
Delay (s)		7.9	6.2	15.4			4.5			7.8	30.0
Level of Service		A	A	B			A			A	C
Approach Delay (s)		7.6		15.4			4.5			7.8	
Approach LOS		A		B			A			A	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Future Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			7.1			7.1	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.79	1.00	0.99			0.95			1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.90	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.98			0.96			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1550	3143	1106	1415	1611			1513			1617	
Flt Permitted	0.35	1.00	1.00	0.65	1.00			0.97			0.99	
Satd. Flow (perm)	578	3143	1106	968	1611			1467			1609	
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)	29	161	26	139	505	80	9	149	63	11	630	85
RTOR Reduction (vph)	0	0	20	0	5	0	0	13	0	0	4	0
Lane Group Flow (vph)	29	161	6	139	580	0	0	208	0	0	722	0
Confl. Peds. (#/hr)	19		111	111		19	20		112	112		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Effective Green, g (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Actuated g/C Ratio	0.25	0.25	0.25	0.39	0.43			0.44			0.44	
Clearance Time (s)	6.6	6.6	6.6	4.6				7.1			7.1	
Lane Grp Cap (vph)	143	782	275	439	694			652			715	
v/s Ratio Prot		0.05		0.04	c0.36							
v/s Ratio Perm	0.05		0.01	0.08				0.14			c0.45	
v/c Ratio	0.20	0.21	0.02	0.32	0.84			0.32			1.01	
Uniform Delay, d1	32.7	32.7	31.2	22.8	27.8			19.8			30.6	
Progression Factor	0.64	0.61	1.00	1.21	1.00			0.79			1.00	
Incremental Delay, d2	3.1	0.6	0.2	1.3	8.1			1.3			35.9	
Delay (s)	24.1	20.4	31.4	28.9	36.0			16.8			66.5	
Level of Service	C	C	C	C	D			B			E	
Approach Delay (s)		22.2			34.7			16.8			66.5	
Approach LOS		C			C			B			E	

Intersection Summary			
HCM 2000 Control Delay	43.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	13	15	52	34	28	180	0	0	604	18
Future Volume (vph)	0	0	13	15	52	34	28	180	0	0	604	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)			4.0	4.0	4.0			3.0			4.0	
Lane Util. Factor			1.00	1.00	1.00			1.00			1.00	
Frt			0.85	1.00	0.94			1.00			1.00	
Flt Protected			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)			1330	1486	1472			1554			4800	
Flt Permitted			1.00	0.95	1.00			0.91			1.00	
Satd. Flow (perm)			1330	1486	1472			1417			4800	
Peak-hour factor, PHF	0.85	0.85	0.85	0.69	0.69	0.69	1.00	1.00	1.00	0.97	1.00	1.00
Adj. Flow (vph)	0	0	15	22	75	49	28	180	0	0	604	18
RTOR Reduction (vph)	0	0	0	0	30	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	15	22	94	0	0	208	0	0	622	0
Turn Type	D.Pm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases	4		4	4			2					
Actuated Green, G (s)			27.0	27.0	27.0			47.0			47.0	
Effective Green, g (s)			26.0	26.0	26.0			47.0			46.0	
Actuated g/C Ratio			0.32	0.32	0.32			0.59			0.58	
Clearance Time (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			432	482	478			832			2760	
v/s Ratio Prot					c0.06						0.13	
v/s Ratio Perm			0.01	0.01				c0.15				
v/c Ratio			0.03	0.05	0.20			0.25			0.23	
Uniform Delay, d1			18.4	18.5	19.5			8.0			8.3	
Progression Factor			2.12	0.79	0.68			0.86			1.00	
Incremental Delay, d2			0.1	0.2	0.9			0.7			0.2	
Delay (s)			39.1	14.8	14.2			7.6			8.5	
Level of Service			D	B	B			A			A	
Approach Delay (s)		39.1			14.3			7.6			8.5	
Approach LOS		D			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Future Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.97	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3101			1640			1554	
Flt Permitted					1.00			0.60			1.00	
Satd. Flow (perm)					3101			1000			1554	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	80	1275	6	37	185	0	0	543	177
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1361	0	0	222	0	0	715	0
Confl. Peds. (#/hr)	56		53	53		56	61		42	42		61
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			54.0			54.0	
Effective Green, g (s)					44.0			54.0			54.0	
Actuated g/C Ratio					0.40			0.49			0.49	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1240			490			762	
v/s Ratio Prot											c0.46	
v/s Ratio Perm					0.44			0.22				
v/c Ratio					1.10			0.45			0.94	
Uniform Delay, d1					33.0			18.3			26.4	
Progression Factor					0.45			0.54			0.40	
Incremental Delay, d2					50.6			2.9			16.4	
Delay (s)					65.4			12.8			27.1	
Level of Service					E			B			C	
Approach Delay (s)		0.0			65.4			12.8			27.1	
Approach LOS		A			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	48.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Future Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.97			1.00			0.97	
Flpb, ped/bikes					0.93			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					3898			4800			1542	
Flt Permitted					0.99			0.23			1.00	
Satd. Flow (perm)					3898			4800			1542	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	138	807	78	57	573	0	0	881	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1023	0	0	630	0	0	1004	0
Confl. Peds. (#/hr)	219		297	297		219	186		264	264		186
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					45.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1630			2443			799	
v/s Ratio Prot											c0.65	
v/s Ratio Perm					0.26			0.13				
v/c Ratio					0.63			0.26			1.26	
Uniform Delay, d1					25.2			15.3			26.5	
Progression Factor					1.04			0.71			0.48	
Incremental Delay, d2					1.8			0.3			118.3	
Delay (s)					28.0			11.0			131.1	
Level of Service					C			B			F	
Approach Delay (s)		0.0			28.0			11.0			131.1	
Approach LOS		A			C			B			F	

Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	171	1630	0	0	479	0	0	106	180
Future Volume (vph)	0	0	0	171	1630	0	0	479	0	0	106	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			4.0	
Lane Util. Factor					0.91			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			0.91	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					4252			1565			1432	
Flt Permitted					1.00			1.00			1.00	
Satd. Flow (perm)					4252			1565			1432	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	174	1663	0	0	489	0	0	108	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1837	0	0	489	0	0	292	0
Confl. Peds. (#/hr)	6					6						
Turn Type				Perm	NA			NA			NA	
Protected Phases					2						4	
Permitted Phases				2								
Actuated Green, G (s)					61.0			0.0			23.0	
Effective Green, g (s)					60.0			0.0			22.0	
Actuated g/C Ratio					0.55			0.00			0.20	
Clearance Time (s)					3.0						3.0	
Lane Grp Cap (vph)					2319			0			286	
v/s Ratio Prot											c0.20	
v/s Ratio Perm					0.43							
v/c Ratio					0.79			no cap			1.02	
Uniform Delay, d1					20.0			Error			44.0	
Progression Factor					1.00						1.00	
Incremental Delay, d2					2.9			Error			58.7	
Delay (s)					22.9			Error			102.7	
Level of Service					C			F			F	
Approach Delay (s)		0.0			22.9			Error			102.7	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	Error	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	14	7	19	49	3	20	142	2	7	651	23
Future Volume (vph)	3	14	7	19	49	3	20	142	2	7	651	23
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.96			0.99			1.00			1.00	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1421			1461			1477			1481	
Flt Permitted		0.98			0.94			0.90			1.00	
Satd. Flow (perm)		1400			1385			1343			1478	
Peak-hour factor, PHF	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. Flow (vph)	3	14	7	19	49	3	20	142	2	7	651	23
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	19	0	0	70	0	0	164	0	0	680	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			69.4			69.4	
Effective Green, g (s)		29.4			29.4			69.4			69.4	
Actuated g/C Ratio		0.27			0.27			0.63			0.63	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		374			370			847			932	
v/s Ratio Prot												
v/s Ratio Perm		0.01			c0.05			0.12			c0.46	
v/c Ratio		0.05			0.19			0.19			0.73	
Uniform Delay, d1		29.9			31.1			8.5			13.9	
Progression Factor		0.42			0.96			0.84			0.22	
Incremental Delay, d2		0.3			1.1			0.5			3.4	
Delay (s)		12.8			30.8			7.6			6.4	
Level of Service		B			C			A			A	
Approach Delay (s)		12.8			30.8			7.6			6.4	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	19	49	16	60	669	0	0	887	41
Future Volume (vph)	0	0	0	19	49	16	60	669	0	0	887	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frt					0.97			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2857			1558			1555	
Flt Permitted					0.99			0.69			1.00	
Satd. Flow (perm)					2857			6400			1555	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.73	0.73	0.90	0.90	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	19	67	22	67	743	0	0	887	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	108	0	0	810	0	0	927	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					27.0			77.0			77.0	
Effective Green, g (s)					26.0			76.0			77.0	
Actuated g/C Ratio					0.24			0.69			0.70	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					675			4421			1088	
v/s Ratio Prot											c0.60	
v/s Ratio Perm					0.04			0.13				
v/c Ratio					0.16			0.18			0.85	
Uniform Delay, d1					33.3			6.0			12.3	
Progression Factor					1.45			0.28			0.55	
Incremental Delay, d2					0.5			0.0			0.8	
Delay (s)					49.0			1.7			7.6	
Level of Service					D			A			A	
Approach Delay (s)		0.0			49.0			1.7			7.6	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Future Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frt	1.00	0.96						0.99			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2862						4800			1563	
Flt Permitted	0.95	1.00						1.00			0.98	
Satd. Flow (perm)	1486	2862						4800			1529	
Peak-hour factor, PHF	0.91	0.91	0.91	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	82	27	0	0	0	0	614	35	25	963	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	33	109	0	0	0	0	0	649	0	0	988	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	35.0	35.0						69.0			69.0	
Effective Green, g (s)	34.0	34.0						68.0			69.0	
Actuated g/C Ratio	0.31	0.31						0.62			0.63	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	459	884						2967			959	
v/s Ratio Prot		c0.04						0.14				
v/s Ratio Perm	0.02										c0.65	
v/c Ratio	0.07	0.12						0.22			1.03	
Uniform Delay, d1	26.9	27.3						9.3			20.5	
Progression Factor	0.35	0.34						0.38			0.41	
Incremental Delay, d2	0.0	0.0						0.2			18.0	
Delay (s)	9.3	9.2						3.6			26.3	
Level of Service	A	A						A			C	
Approach Delay (s)		9.2			0.0			3.6			26.3	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	34	18	116	16	60	668	0	0	888	41
Future Volume (vph)	0	0	34	18	116	16	60	668	0	0	888	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)			4.0		4.0			3.0			4.0	
Lane Util. Factor			1.00		0.95			1.00			1.00	
Frt			0.85		0.99			1.00			0.99	
Flt Protected			1.00		0.99			1.00			1.00	
Satd. Flow (prot)			1330		2920			1558			1555	
Flt Permitted			1.00		0.99			0.46			1.00	
Satd. Flow (perm)			1330		2920			712			1555	
Peak-hour factor, PHF	1.00	1.00	0.75	0.71	0.71	1.00	1.00	1.00	1.00	1.00	0.87	0.87
Adj. Flow (vph)	0	0	45	25	163	16	60	668	0	0	1021	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	45	0	204	0	0	728	0	0	1068	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type	D.Pm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases	4		4	4			2					
Actuated Green, G (s)			29.0		29.0			72.0			72.0	
Effective Green, g (s)			31.0		31.0			72.0			71.0	
Actuated g/C Ratio			0.28		0.28			0.65			0.65	
Clearance Time (s)			6.0		6.0			3.0			3.0	
Lane Grp Cap (vph)			374		822			466			1003	
v/s Ratio Prot											0.69	
v/s Ratio Perm			0.03		0.07			c1.02				
v/c Ratio			0.12		0.25			1.56			1.06	
Uniform Delay, d1			29.4		30.5			19.0			19.5	
Progression Factor			0.98		0.81			1.37			0.43	
Incremental Delay, d2			0.6		0.7			254.0			47.2	
Delay (s)			29.4		25.3			279.9			55.5	
Level of Service			C		C			F			E	
Approach Delay (s)		29.4			25.3			279.9			55.5	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	131.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	743	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	122	743	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frt	1.00	0.99						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	4236						4800			1558	
Flt Permitted	0.95	1.00						1.00			0.66	
Satd. Flow (perm)	1486	4236						4800			1037	
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)	128	782	46	0	0	0	0	535	168	79	899	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	128	828	0	0	0	0	0	703	0	0	978	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	42.0	42.0						62.0			62.0	
Effective Green, g (s)	41.0	41.0						61.0			62.0	
Actuated g/C Ratio	0.37	0.37						0.55			0.56	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	553	1578						2661			584	
v/s Ratio Prot		c0.20						0.15				
v/s Ratio Perm	0.09										c0.94	
v/c Ratio	0.23	0.52						0.26			1.67	
Uniform Delay, d1	23.7	26.9						12.8			24.0	
Progression Factor	0.59	0.53						0.30			0.43	
Incremental Delay, d2	0.9	1.1						0.2			304.3	
Delay (s)	14.7	15.4						4.1			314.5	
Level of Service	B	B						A			F	
Approach Delay (s)		15.3			0.0			4.1			314.5	
Approach LOS		B			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	123.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Future Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.98	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1471			2757			1546			1498	
Flt Permitted		0.63			0.83			0.84			0.98	
Satd. Flow (perm)		956			2325			1304			1469	
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)	74	62	12	109	352	19	39	462	12	31	927	206
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	150	0	0	480	0	0	515	0	0	1157	0
Confl. Peds. (#/hr)	39		97	97		39	42		57	57		42
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	3 4			4			2			2		
Actuated Green, G (s)		44.0			29.0			57.0			57.0	
Effective Green, g (s)		42.0			28.0			56.0			57.0	
Actuated g/C Ratio		0.38			0.25			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		430			591			663			761	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.09			c0.21			0.40			c0.79	
v/c Ratio		0.35			0.81			0.78			1.52	
Uniform Delay, d1		24.2			38.5			21.9			26.5	
Progression Factor		0.66			1.09			0.49			0.82	
Incremental Delay, d2		2.1			10.0			8.6			239.0	
Delay (s)		18.2			52.0			19.3			260.6	
Level of Service		B			D			B			F	
Approach Delay (s)		18.2			52.0			19.3			260.6	
Approach LOS		B			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	147.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	26	2	19	41	215	0	0	686	6
Future Volume (vph)	0	0	0	26	2	19	41	215	0	0	686	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.94			1.00			1.00	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					2802			1641			1651	
Flt Permitted					0.97			0.84			1.00	
Satd. Flow (perm)					2802			1394			1651	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	26	2	19	41	215	0	0	686	6
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	33	0	0	256	0	0	692	0
Confl. Peds. (#/hr)	4		7	7		4	24		17	17		24
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			69.4			69.4	
Effective Green, g (s)					29.4			69.4			69.4	
Actuated g/C Ratio					0.27			0.63			0.63	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					748			879			1041	
v/s Ratio Prot											c0.42	
v/s Ratio Perm					0.01			0.18				
v/c Ratio					0.04			0.29			0.66	
Uniform Delay, d1					29.9			9.2			12.9	
Progression Factor					1.96			0.50			0.03	
Incremental Delay, d2					0.1			0.6			2.5	
Delay (s)					58.7			5.2			2.9	
Level of Service					E			A			A	
Approach Delay (s)		0.0			58.7			5.2			2.9	
Approach LOS		A			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	77.5%	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	0	0	450	1913	31	49	592	0	0	681	175
Future Volume (vph)	0	0	0	450	1913	31	49	592	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					7500			1559			1522	
Flt Permitted					0.99			0.34			1.00	
Satd. Flow (perm)					7500			531			1522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	474	2014	33	52	623	0	0	717	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2521	0	0	675	0	0	901	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					47.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3136			270			788	
v/s Ratio Prot											0.59	
v/s Ratio Perm					0.34			c1.27				
v/c Ratio					0.80			2.50			1.14	
Uniform Delay, d1					28.0			27.0			26.5	
Progression Factor					0.46			0.40			0.83	
Incremental Delay, d2					1.9			681.5			72.6	
Delay (s)					14.7			692.2			94.5	
Level of Service					B			F			F	
Approach Delay (s)		0.0			14.7			692.2			94.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	143.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	14	80	35	28	180	0	0	604	18
Future Volume (vph)	0	0	0	14	80	35	28	180	0	0	604	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.88			1.00			0.99	
Flpb, ped/bikes					0.94			0.99			1.00	
Frt					0.96			1.00			1.00	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					2350			5250			1548	
Flt Permitted					0.99			0.90			1.00	
Satd. Flow (perm)					2350			5250			1548	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	15	83	36	29	188	0	0	629	19
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	134	0	0	217	0	0	647	0
Confl. Peds. (#/hr)	219		297	297		219	186		264	264		186
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					27.0			47.0			47.0	
Effective Green, g (s)					26.0			46.0			47.0	
Actuated g/C Ratio					0.32			0.58			0.59	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					763			3018			909	
v/s Ratio Prot											c0.42	
v/s Ratio Perm					0.06			0.04				
v/c Ratio					0.18			0.07			0.71	
Uniform Delay, d1					19.3			7.5			11.7	
Progression Factor					0.96			0.20			1.00	
Incremental Delay, d2					0.5			0.0			4.7	
Delay (s)					19.0			1.6			16.4	
Level of Service					B			A			B	
Approach Delay (s)		0.0			19.0			1.6			16.4	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	51	3	13	175	0	0	650	16
Future Volume (vph)	0	0	0	25	51	3	13	175	0	0	650	16
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			1.00			1.00	
Flt Protected					0.98			1.00			1.00	
Satd. Flow (prot)					1620			1648			1649	
Flt Permitted					0.98			0.95			1.00	
Satd. Flow (perm)					1620			1573			1649	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	25	51	3	13	175	0	0	650	16
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	78	0	0	188	0	0	665	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			69.4			69.4	
Effective Green, g (s)					29.4			69.4			69.4	
Actuated g/C Ratio					0.27			0.63			0.63	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					432			992			1040	
v/s Ratio Prot											c0.40	
v/s Ratio Perm					0.05			0.12				
v/c Ratio					0.18			0.19			0.64	
Uniform Delay, d1					31.0			8.5			12.6	
Progression Factor					0.99			0.75			0.09	
Incremental Delay, d2					0.9			0.4			1.4	
Delay (s)					31.6			6.8			2.5	
Level of Service					C			A			A	
Approach Delay (s)		0.0			31.6			6.8			2.5	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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)	20	577	22	26	639	35	16	122	28	27	593	41
Future Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3111			3097			1597			1631	
Flt Permitted		0.91			0.91			0.92			0.98	
Satd. Flow (perm)		2836			2809			1474			1606	
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	620	24	28	687	38	17	131	30	29	638	44
RTOR Reduction (vph)	0	2	0	0	4	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	664	0	0	749	0	0	171	0	0	709	0
Confl. Peds. (#/hr)	26		16	16		26	27		19	19		27
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		43.9			43.9			53.9			53.9	
Effective Green, g (s)		43.9			43.9			53.9			53.9	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1131			1121			722			786	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			0.12			c0.44	
v/c Ratio		0.59			0.67			0.24			0.90	
Uniform Delay, d1		25.9			27.1			16.2			25.6	
Progression Factor		0.41			0.50			0.91			0.38	
Incremental Delay, d2		2.1			1.7			0.8			12.1	
Delay (s)		12.6			15.2			15.6			21.8	
Level of Service		B			B			B			C	
Approach Delay (s)		12.6			15.2			15.6			21.8	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	99.5%	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)	0	1595	191	0	0	0	0	470	0	189	116	0
Future Volume (vph)	0	1595	191	0	0	0	0	470	0	189	116	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.98						1.00			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		4183						1565			1518	
Flt Permitted		1.00						1.00			0.14	
Satd. Flow (perm)		4183						1565			220	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1792	215	0	0	0	0	528	0	212	130	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2007	0	0	0	0	0	528	0	0	342	0
Confl. Peds. (#/hr)			8				39					39
Turn Type		NA						NA		Prot	NA	
Protected Phases		2						4		1	1 4	
Permitted Phases	2											
Actuated Green, G (s)		49.0						24.0			52.0	
Effective Green, g (s)		48.0						24.0			50.0	
Actuated g/C Ratio		0.44						0.22			0.45	
Clearance Time (s)		3.0						3.0				
Lane Grp Cap (vph)		1825						341			418	
v/s Ratio Prot		c0.48						c0.34			c0.20	
v/s Ratio Perm											0.17	
v/c Ratio		1.10						1.55			0.82	
Uniform Delay, d1		31.0						43.0			26.1	
Progression Factor		0.95						0.90			0.86	
Incremental Delay, d2		50.9						256.8			11.4	
Delay (s)		80.4						295.6			33.9	
Level of Service		F						F			C	
Approach Delay (s)		80.4			0.0			295.6			33.9	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	114.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	10	0	0	0	66	27	499	37	50	748	50
Future Volume (vph)	5	10	0	0	0	66	27	499	37	50	748	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			3.0			4.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.86			0.99			0.99	
Flt Protected		0.98			1.00			1.00			1.00	
Satd. Flow (prot)		1539			1353			1548			1548	
Flt Permitted		0.95			1.00			0.95			0.93	
Satd. Flow (perm)		1488			1353			1479			1447	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	1.00	1.00	1.00
Adj. Flow (vph)	5	10	0	0	0	66	27	624	46	50	748	50
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	15	0	0	66	0	0	697	0	0	846	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			2	
Permitted Phases	4			8			2			2		
Actuated Green, G (s)		27.0			27.0			77.0			77.0	
Effective Green, g (s)		26.0			27.0			76.0			77.0	
Actuated g/C Ratio		0.24			0.25			0.69			0.70	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		351			332			1021			1012	
v/s Ratio Prot					c0.05							
v/s Ratio Perm		0.01						0.47			c0.58	
v/c Ratio		0.04			0.20			0.68			0.84	
Uniform Delay, d1		32.4			32.9			9.9			11.9	
Progression Factor		1.00			1.00			0.38			1.00	
Incremental Delay, d2		0.2			1.3			3.6			8.2	
Delay (s)		32.6			34.3			7.4			20.1	
Level of Service		C			C			A			C	
Approach Delay (s)		32.6			34.3			7.4			20.1	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	630	50	0	0	0	0	156	15	9	610	0
Future Volume (vph)	61	630	50	0	0	0	0	156	15	9	610	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3084						1630			1652	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		3084						1630			1647	
Peak-hour factor, PHF	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. Flow (vph)	61	630	50	0	0	0	0	156	15	9	610	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	736	0	0	0	0	0	168	0	0	619	0
Confl. Peds. (#/hr)	9		6	6		9	9		12	12		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		44.4						54.4			54.4	
Effective Green, g (s)		44.4						54.4			54.4	
Actuated g/C Ratio		0.40						0.49			0.49	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1244						806			814	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.24									c0.38	
v/c Ratio		0.59						0.21			0.76	
Uniform Delay, d1		25.7						15.7			22.5	
Progression Factor		0.12						1.30			0.47	
Incremental Delay, d2		1.7						0.6			0.6	
Delay (s)		4.9						20.9			11.3	
Level of Service		A						C			B	
Approach Delay (s)		4.9			0.0			20.9			11.3	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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 (vph)	61	668	50	0	0	0	0	155	15	10	611	0
Future Volume (vph)	61	668	50	0	0	0	0	155	15	10	611	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3086						1628			1652	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		3086						1628			1646	
Peak-hour factor, PHF	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. Flow (vph)	61	668	50	0	0	0	0	155	15	10	611	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	774	0	0	0	0	0	167	0	0	621	0
Confl. Peds. (#/hr)	8		8	8		8	28		16	16		28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		44.4						54.4			54.4	
Effective Green, g (s)		44.4						54.4			54.4	
Actuated g/C Ratio		0.40						0.49			0.49	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1245						805			814	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.25									c0.38	
v/c Ratio		0.62						0.21			0.76	
Uniform Delay, d1		26.1						15.7			22.6	
Progression Factor		0.21						0.89			0.24	
Incremental Delay, d2		1.3						0.6			2.1	
Delay (s)		6.7						14.6			7.5	
Level of Service		A						B			A	
Approach Delay (s)		6.7			0.0			14.6			7.5	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	325	0	0	0	0	562
Future Volume (vph)	325	0	0	0	0	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10
Total Lost time (s)	4.0					4.0
Lane Util. Factor	0.97					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	2884					4272
Flt Permitted	0.95					1.00
Satd. Flow (perm)	2884					4272
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	0.90
Adj. Flow (vph)	325	0	0	0	0	624
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	325	0	0	0	0	624
Turn Type	Prot					NA
Protected Phases	4					2
Permitted Phases						
Actuated Green, G (s)	42.0					62.0
Effective Green, g (s)	41.0					61.0
Actuated g/C Ratio	0.37					0.55
Clearance Time (s)	3.0					3.0
Lane Grp Cap (vph)	1074					2369
v/s Ratio Prot	c0.11					c0.15
v/s Ratio Perm						
v/c Ratio	0.30					0.26
Uniform Delay, d1	24.4					12.8
Progression Factor	0.80					1.00
Incremental Delay, d2	0.7					0.3
Delay (s)	20.1					13.1
Level of Service	C					B
Approach Delay (s)	20.1		0.0			13.1
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	127	64	95	436	0	0	0	0	20	728	116
Future Volume (vph)	0	127	64	95	436	0	0	0	0	20	728	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.98			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						1.00	
Frt		0.95			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1462			2927						4500	
Flt Permitted		1.00			0.83						1.00	
Satd. Flow (perm)		1462			2453						4151	
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	131	66	98	449	0	0	0	0	21	751	120
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	197	0	0	547	0	0	0	0	0	892	0
Confl. Peds. (#/hr)	38		39	39		38	3		90	90		3
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		45.0			45.0						59.0	
Effective Green, g (s)		44.0			44.0						58.0	
Actuated g/C Ratio		0.40			0.40						0.53	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		584			981						2188	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.22						c0.21	
v/c Ratio		0.34			0.56						0.41	
Uniform Delay, d1		22.9			25.5						15.7	
Progression Factor		0.44			0.64						0.80	
Incremental Delay, d2		1.4			0.2						0.6	
Delay (s)		11.6			16.6						13.1	
Level of Service		B			B						B	
Approach Delay (s)		11.6			16.6			0.0			13.1	
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	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
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)	0	0	0	25	22	4	13	175	4	0	649	17
Future Volume (vph)	0	0	0	25	22	4	13	175	4	0	649	17
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.99			1.00			1.00	
Flt Protected					0.98			1.00			1.00	
Satd. Flow (prot)					1569			1643			1647	
Flt Permitted					0.98			0.95			1.00	
Satd. Flow (perm)					1569			1569			1647	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	25	22	4	13	175	4	0	649	17
RTOR Reduction (vph)	0	0	0	0	3	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	48	0	0	191	0	0	665	0
Confl. Peds. (#/hr)	12		9	9		12	5		3	3		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					33.4			65.4			65.4	
Effective Green, g (s)					33.4			65.4			65.4	
Actuated g/C Ratio					0.30			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					476			932			979	
v/s Ratio Prot											c0.40	
v/s Ratio Perm					0.03			0.12				
v/c Ratio					0.10			0.21			0.68	
Uniform Delay, d1					27.5			10.3			15.2	
Progression Factor					1.00			0.30			0.55	
Incremental Delay, d2					0.4			0.5			0.3	
Delay (s)					27.9			3.6			8.7	
Level of Service					C			A			A	
Approach Delay (s)		0.0			27.9			3.6			8.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	64.8%	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)	13	32	14	14	70	14	16	341	17	6	687	26
Future Volume (vph)	13	32	14	14	70	14	16	341	17	6	687	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.98			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1498			1524			3500			1556	
Flt Permitted		0.95			0.97			0.97			1.00	
Satd. Flow (perm)		1440			1488			3500			1553	
Peak-hour factor, PHF	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. Flow (vph)	13	32	14	14	70	14	16	341	17	6	687	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	59	0	0	98	0	0	372	0	0	717	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)		23.0			23.0			51.0			51.0	
Effective Green, g (s)		22.0			22.0			50.0			51.0	
Actuated g/C Ratio		0.28			0.28			0.62			0.64	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		396			409			2187			990	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.07			0.11			c0.46	
v/c Ratio		0.15			0.24			0.17			0.72	
Uniform Delay, d1		21.9			22.5			6.3			9.8	
Progression Factor		0.99			0.76			0.04			1.07	
Incremental Delay, d2		0.8			1.4			0.2			2.6	
Delay (s)		22.5			18.4			0.4			13.0	
Level of Service		C			B			A			B	
Approach Delay (s)		22.5			18.4			0.4			13.0	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.0%	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)	15	22	5	7	16	19	7	162	11	8	741	8
Future Volume (vph)	15	22	5	7	16	19	7	162	11	8	741	8
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			4.6			4.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.97			1.00			1.00	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.98			0.94			0.99			1.00	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1559			1480			1633			1649	
Flt Permitted		0.93			0.97			0.97			1.00	
Satd. Flow (perm)		1468			1449			1595			1646	
Peak-hour factor, PHF	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. Flow (vph)	15	22	5	7	16	19	7	162	11	8	741	8
RTOR Reduction (vph)	0	3	0	0	12	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	39	0	0	30	0	0	178	0	0	757	0
Confl. Peds. (#/hr)	19		13	13		19	16		7	7		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		39.4			39.4			60.4			60.4	
Effective Green, g (s)		39.4			39.4			60.4			60.4	
Actuated g/C Ratio		0.36			0.36			0.55			0.55	
Clearance Time (s)		5.6			5.6			4.6			4.6	
Lane Grp Cap (vph)		525			519			875			903	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.02			0.11			c0.46	
v/c Ratio		0.07			0.06			0.20			0.84	
Uniform Delay, d1		23.3			23.1			12.6			20.7	
Progression Factor		1.04			1.00			0.29			1.31	
Incremental Delay, d2		0.3			0.2			0.5			0.9	
Delay (s)		24.4			23.3			4.1			28.1	
Level of Service		C			C			A			C	
Approach Delay (s)		24.4			23.3			4.1			28.1	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.2
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

Description: As provided 1651 - Intersection Timing Sheets use 1702 split 6

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	0	211	115	624	0
Future Volume (vph)	64	0	211	115	624	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)	5.6			5.6	5.6	
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	0.95			0.97	1.00	
Satd. Flow (prot)	1571			1602	1654	
Flt Permitted	0.95			0.32	1.00	
Satd. Flow (perm)	1571			522	1654	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	0	211	115	624	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	64	0	0	326	624	0
Confl. Peds. (#/hr)	13	9	9			9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	39.4			59.4	59.4	
Effective Green, g (s)	39.4			59.4	59.4	
Actuated g/C Ratio	0.36			0.54	0.54	
Clearance Time (s)	5.6			5.6	5.6	
Lane Grp Cap (vph)	562			281	893	
v/s Ratio Prot	c0.04				0.38	
v/s Ratio Perm				c0.62		
v/c Ratio	0.11			1.16	0.70	
Uniform Delay, d1	23.6			25.3	18.7	
Progression Factor	1.18			0.61	1.00	
Incremental Delay, d2	0.4			103.1	4.5	
Delay (s)	28.2			118.5	23.2	
Level of Service	C			F	C	
Approach Delay (s)	28.2			118.5	23.2	
Approach LOS	C			F	C	

Intersection Summary			
HCM 2000 Control Delay	54.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	23	5	8	18	5	12	162	12	7	742	7
Future Volume (vph)	5	23	5	8	18	5	12	162	12	7	742	7
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1576			1566			1602			1619	
Flt Permitted		0.97			0.95			0.95			1.00	
Satd. Flow (perm)		1545			1505			1528			1616	
Peak-hour factor, PHF	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. Flow (vph)	5	23	5	8	18	5	12	162	12	7	742	7
RTOR Reduction (vph)	0	4	0	0	4	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	29	0	0	27	0	0	184	0	0	756	0
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)		25.4			25.4			73.4			73.4	
Effective Green, g (s)		25.4			25.4			73.4			73.4	
Actuated g/C Ratio		0.23			0.23			0.67			0.67	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		356			347			1019			1078	
v/s Ratio Prot												
v/s Ratio Perm		c0.02			0.02			0.12			c0.47	
v/c Ratio		0.08			0.08			0.18			0.70	
Uniform Delay, d1		33.2			33.1			6.9			11.4	
Progression Factor		1.00			1.04			1.12			0.15	
Incremental Delay, d2		0.5			0.4			0.4			1.9	
Delay (s)		33.6			34.8			8.2			3.7	
Level of Service		C			C			A			A	
Approach Delay (s)		33.6			34.8			8.2			3.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Two-way HCM Reports:

PM Peak Hour

HCM Signalized Intersection Capacity Analysis
41: St. Paul (Upper) & Franklin St

10/28/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	113	1805	0	0	629	0	0	168	125
Future Volume (vph)	0	0	0	113	1805	0	0	629	0	0	168	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			3.0			4.0	
Lane Util. Factor					0.91			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			0.94	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					4259			1565			1475	
Flt Permitted					1.00			1.00			1.00	
Satd. Flow (perm)					4259			1565			1475	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	0	0	114	1823	0	0	635	0	0	170	126
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	27	0
Lane Group Flow (vph)	0	0	0	0	1937	0	0	635	0	0	269	0
Confl. Peds. (#/hr)	5					5			1	1		
Turn Type				Perm	NA			NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					59.0			15.0			15.0	
Effective Green, g (s)					58.0			15.0			14.0	
Actuated g/C Ratio					0.58			0.15			0.14	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					2470			234			206	
v/s Ratio Prot								c0.41			0.18	
v/s Ratio Perm					0.45							
v/c Ratio					0.78			2.71			1.31	
Uniform Delay, d1					16.2			42.5			43.0	
Progression Factor					1.00			1.49			1.00	
Incremental Delay, d2					2.6			772.2			168.8	
Delay (s)					18.8			835.7			211.8	
Level of Service					B			F			F	
Approach Delay (s)		0.0			18.8			835.7			211.8	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	219.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Future Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.91		0.99	0.97		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		0.99			1.00	
Frt		1.00	0.85		0.95	0.85		0.98			1.00	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.97	
Satd. Flow (prot)		3071	1258		2762	1221		1543			2979	
Flt Permitted		0.90	1.00		0.91	1.00		0.54			0.57	
Satd. Flow (perm)		2767	1258		2526	1221		850			1730	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	22	380	81	23	292	390	165	244	77	224	174	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	61	0	0	61	0
Lane Group Flow (vph)	0	402	81	0	479	226	0	425	0	0	348	0
Confl. Peds. (#/hr)	11		30	30		11	40		5	5		40
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Effective Green, g (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Actuated g/C Ratio		0.39	0.39		0.39	0.39		0.24			0.24	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		1088	494		993	480		205			418	
v/s Ratio Prot												
v/s Ratio Perm		0.15	0.06		c0.19	0.19		c0.50			0.20	
v/c Ratio		0.37	0.16		0.48	0.47		2.07			1.09dl	
Uniform Delay, d1		35.5	32.5		37.5	37.3		62.5			59.4	
Progression Factor		0.46	0.49		0.91	0.91		1.00			1.00	
Incremental Delay, d2		0.9	0.7		1.4	2.8		498.4			17.3	
Delay (s)		17.4	16.4		35.7	36.7		561.0			76.7	
Level of Service		B	B		D	D		F			E	
Approach Delay (s)		17.2			36.0			561.0			76.7	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	158.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	128.7%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NER2	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	0	21	15	0	12	6
Future Volume (vph)	0	21	15	0	12	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1		
Lane Util. Factor		1.00	1.00	1.00		
Frpb, ped/bikes		1.00	1.00	0.92		
Flpb, ped/bikes		0.99	0.93	1.00		
Frt		1.00	1.00	0.85		
Flt Protected		0.95	0.95	1.00		
Satd. Flow (prot)		1530	1437	1270		
Flt Permitted		0.95	0.95	1.00		
Satd. Flow (perm)		1530	1437	1270		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	24	17	0	14	7
RTOR Reduction (vph)	0	0	0	16	0	0
Lane Group Flow (vph)	0	24	17	5	0	0
Confl. Peds. (#/hr)	30	5	30		40	11
Turn Type	Free	Perm	Perm	NA		
Protected Phases				4		
Permitted Phases	Free	4	4			
Actuated Green, G (s)		37.9	37.9	37.9		
Effective Green, g (s)		37.9	37.9	37.9		
Actuated g/C Ratio		0.23	0.23	0.23		
Clearance Time (s)		7.1	7.1	7.1		
Lane Grp Cap (vph)		351	330	291		
v/s Ratio Prot				0.00		
v/s Ratio Perm		c0.02	0.01			
v/c Ratio		0.07	0.05	0.02		
Uniform Delay, d1		49.7	49.5	49.1		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		0.4	0.3	0.1		
Delay (s)		50.1	49.8	49.2		
Level of Service		D	D	D		
Approach Delay (s)				49.7		
Approach LOS				D		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Future Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.91		0.99			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.98				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1611	1249		1593			1498				
Flt Permitted		0.95	1.00		0.94			0.96				
Satd. Flow (perm)		1536	1249		1508			1498				
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)	31	391	255	22	301	18	366	20	73	0	0	0
RTOR Reduction (vph)	0	0	145	0	1	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	422	110	0	340	0	0	455	0	0	0	0
Confl. Peds. (#/hr)	28		22	22		28	4		23	23		4
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		68.4	68.4		68.4			83.4				
Effective Green, g (s)		68.4	68.4		68.4			83.4				
Actuated g/C Ratio		0.41	0.41		0.41			0.51				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		636	517		625			757				
v/s Ratio Prot												
v/s Ratio Perm		c0.27	0.09		0.23			0.30				
v/c Ratio		0.66	0.21		0.54			0.60				
Uniform Delay, d1		39.0	31.0		36.5			29.0				
Progression Factor		1.21	4.20		1.00			1.00				
Incremental Delay, d2		4.0	0.7		3.4			3.5				
Delay (s)		51.4	130.8		39.9			32.5				
Level of Service		D	F		D			C				
Approach Delay (s)		81.3			39.9			32.5			0.0	
Approach LOS		F			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	56.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	82.8%	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)	31	945	18	35	971	41	29	470	78	35	409	38
Future Volume (vph)	31	945	18	35	971	41	29	470	78	35	409	38
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.91			0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.99			0.98			0.99	
Flt Protected	0.95	1.00			1.00			1.00			1.00	
Satd. Flow (prot)	1386	3962			2740			1420			1433	
Flt Permitted	0.95	1.00			0.84			0.96			0.94	
Satd. Flow (perm)	1386	3962			2305			1367			1346	
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)	32	984	19	36	1011	43	30	490	81	36	426	40
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	32	1001	0	0	1087	0	0	596	0	0	499	0
Confl. Peds. (#/hr)	28		46	46		28	30		39	39		30
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	8.0	34.0			34.0			45.0			45.0	
Effective Green, g (s)	8.0	34.0			34.0			45.0			45.0	
Actuated g/C Ratio	0.08	0.34			0.34			0.45			0.45	
Clearance Time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	110	1347			783			615			605	
v/s Ratio Prot	c0.02	0.25										
v/s Ratio Perm					c0.47			c0.44			0.37	
v/c Ratio	0.29	0.74			1.39			0.97			0.82	
Uniform Delay, d1	43.3	29.1			33.0			26.8			24.0	
Progression Factor	1.59	0.39			0.60			1.00			0.69	
Incremental Delay, d2	4.5	2.6			182.5			29.3			11.5	
Delay (s)	73.3	14.0			202.3			56.1			28.0	
Level of Service	E	B			F			E			C	
Approach Delay (s)		15.8			202.3			56.1			28.0	
Approach LOS		B			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	88.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	121.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Future Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0		4.0	4.0			5.0			5.0	
Lane Util. Factor		0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.98			0.99	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		3958		1386	2749			1419			1433	
Flt Permitted		0.88		0.95	1.00			0.96			0.91	
Satd. Flow (perm)		3475		1386	2749			1365			1314	
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)	31	918	18	36	1047	44	31	490	81	36	427	39
RTOR Reduction (vph)	0	2	0	0	3	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	965	0	36	1088	0	0	597	0	0	499	0
Confl. Peds. (#/hr)	51		24	24		51	31		44	44		31
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		41.0		8.0	53.0			39.0			39.0	
Effective Green, g (s)		41.0		8.0	53.0			39.0			39.0	
Actuated g/C Ratio		0.41		0.08	0.53			0.39			0.39	
Clearance Time (s)		3.0		4.0				5.0			5.0	
Lane Grp Cap (vph)		1424		110	1456			532			512	
v/s Ratio Prot				0.03	c0.40							
v/s Ratio Perm		0.28						c0.44			0.38	
v/c Ratio		0.68		0.33	0.75			1.12			0.97	
Uniform Delay, d1		24.1		43.5	18.3			30.5			30.0	
Progression Factor		1.29		1.27	0.94			1.00			0.55	
Incremental Delay, d2		2.5		0.7	0.3			76.8			32.8	
Delay (s)		33.7		56.0	17.5			107.3			49.5	
Level of Service		C		E	B			F			D	
Approach Delay (s)		33.7			18.7			107.3			49.5	
Approach LOS		C			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Future Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.95	1.00					1.00			1.00	
Frt		1.00	0.85					0.98			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		2957	1250					1533			1434	
Flt Permitted		0.99	1.00					1.00			0.84	
Satd. Flow (perm)		2957	1250					1533			1211	
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)	88	720	52	0	0	0	0	589	105	57	742	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	808	52	0	0	0	0	688	0	0	799	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		30.0	30.0					62.0			62.0	
Effective Green, g (s)		31.0	31.0					62.0			61.0	
Actuated g/C Ratio		0.31	0.31					0.62			0.61	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		916	387					950			738	
v/s Ratio Prot			0.04					0.45				
v/s Ratio Perm		0.27									c0.66	
v/c Ratio		0.88	0.13					0.72			1.08	
Uniform Delay, d1		32.8	24.8					13.1			19.5	
Progression Factor		0.84	1.00					0.60			0.36	
Incremental Delay, d2		1.3	0.1					3.0			48.0	
Delay (s)		28.8	24.8					10.8			55.1	
Level of Service		C	C					B			E	
Approach Delay (s)		28.5			0.0			10.8			55.1	
Approach LOS		C			A			B			E	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Future Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.98			1.00			0.95	
Flpb, ped/bikes				0.51	0.98			1.00			1.00	
Frt				1.00	0.99			1.00			0.98	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				655	3834			1557			1458	
Flt Permitted				0.95	1.00			0.62			1.00	
Satd. Flow (perm)				655	3834			964			1458	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	136	585	44	67	631	0	0	667	124
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	116	641	0	0	698	0	0	791	0
Confl. Peds. (#/hr)	173		244	244		173	228		208	208		228
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				37.0	37.0			57.0			57.0	
Effective Green, g (s)				36.0	36.0			57.0			56.0	
Actuated g/C Ratio				0.36	0.36			0.57			0.56	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				235	1380			549			816	
v/s Ratio Prot											0.54	
v/s Ratio Perm				c0.18	0.17			c0.72				
v/c Ratio				0.49	0.46			1.27			0.97	
Uniform Delay, d1				24.9	24.6			21.5			21.2	
Progression Factor				0.44	0.45			0.70			1.03	
Incremental Delay, d2				5.5	0.9			131.7			18.5	
Delay (s)				16.6	12.0			146.8			40.3	
Level of Service				B	B			F			D	
Approach Delay (s)		0.0			12.7			146.8			40.3	
Approach LOS		A			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	63.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Future Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4500			1559			1524	
Flt Permitted				0.95	1.00			0.29			1.00	
Satd. Flow (perm)				2600	4500			456			1524	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	529	1761	47	51	649	0	0	733	173
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	476	1861	0	0	700	0	0	906	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			1 2			1 2	
Permitted Phases							1 2					
Actuated Green, G (s)				40.0	49.0			42.0			42.0	
Effective Green, g (s)				39.0	47.0			42.0			41.0	
Actuated g/C Ratio				0.39	0.47			0.42			0.41	
Clearance Time (s)				3.0								
Lane Grp Cap (vph)				1014	2295			191			624	
v/s Ratio Prot				0.18	c0.32						0.59	
v/s Ratio Perm					0.10			c1.53				
v/c Ratio				0.47	0.81			3.66			1.45	
Uniform Delay, d1				22.8	22.7			29.0			29.5	
Progression Factor				0.73	0.63			1.00			0.89	
Incremental Delay, d2				0.4	0.8			1212.0			209.1	
Delay (s)				17.1	15.1			1241.0			235.5	
Level of Service				B	B			F			F	
Approach Delay (s)		0.0			15.5			1241.0			235.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	283.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL2	SWL
Lane Configurations										
Traffic Volume (vph)	47	81	22	539	115	23	155	50	71	528
Future Volume (vph)	47	81	22	539	115	23	155	50	71	528
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		5.0			4.0			4.0
Lane Util. Factor		0.95		1.00			1.00			*0.91
Frpb, ped/bikes		0.98		1.00			0.98			1.00
Flpb, ped/bikes		1.00		1.00			1.00			1.00
Frt		0.98		0.98			0.97			1.00
Flt Protected		0.99		1.00			1.00			1.00
Satd. Flow (prot)		2817		1528			1479			4800
Flt Permitted		0.99		1.00			0.32			1.00
Satd. Flow (perm)		2817		1528			477			4272
Peak-hour factor, PHF	1.00	0.92	0.92	1.00	1.00	0.94	0.94	1.00	0.94	0.94
Adj. Flow (vph)	47	88	24	539	115	24	165	50	76	562
RTOR Reduction (vph)	0	0	0	71	0	0	0	0	0	0
Lane Group Flow (vph)	0	159	0	583	0	0	239	0	0	638
Confl. Peds. (#/hr)			25			32		25		
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0	0
Turn Type	Perm	NA		NA		Perm	NA		Perm	Prot
Protected Phases		4		3			3			2
Permitted Phases	4					3			2	
Actuated Green, G (s)		16.0		18.0			18.0			50.0
Effective Green, g (s)		18.0		18.0			19.0			51.0
Actuated g/C Ratio		0.18		0.18			0.19			0.51
Clearance Time (s)		6.0		5.0			5.0			5.0
Lane Grp Cap (vph)		507		275			90			2178
v/s Ratio Prot				0.38						
v/s Ratio Perm		0.06					c0.50			c0.15
v/c Ratio		0.31		2.12			2.66			0.29
Uniform Delay, d1		35.6		41.0			40.5			14.1
Progression Factor		0.99		0.74			1.21			0.45
Incremental Delay, d2		1.6		504.6			769.4			0.3
Delay (s)		37.0		534.7			818.6			6.7
Level of Service		D		F			F			A
Approach Delay (s)		37.0		534.7			818.6			6.7
Approach LOS		D		F			F			A

Intersection Summary			
HCM 2000 Control Delay	328.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Future Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1512			2938			1552			1518	
Flt Permitted		0.49			0.84			0.93			0.97	
Satd. Flow (perm)		756			2494			1451			1480	
Peak-hour factor, PHF	0.59	0.59	0.59	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.64	0.64
Adj. Flow (vph)	159	158	29	92	568	24	61	530	13	15	286	78
RTOR Reduction (vph)	0	3	0	0	2	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	343	0	0	682	0	0	603	0	0	370	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		52.0			52.0			42.0			42.0	
Effective Green, g (s)		51.0			51.0			42.0			41.0	
Actuated g/C Ratio		0.51			0.51			0.42			0.41	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		385			1271			609			606	
v/s Ratio Prot												
v/s Ratio Perm		c0.45			0.27			c0.42			0.25	
v/c Ratio		0.89			0.54			0.99			0.61	
Uniform Delay, d1		22.0			16.5			28.8			23.2	
Progression Factor		0.91			1.03			1.08			1.81	
Incremental Delay, d2		25.1			1.3			9.0			0.4	
Delay (s)		45.2			18.2			40.1			42.4	
Level of Service		D			B			D			D	
Approach Delay (s)		45.2			18.2			40.1			42.4	
Approach LOS		D			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	122	25	0	0	0	0	507	10	78	483	0
Future Volume (vph)	59	122	25	0	0	0	0	507	10	78	483	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.98						1.00			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		2821						1559			1551	
Flt Permitted		0.99						1.00			0.88	
Satd. Flow (perm)		2821						1559			1375	
Peak-hour factor, PHF	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. Flow (vph)	59	122	25	0	0	0	0	507	10	78	483	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	193	0	0	0	0	0	516	0	0	561	0
Confl. Peds. (#/hr)	25		12	12		25	36		21	21		36
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		22.0						52.0			52.0	
Effective Green, g (s)		21.0						51.0			52.0	
Actuated g/C Ratio		0.26						0.64			0.65	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		740						993			893	
v/s Ratio Prot								0.33				
v/s Ratio Perm		0.07									c0.41	
v/c Ratio		0.26						0.52			0.63	
Uniform Delay, d1		23.4						7.9			8.3	
Progression Factor		1.04						0.38			0.52	
Incremental Delay, d2		0.8						1.7			2.8	
Delay (s)		25.0						4.7			7.1	
Level of Service		C						A			A	
Approach Delay (s)		25.0			0.0			4.7			7.1	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.1%	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)	22	72	33	28	119	20	37	511	18	5	500	65
Future Volume (vph)	22	72	33	28	119	20	37	511	18	5	500	65
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			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.98			1.00			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1464			1504			1548			1532	
Flt Permitted		0.94			0.94			0.95			1.00	
Satd. Flow (perm)		1391			1432			1472			1528	
Peak-hour factor, PHF	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. Flow (vph)	22	72	33	28	119	20	37	511	18	5	500	65
RTOR Reduction (vph)	0	15	0	0	6	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	112	0	0	161	0	0	565	0	0	564	0
Confl. Peds. (#/hr)	36		16	16		36	13		28	28		13
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)		22.0			22.0			52.0			52.0	
Effective Green, g (s)		21.0			21.0			51.0			52.0	
Actuated g/C Ratio		0.26			0.26			0.64			0.65	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		365			375			938			993	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.11			c0.38			0.37	
v/c Ratio		0.31			0.43			0.60			0.57	
Uniform Delay, d1		23.7			24.5			8.5			7.8	
Progression Factor		1.54			0.18			0.41			0.56	
Incremental Delay, d2		2.1			3.4			2.5			1.9	
Delay (s)		38.4			7.8			6.0			6.2	
Level of Service		D			A			A			A	
Approach Delay (s)		38.4			7.8			6.0			6.2	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
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 (vph)	0	0	0	209	141	75	50	629	0	0	577	0
Future Volume (vph)	0	0	0	209	141	75	50	629	0	0	577	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.96			1.00			1.00	
Flpb, ped/bikes					0.95			1.00			1.00	
Frt					0.97			1.00			1.00	
Flt Protected					0.98			1.00			1.00	
Satd. Flow (prot)					2579			1557			1565	
Flt Permitted					0.98			0.93			1.00	
Satd. Flow (perm)					2579			1454			1565	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	209	141	75	50	629	0	0	577	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	407	0	0	679	0	0	577	0
Confl. Peds. (#/hr)	87		39	39		87	40		75	75		40
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					25.0			69.0			69.0	
Effective Green, g (s)					24.0			68.0			69.0	
Actuated g/C Ratio					0.24			0.68			0.69	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					618			988			1079	
v/s Ratio Prot											0.37	
v/s Ratio Perm					0.16			c0.47				
v/c Ratio					0.66			0.69			0.53	
Uniform Delay, d1					34.3			9.6			7.6	
Progression Factor					0.36			1.03			0.51	
Incremental Delay, d2					3.9			1.2			1.7	
Delay (s)					16.3			11.0			5.6	
Level of Service					B			B			A	
Approach Delay (s)		0.0			16.3			11.0			5.6	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	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)	8.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1191	75	0	0	0	0	419	321	48	502	0
Future Volume (vph)	105	1191	75	0	0	0	0	419	321	48	502	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.86						1.00			1.00	
Frpb, ped/bikes		0.99						0.98			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.94			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		5238						1447			1557	
Flt Permitted		1.00						1.00			0.79	
Satd. Flow (perm)		5238						1447			1234	
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)	108	1228	77	0	0	0	0	432	331	49	518	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	1413	0	0	0	0	0	761	0	0	567	0
Confl. Peds. (#/hr)	48		57	57		48	71		29	29		71
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		26.0						46.0			46.0	
Effective Green, g (s)		27.0						45.0			46.0	
Actuated g/C Ratio		0.34						0.56			0.58	
Clearance Time (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1767						813			709	
v/s Ratio Prot								c0.53				
v/s Ratio Perm		0.27									0.46	
v/c Ratio		0.80						0.94			0.80	
Uniform Delay, d1		24.0						16.2			13.4	
Progression Factor		1.25						1.00			0.40	
Incremental Delay, d2		0.4						19.4			8.4	
Delay (s)		30.5						35.6			13.7	
Level of Service		C						D			B	
Approach Delay (s)		30.5			0.0			35.6			13.7	
Approach LOS		C			A			D			B	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	50	383	35	22	496	0	0	447	34
Future Volume (vph)	0	0	0	50	383	35	22	496	0	0	447	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			5.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.99			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2863			1559			1540	
Flt Permitted					0.99			0.97			1.00	
Satd. Flow (perm)					2863			3500			1540	
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)	0	0	0	54	416	38	24	539	0	0	486	37
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	501	0	0	563	0	0	520	0
Confl. Peds. (#/hr)	45		61	61		45	72		36	36		72
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					25.0			45.0			45.0	
Effective Green, g (s)					26.0			46.0			45.0	
Actuated g/C Ratio					0.32			0.58			0.56	
Clearance Time (s)					5.0			5.0			5.0	
Lane Grp Cap (vph)					930			2012			866	
v/s Ratio Prot											c0.34	
v/s Ratio Perm					0.17			0.16				
v/c Ratio					0.54			0.28			0.60	
Uniform Delay, d1					22.1			8.6			11.6	
Progression Factor					0.53			0.35			1.32	
Incremental Delay, d2					2.1			0.3			2.8	
Delay (s)					13.8			3.3			18.0	
Level of Service					B			A			B	
Approach Delay (s)		0.0			13.8			3.3			18.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	58	15	22	25	471	50	0	492	12
Future Volume (vph)	0	0	0	58	15	22	25	471	50	0	492	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.98			1.00			1.00	
Frt					0.97			0.99			1.00	
Flt Protected					0.97			1.00			1.00	
Satd. Flow (prot)					1419			1535			1559	
Flt Permitted					0.97			0.97			1.00	
Satd. Flow (perm)					1419			1493			1559	
Peak-hour factor, PHF	1.00	1.00	1.00	0.87	0.87	0.87	0.96	0.96	0.96	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	67	17	25	26	491	52	0	492	12
RTOR Reduction (vph)	0	0	0	0	13	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	96	0	0	565	0	0	503	0
Confl. Peds. (#/hr)	17		19	19		17	8		12	12		8
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					22.0			52.0			52.0	
Effective Green, g (s)					21.0			51.0			52.0	
Actuated g/C Ratio					0.26			0.64			0.65	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					372			951			1013	
v/s Ratio Prot											0.32	
v/s Ratio Perm					0.07			c0.38				
v/c Ratio					0.26			0.59			0.50	
Uniform Delay, d1					23.3			8.5			7.2	
Progression Factor					0.80			0.86			0.85	
Incremental Delay, d2					1.7			1.3			1.4	
Delay (s)					20.3			8.6			7.5	
Level of Service					C			A			A	
Approach Delay (s)		0.0			20.3			8.6			7.5	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Future Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.97						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.97						0.99			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		3987						1537			1547	
Flt Permitted		1.00						1.00			0.81	
Satd. Flow (perm)		3987						1537			1260	
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)	60	609	202	0	0	0	0	509	61	90	362	0
RTOR Reduction (vph)	0	69	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	802	0	0	0	0	0	565	0	0	452	0
Confl. Peds. (#/hr)	34		45	45		34	55		16	16		55
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		25.0						49.0			49.0	
Effective Green, g (s)		24.0						48.0			49.0	
Actuated g/C Ratio		0.30						0.60			0.61	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1196						922			771	
v/s Ratio Prot								c0.37				
v/s Ratio Perm		0.20									0.36	
v/c Ratio		0.67						0.61			0.59	
Uniform Delay, d1		24.5						10.1			9.4	
Progression Factor		0.30						0.36			0.29	
Incremental Delay, d2		0.3						2.5			2.9	
Delay (s)		7.8						6.2			5.6	
Level of Service		A						A			A	
Approach Delay (s)		7.8			0.0			6.2			5.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.8%	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)	18	27	45	0	0	0	0	562	5	13	446	0
Future Volume (vph)	18	27	45	0	0	0	0	562	5	13	446	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.93						1.00			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		2669						1563			1562	
Flt Permitted		0.99						1.00			0.98	
Satd. Flow (perm)		2669						1563			1541	
Peak-hour factor, PHF	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. Flow (vph)	18	27	45	0	0	0	0	562	5	13	446	0
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	55	0	0	0	0	0	567	0	0	459	0
Confl. Peds. (#/hr)	1		8	8		1	1		7	7		1
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		19.0						55.0			55.0	
Effective Green, g (s)		18.0						54.0			55.0	
Actuated g/C Ratio		0.22						0.68			0.69	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		600						1055			1059	
v/s Ratio Prot								c0.36				
v/s Ratio Perm		0.02									0.30	
v/c Ratio		0.09						0.54			0.43	
Uniform Delay, d1		24.5						6.6			5.6	
Progression Factor		1.46						0.61			0.58	
Incremental Delay, d2		0.3						1.4			1.2	
Delay (s)		36.0						5.4			4.4	
Level of Service		D						A			A	
Approach Delay (s)		36.0			0.0			5.4			4.4	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	39	73	38	14	528	0	0	418	10
Future Volume (vph)	0	0	0	39	73	38	14	528	0	0	418	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.98			1.00			1.00	
Flpb, ped/bikes					0.97			1.00			1.00	
Frt					0.96			1.00			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2838			1652			1648	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					2838			1632			1648	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	39	73	38	14	528	0	0	418	10
RTOR Reduction (vph)	0	0	0	0	27	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	123	0	0	542	0	0	427	0
Confl. Peds. (#/hr)	14		45	45		14	4		20	20		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					834			969			978	
v/s Ratio Prot											0.26	
v/s Ratio Perm					0.04			c0.33				
v/c Ratio					0.15			0.56			0.44	
Uniform Delay, d1					26.1			12.3			11.1	
Progression Factor					1.00			0.94			0.87	
Incremental Delay, d2					0.4			0.7			1.3	
Delay (s)					26.4			12.3			11.0	
Level of Service					C			B			B	
Approach Delay (s)		0.0			26.4			12.3			11.0	
Approach LOS		A			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.7	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)	11.2
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	46	337	21	63	489	0	0	392	62
Future Volume (vph)	0	0	0	46	337	21	63	489	0	0	392	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					2891			1552			1522	
Flt Permitted					0.99			0.91			1.00	
Satd. Flow (perm)					2891			1418			1522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	48	355	22	66	515	0	0	413	65
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	420	0	0	581	0	0	471	0
Confl. Peds. (#/hr)	44		40	40		44	45		40	40		45
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					22.0			52.0			52.0	
Effective Green, g (s)					21.0			51.0			52.0	
Actuated g/C Ratio					0.26			0.64			0.65	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					758			903			989	
v/s Ratio Prot											0.31	
v/s Ratio Perm					0.15			c0.41				
v/c Ratio					0.55			0.64			0.48	
Uniform Delay, d1					25.5			8.9			7.1	
Progression Factor					0.57			0.32			0.83	
Incremental Delay, d2					2.8			2.8			1.3	
Delay (s)					17.2			5.7			7.2	
Level of Service					B			A			A	
Approach Delay (s)		0.0			17.2			5.7			7.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.7%	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)	3	11	0	0	47	9	38	553	49	0	365	0
Future Volume (vph)	3	11	0	0	47	9	38	553	49	0	365	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.98			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1636			1618			1632			1654	
Flt Permitted		0.97			1.00			0.96			1.00	
Satd. Flow (perm)		1601			1618			1574			1654	
Peak-hour factor, PHF	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. Flow (vph)	3	11	0	0	47	9	38	553	49	0	365	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	14	0	0	50	0	0	637	0	0	365	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA			NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		29.4			29.4			59.4			59.4	
Effective Green, g (s)		29.4			29.4			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		470			475			934			982	
v/s Ratio Prot					c0.03						0.22	
v/s Ratio Perm		0.01						c0.40				
v/c Ratio		0.03			0.10			0.68			0.37	
Uniform Delay, d1		25.1			25.7			13.9			10.6	
Progression Factor		1.00			1.00			0.44			1.49	
Incremental Delay, d2		0.1			0.4			3.4			1.0	
Delay (s)		25.3			26.2			9.5			16.8	
Level of Service		C			C			A			B	
Approach Delay (s)		25.3			26.2			9.5			16.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	157	52	4	588	94	63	435	12	45	398	3
Future Volume (vph)	36	157	52	4	588	94	63	435	12	45	398	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0			4.0			6.0	
Lane Util. Factor	1.00	0.95			0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.98			0.99			1.00			1.00	
Flpb, ped/bikes	0.98	1.00			1.00			1.00			1.00	
Frt	1.00	0.96			0.98			1.00			1.00	
Flt Protected	0.95	1.00			1.00			0.99			1.00	
Satd. Flow (prot)	1459	2819			2876			1547			1554	
Flt Permitted	0.22	1.00			0.95			0.89			0.91	
Satd. Flow (perm)	334	2819			2743			1392			1417	
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)	40	173	57	4	646	103	69	478	13	49	437	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	40	230	0	0	753	0	0	560	0	0	489	0
Confl. Peds. (#/hr)	40		24	24		40	25		24	24		25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)	26.0	26.0			26.0			43.0			43.0	
Effective Green, g (s)	27.0	27.0			27.0			45.0			43.0	
Actuated g/C Ratio	0.34	0.34			0.34			0.56			0.54	
Clearance Time (s)	5.0	5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)	112	951			925			783			761	
v/s Ratio Prot		0.08										
v/s Ratio Perm	0.12				c0.27			c0.40			0.34	
v/c Ratio	0.36	0.24			0.81			0.72			0.64	
Uniform Delay, d1	20.0	19.1			24.2			12.8			13.1	
Progression Factor	0.51	0.54			0.34			1.20			1.14	
Incremental Delay, d2	8.4	0.6			6.7			4.4			3.9	
Delay (s)	18.6	10.8			15.0			19.8			18.7	
Level of Service	B	B			B			B			B	
Approach Delay (s)		12.0			15.0			19.8			18.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	55	13	10	27	5	17	530	5	6	282	10
Future Volume (vph)	10	55	13	10	27	5	17	530	5	6	282	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.98			0.98			1.00			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1580			1580			1648			1641	
Flt Permitted		0.97			0.95			0.99			0.99	
Satd. Flow (perm)		1549			1517			1628			1627	
Peak-hour factor, PHF	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. Flow (vph)	10	55	13	10	27	5	17	530	5	6	282	10
RTOR Reduction (vph)	0	7	0	0	3	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	71	0	0	39	0	0	552	0	0	297	0
Confl. Peds. (#/hr)	14		17	17		14	16		6	6		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		34.4			34.4			54.4			54.4	
Effective Green, g (s)		34.4			34.4			54.4			54.4	
Actuated g/C Ratio		0.34			0.34			0.54			0.54	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		532			521			885			885	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			c0.34			0.18	
v/c Ratio		0.13			0.07			0.62			0.34	
Uniform Delay, d1		22.5			22.1			15.7			12.7	
Progression Factor		1.69			1.00			0.30			0.70	
Incremental Delay, d2		0.5			0.3			1.5			0.9	
Delay (s)		38.6			22.4			6.3			9.9	
Level of Service		D			C			A			A	
Approach Delay (s)		38.6			22.4			6.3			9.9	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	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)	11.2
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Future Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					3117			1644			1570	
Flt Permitted					1.00			0.94			1.00	
Satd. Flow (perm)					3117			1544			1570	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	38	664	11	52	523	0	0	257	104
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	0	712	0	0	575	0	0	347	0
Confl. Peds. (#/hr)	17		15	17		15	21		12	12		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					42.4			46.4			46.4	
Effective Green, g (s)					42.4			46.4			46.4	
Actuated g/C Ratio					0.42			0.46			0.46	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1321			716			728	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.23			c0.37				
v/c Ratio					0.54			0.80			0.48	
Uniform Delay, d1					21.5			22.9			18.4	
Progression Factor					0.55			0.18			1.68	
Incremental Delay, d2					1.6			6.6			2.2	
Delay (s)					13.4			10.7			33.1	
Level of Service					B			B			C	
Approach Delay (s)		0.0			13.4			10.7			33.1	
Approach LOS		A			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	16.8	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)	11.2
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Future Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3123			3120			1618			1629	
Flt Permitted		0.94			0.70			0.97			0.95	
Satd. Flow (perm)		2946			2191			1577			1551	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	954	34	51	554	13	30	544	96	20	302	33
RTOR Reduction (vph)	0	3	0	0	2	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	1007	0	0	616	0	0	664	0	0	351	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		34.8			22.4			48.9			48.9	
Effective Green, g (s)		34.8			22.4			48.9			48.9	
Actuated g/C Ratio		0.35			0.22			0.49			0.49	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1047			490			771			758	
v/s Ratio Prot		c0.12										
v/s Ratio Perm		0.22			c0.28			c0.42			0.23	
v/c Ratio		0.96			1.26			0.86			0.46	
Uniform Delay, d1		32.0			38.8			22.6			16.9	
Progression Factor		0.79			0.56			0.68			1.42	
Incremental Delay, d2		17.5			131.2			10.2			2.0	
Delay (s)		42.6			152.9			25.5			25.9	
Level of Service		D			F			C			C	
Approach Delay (s)		42.6			152.9			25.5			25.9	
Approach LOS		D			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	61.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	78	26	8	28	5	13	544	24	3	369	18
Future Volume (vph)	52	78	26	8	28	5	13	544	24	3	369	18
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1553			1589			1637			1638	
Flt Permitted		0.89			0.95			0.99			1.00	
Satd. Flow (perm)		1404			1518			1622			1633	
Peak-hour factor, PHF	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. Flow (vph)	52	78	26	8	28	5	13	544	24	3	369	18
RTOR Reduction (vph)	0	7	0	0	4	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	149	0	0	37	0	0	579	0	0	388	0
Confl. Peds. (#/hr)	13		17	17		13	18		18	18		18
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.9			28.9			59.4			59.4	
Effective Green, g (s)		28.9			28.9			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		405			438			963			970	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.02			c0.36			0.24	
v/c Ratio		0.37			0.09			0.60			0.40	
Uniform Delay, d1		28.3			25.9			12.8			10.8	
Progression Factor		0.32			1.00			0.31			0.37	
Incremental Delay, d2		2.3			0.4			2.4			1.2	
Delay (s)		11.2			26.3			6.4			5.2	
Level of Service		B			C			A			A	
Approach Delay (s)		11.2			26.3			6.4			5.2	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	28	18	14	16	12	11	482	12	26	287	15
Future Volume (vph)	18	28	18	14	16	12	11	482	12	26	287	15
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.97			1.00			1.00	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.96			0.96			1.00			0.99	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1467			1454			1643			1628	
Flt Permitted		0.93			0.92			0.99			0.94	
Satd. Flow (perm)		1387			1364			1630			1542	
Peak-hour factor, PHF	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. Flow (vph)	18	28	18	14	16	12	11	482	12	26	287	15
RTOR Reduction (vph)	0	13	0	0	8	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	51	0	0	34	0	0	504	0	0	326	0
Confl. Peds. (#/hr)	37		48	48		37	29		21	21		29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			59.4			59.4	
Effective Green, g (s)		29.4			29.4			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		407			401			968			915	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.02			c0.31			0.21	
v/c Ratio		0.13			0.08			0.52			0.36	
Uniform Delay, d1		25.9			25.5			11.9			10.5	
Progression Factor		0.77			1.00			0.04			0.59	
Incremental Delay, d2		0.6			0.4			1.2			1.0	
Delay (s)		20.6			26.0			1.7			7.2	
Level of Service		C			C			A			A	
Approach Delay (s)		20.6			26.0			1.7			7.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.0	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)	11.2
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Future Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.97			1.00			1.00	
Frt		0.99			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		3068			2994			1595			1604	
Flt Permitted		0.87			0.70			0.99			0.91	
Satd. Flow (perm)		2681			2105			1588			1470	
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)	34	457	20	126	490	31	8	422	112	31	223	44
RTOR Reduction (vph)	0	3	0	0	3	0	0	9	0	0	5	0
Lane Group Flow (vph)	0	508	0	0	644	0	0	533	0	0	293	0
Confl. Peds. (#/hr)	32		102	102		32	20		21	21		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		46.9			46.9			50.4			50.4	
Effective Green, g (s)		46.9			46.9			50.4			50.4	
Actuated g/C Ratio		0.43			0.43			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.6			6.6	
Lane Grp Cap (vph)		1143			897			727			673	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.31			c0.34			0.20	
v/c Ratio		0.44			0.72			0.73			0.43	
Uniform Delay, d1		22.3			26.1			24.3			20.2	
Progression Factor		0.75			1.46			1.00			0.47	
Incremental Delay, d2		1.1			0.5			6.5			2.0	
Delay (s)		17.8			38.4			30.8			11.5	
Level of Service		B			D			C			B	
Approach Delay (s)		17.8			38.4			30.8			11.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	NBT	NBR	SBL2	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	80	942	41	40	393	346	83	312	225
Future Volume (vph)	80	942	41	40	393	346	83	312	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		5.0				4.0
Lane Util. Factor		0.86	0.86		1.00				*0.95
Frpb, ped/bikes		1.00	1.00		0.95				1.00
Flpb, ped/bikes		0.99	1.00		1.00				1.00
Frt		1.00	0.85		0.94				1.00
Flt Protected		1.00	1.00		1.00				1.00
Satd. Flow (prot)		3977	1144		1399				3200
Flt Permitted		1.00	1.00		1.00				0.13
Satd. Flow (perm)		3977	1144		1399				187
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	82	971	42	41	405	357	86	322	232
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1057	79	0	762	0	0	0	640
Confl. Peds. (#/hr)	72		46			90	90		
Turn Type	Perm	NA	Prot		NA		custom	Prot	NA
Protected Phases		4	4		3			2	2 3
Permitted Phases	4						2		
Actuated Green, G (s)		22.0	22.0		25.0				43.0
Effective Green, g (s)		23.0	23.0		25.0				45.0
Actuated g/C Ratio		0.29	0.29		0.31				0.56
Clearance Time (s)		5.0	5.0		5.0				
Lane Grp Cap (vph)		1143	328		437				820
v/s Ratio Prot			0.07		c0.54				c0.19
v/s Ratio Perm		0.27							0.25
v/c Ratio		0.92	0.24		1.74				0.78
Uniform Delay, d1		27.7	21.8		27.5				13.6
Progression Factor		1.21	1.20		1.00				0.82
Incremental Delay, d2		9.6	1.1		344.1				6.4
Delay (s)		42.9	27.2		371.6				17.6
Level of Service		D	C		F				B
Approach Delay (s)		41.8			371.6				17.6
Approach LOS		D			F				B

Intersection Summary			
HCM 2000 Control Delay	134.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	117	25	0	0	0	0	507	10	77	482	0
Future Volume (vph)	58	117	25	0	0	0	0	507	10	77	482	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.98						1.00			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		2806						1559			1551	
Flt Permitted		0.99						1.00			0.87	
Satd. Flow (perm)		2806						1559			1365	
Peak-hour factor, PHF	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. Flow (vph)	58	117	25	0	0	0	0	507	10	77	482	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	186	0	0	0	0	0	516	0	0	559	0
Confl. Peds. (#/hr)	24		36	36		24	42		34	34		42
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						47.0			46.0	
Actuated g/C Ratio		0.32						0.59			0.58	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		911						915			784	
v/s Ratio Prot								0.33				
v/s Ratio Perm		0.07									c0.41	
v/c Ratio		0.20						0.56			0.71	
Uniform Delay, d1		19.5						10.2			12.2	
Progression Factor		0.42						0.90			0.39	
Incremental Delay, d2		0.4						2.2			4.6	
Delay (s)		8.7						11.4			9.4	
Level of Service		A						B			A	
Approach Delay (s)		8.7			0.0			11.4			9.4	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.8%	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)	18	53	17	15	20	13	12	483	13	27	288	15
Future Volume (vph)	18	53	17	15	20	13	12	483	13	27	288	15
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6			6.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.99			0.99	
Flpb, ped/bikes		0.98			0.97			1.00			0.99	
Frt		0.97			0.96			1.00			0.99	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1520			1466			1634			1617	
Flt Permitted		0.94			0.91			0.99			0.94	
Satd. Flow (perm)		1451			1361			1621			1528	
Peak-hour factor, PHF	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. Flow (vph)	18	53	17	15	20	13	12	483	13	27	288	15
RTOR Reduction (vph)	0	9	0	0	9	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	79	0	0	39	0	0	507	0	0	328	0
Confl. Peds. (#/hr)	60		54	54		60	37		78	78		37
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.4			28.4			59.4			59.4	
Effective Green, g (s)		28.4			28.4			59.4			59.4	
Actuated g/C Ratio		0.28			0.28			0.59			0.59	
Clearance Time (s)		6.6			6.6			5.6			5.6	
Lane Grp Cap (vph)		412			386			962			907	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			c0.31			0.21	
v/c Ratio		0.19			0.10			0.53			0.36	
Uniform Delay, d1		27.1			26.4			12.0			10.5	
Progression Factor		1.00			0.96			1.46			0.33	
Incremental Delay, d2		1.0			0.5			0.8			1.1	
Delay (s)		28.2			25.8			18.2			4.5	
Level of Service		C			C			B			A	
Approach Delay (s)		28.2			25.8			18.2			4.5	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.8	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)	12.2
Intersection Capacity Utilization	65.2%	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)	33	80	21	0	0	0	0	562	0	12	344	0
Future Volume (vph)	33	80	21	0	0	0	0	562	0	12	344	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
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		0.98						1.00			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1590						1654			1651	
Flt Permitted		0.99						1.00			0.98	
Satd. Flow (perm)		1590						1654			1619	
Peak-hour factor, PHF	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. Flow (vph)	33	80	21	0	0	0	0	562	0	12	344	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	128	0	0	0	0	0	562	0	0	356	0
Confl. Peds. (#/hr)	2		4	4		2	14		15	15		14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		29.4						59.4			59.4	
Effective Green, g (s)		29.4						59.4			59.4	
Actuated g/C Ratio		0.29						0.59			0.59	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		467						982			961	
v/s Ratio Prot								c0.34				
v/s Ratio Perm		0.08									0.22	
v/c Ratio		0.27						0.57			0.37	
Uniform Delay, d1		27.1						12.5			10.6	
Progression Factor		0.81						0.97			0.10	
Incremental Delay, d2		1.4						1.9			1.0	
Delay (s)		23.3						14.0			2.1	
Level of Service		C						B			A	
Approach Delay (s)		23.3			0.0			14.0			2.1	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.2	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)	11.2
Intersection Capacity Utilization	60.0%	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)	17	83	45	0	0	0	0	563	5	13	442	18
Future Volume (vph)	17	83	45	0	0	0	0	563	5	13	442	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		1.00						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.96						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1467						1562			1551	
Flt Permitted		0.99						1.00			0.98	
Satd. Flow (perm)		1467						1562			1529	
Peak-hour factor, PHF	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. Flow (vph)	17	83	45	0	0	0	0	563	5	13	442	18
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	125	0	0	0	0	0	568	0	0	471	0
Confl. Peds. (#/hr)	11		13	13		11	21		19	19		21
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						47.0			46.0	
Actuated g/C Ratio		0.32						0.59			0.58	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		476						917			879	
v/s Ratio Prot								c0.36				
v/s Ratio Perm		0.09									0.31	
v/c Ratio		0.26						0.62			0.54	
Uniform Delay, d1		19.9						10.7			10.4	
Progression Factor		0.92						1.81			0.33	
Incremental Delay, d2		1.3						2.1			2.0	
Delay (s)		19.6						21.4			5.5	
Level of Service		B						C			A	
Approach Delay (s)		19.6			0.0			21.4			5.5	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	130	27	7	70	5	13	543	23	3	369	17
Future Volume (vph)	53	130	27	7	70	5	13	543	23	3	369	17
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
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		0.99			1.00			1.00			1.00	
Frt		0.98			0.99			0.99			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1580			1624			1640			1640	
Flt Permitted		0.91			0.97			0.99			1.00	
Satd. Flow (perm)		1448			1589			1624			1636	
Peak-hour factor, PHF	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. Flow (vph)	53	130	27	7	70	5	13	543	23	3	369	17
RTOR Reduction (vph)	0	5	0	0	3	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	205	0	0	79	0	0	578	0	0	387	0
Confl. Peds. (#/hr)	10		20	20		10	12		11	11		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		33.9			33.9			54.4			54.4	
Effective Green, g (s)		33.9			33.9			54.4			54.4	
Actuated g/C Ratio		0.34			0.34			0.54			0.54	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		490			538			883			889	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.05			c0.36			0.24	
v/c Ratio		0.42			0.15			0.65			0.44	
Uniform Delay, d1		25.5			23.0			16.1			13.6	
Progression Factor		1.24			0.77			1.19			0.22	
Incremental Delay, d2		2.6			0.6			3.3			1.5	
Delay (s)		34.1			18.3			22.5			4.5	
Level of Service		C			B			C			A	
Approach Delay (s)		34.1			18.3			22.5			4.5	
Approach LOS		C			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.6	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)	11.7
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBT	WBR	NBL	NBT	SBT	SBR2	NER2
Lane Configurations								
Traffic Volume (vph)	57	22	23	25	471	493	13	70
Future Volume (vph)	57	22	23	25	471	493	13	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			5.0	4.0		4.0
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00
Frt	1.00	0.92			1.00	1.00		0.86
Flt Protected	0.95	1.00			1.00	1.00		1.00
Satd. Flow (prot)	1486	1445			1561	1559		1353
Flt Permitted	0.95	1.00			0.96	1.00		1.00
Satd. Flow (perm)	1486	1445			1509	1559		1353
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	57	22	23	25	471	493	13	70
RTOR Reduction (vph)	0	0	0	0	0	0	0	65
Lane Group Flow (vph)	57	45	0	0	496	506	0	5
Confl. Peds. (#/hr)	35							21
Turn Type	Split	NA		Perm	NA	NA		Prot
Protected Phases	4	4			2	2		3
Permitted Phases				2				
Actuated Green, G (s)	21.0	21.0			41.0	41.0		7.0
Effective Green, g (s)	20.0	20.0			41.0	42.0		6.0
Actuated g/C Ratio	0.25	0.25			0.51	0.52		0.08
Clearance Time (s)	3.0	3.0			5.0	5.0		3.0
Lane Grp Cap (vph)	371	361			773	818		101
v/s Ratio Prot	c0.04	0.03				0.32		c0.00
v/s Ratio Perm					c0.33			
v/c Ratio	0.15	0.12			0.64	0.62		0.05
Uniform Delay, d1	23.4	23.2			14.2	13.4		34.4
Progression Factor	1.09	1.09			0.61	0.18		1.00
Incremental Delay, d2	0.9	0.7			0.4	2.7		1.0
Delay (s)	26.3	26.0			9.0	5.1		35.3
Level of Service	C	C			A	A		D
Approach Delay (s)		26.2			9.0	5.1		
Approach LOS		C			A	A		

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	46	422	20	62	489	0	0	696	63
Future Volume (vph)	0	0	0	46	422	20	62	489	0	0	696	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			3.0			4.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.99			1.00			0.99	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					2906			1556			1538	
Flt Permitted					1.00			0.72			1.00	
Satd. Flow (perm)					2906			1130			1538	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	47	431	20	63	499	0	0	710	64
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	494	0	0	562	0	0	770	0
Confl. Peds. (#/hr)	53		41	41		53	56		50	50		56
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					27.0			47.0			47.0	
Effective Green, g (s)					26.0			47.0			46.0	
Actuated g/C Ratio					0.32			0.59			0.58	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					944			663			884	
v/s Ratio Prot											c0.50	
v/s Ratio Perm					0.17			0.50				
v/c Ratio					0.52			0.85			0.87	
Uniform Delay, d1					22.0			13.6			14.5	
Progression Factor					0.43			0.37			0.41	
Incremental Delay, d2					1.8			9.3			9.3	
Delay (s)					11.3			14.3			15.2	
Level of Service					B			B			B	
Approach Delay (s)		0.0			11.3			14.3			15.2	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	80	32	27	187	20	38	510	17	5	500	65
Future Volume (vph)	23	80	32	27	187	20	38	510	17	5	500	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.97			0.99			1.00			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1458			1517			1547			1527	
Flt Permitted		0.94			0.96			0.95			1.00	
Satd. Flow (perm)		1386			1463			1469			1523	
Peak-hour factor, PHF	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. Flow (vph)	23	80	32	27	187	20	38	510	17	5	500	65
RTOR Reduction (vph)	0	14	0	0	5	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	121	0	0	229	0	0	564	0	0	564	0
Confl. Peds. (#/hr)	28		36	36		28	26		38	38		26
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)		20.0			20.0			54.0			54.0	
Effective Green, g (s)		19.0			19.0			54.0			53.0	
Actuated g/C Ratio		0.24			0.24			0.68			0.66	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		329			347			991			1008	
v/s Ratio Prot												
v/s Ratio Perm		0.09			c0.16			c0.38			0.37	
v/c Ratio		0.37			0.66			0.57			0.56	
Uniform Delay, d1		25.5			27.6			6.9			7.2	
Progression Factor		1.46			0.91			0.28			0.20	
Incremental Delay, d2		2.8			8.6			2.0			0.2	
Delay (s)		40.0			33.7			4.0			1.7	
Level of Service		D			C			A			A	
Approach Delay (s)		40.0			33.7			4.0			1.7	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.8%	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)	40	60	20	11	70	8	23	469	18	17	453	37
Future Volume (vph)	40	60	20	11	70	8	23	469	18	17	453	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			1.00			0.99	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.98			0.99			1.00			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1445			1509			1545			1532	
Flt Permitted		0.89			0.97			0.97			0.98	
Satd. Flow (perm)		1311			1472			1507			1506	
Peak-hour factor, PHF	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. Flow (vph)	40	60	20	11	70	8	23	469	18	17	453	37
RTOR Reduction (vph)	0	9	0	0	5	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	111	0	0	84	0	0	508	0	0	504	0
Confl. Peds. (#/hr)	33		45	45		33	50		45	45		50
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
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)		20.0			20.0			54.0			54.0	
Effective Green, g (s)		19.0			19.0			54.0			53.0	
Actuated g/C Ratio		0.24			0.24			0.68			0.66	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		311			349			1017			997	
v/s Ratio Prot												
v/s Ratio Perm		c0.08			0.06			c0.34			0.33	
v/c Ratio		0.36			0.24			0.50			0.51	
Uniform Delay, d1		25.4			24.7			6.4			6.8	
Progression Factor		0.85			1.04			2.33			0.18	
Incremental Delay, d2		2.9			1.5			1.2			1.3	
Delay (s)		24.6			27.2			16.0			2.6	
Level of Service		C			C			B			A	
Approach Delay (s)		24.6			27.2			16.0			2.6	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.1%	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)	0	0	0	51	353	35	22	497	0	0	448	34
Future Volume (vph)	0	0	0	51	353	35	22	497	0	0	448	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			5.0			4.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.98			1.00			1.00	
Frt					0.99			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2840			1560			1540	
Flt Permitted					0.99			0.97			1.00	
Satd. Flow (perm)					2840			1515			1540	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	56	388	38	24	546	0	0	492	37
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	474	0	0	570	0	0	526	0
Confl. Peds. (#/hr)	61		73	73		61	64		42	42		64
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					32.0			40.0			40.0	
Effective Green, g (s)					31.0			40.0			41.0	
Actuated g/C Ratio					0.39			0.50			0.51	
Clearance Time (s)					3.0			5.0			5.0	
Lane Grp Cap (vph)					1100			757			789	
v/s Ratio Prot											0.34	
v/s Ratio Perm					0.17			c0.38				
v/c Ratio					0.43			0.75			0.67	
Uniform Delay, d1					18.0			16.0			14.4	
Progression Factor					0.53			0.54			0.58	
Incremental Delay, d2					1.1			5.9			4.0	
Delay (s)					10.7			14.5			12.4	
Level of Service					B			B			B	
Approach Delay (s)		0.0			10.7			14.5			12.4	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Future Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.99			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		4152						1533			1534	
Flt Permitted		1.00						1.00			0.41	
Satd. Flow (perm)		4152						1533			646	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	61	604	47	0	0	0	0	531	63	256	542	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	0	0	0	589	0	0	798	0
Confl. Peds. (#/hr)	42		48	48		42	39		40	40		39
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1608						804			331	
v/s Ratio Prot								0.38				
v/s Ratio Perm		0.17									c1.24	
v/c Ratio		0.44						0.73			2.41	
Uniform Delay, d1		18.1						14.7			19.5	
Progression Factor		1.53						1.95			0.52	
Incremental Delay, d2		0.8						5.1			640.1	
Delay (s)		28.4						33.6			650.2	
Level of Service		C						C			F	
Approach Delay (s)		28.4			0.0			33.6			650.2	
Approach LOS		C			A			C			F	

Intersection Summary			
HCM 2000 Control Delay	265.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	166	53	4	552	95	63	434	12	45	402	3
Future Volume (vph)	36	166	53	4	552	95	63	434	12	45	402	3
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			3.0			4.0	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.96		1.00			1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		0.98			1.00			1.00	
Flt Protected		0.99	1.00		1.00			0.99			1.00	
Satd. Flow (prot)		2947	1275		2907			1550			1554	
Flt Permitted		0.81	1.00		0.95			0.91			0.92	
Satd. Flow (perm)		2415	1275		2774			1414			1440	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	38	177	56	4	587	101	67	462	13	48	428	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	215	56	0	692	0	0	541	0	0	479	0
Confl. Peds. (#/hr)			14	14						28		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)		37.0	37.0		37.0			37.0			37.0	
Effective Green, g (s)		36.0	36.0		36.0			37.0			36.0	
Actuated g/C Ratio		0.45	0.45		0.45			0.46			0.45	
Clearance Time (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		1086	573		1248			653			648	
v/s Ratio Prot												
v/s Ratio Perm		0.09	0.04		c0.25			c0.38			0.33	
v/c Ratio		0.20	0.10		0.55			0.83			0.74	
Uniform Delay, d1		13.3	12.7		16.1			18.7			18.1	
Progression Factor		1.01	0.98		0.14			1.22			0.55	
Incremental Delay, d2		0.4	0.3		1.0			7.0			6.9	
Delay (s)		13.9	12.8		3.2			29.9			16.8	
Level of Service		B	B		A			C			B	
Approach Delay (s)		13.7			3.2			29.9			16.8	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER
Lane Configurations	
Traffic Volume (vph)	300
Future Volume (vph)	300
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.94
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1275
Flt Permitted	1.00
Satd. Flow (perm)	1275
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	319
RTOR Reduction (vph)	0
Lane Group Flow (vph)	319
Confl. Peds. (#/hr)	30
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	37.0
Effective Green, g (s)	36.0
Actuated g/C Ratio	0.45
Clearance Time (s)	3.0
Lane Grp Cap (vph)	573
v/s Ratio Prot	
v/s Ratio Perm	0.25
v/c Ratio	0.56
Uniform Delay, d1	16.1
Progression Factor	1.00
Incremental Delay, d2	3.9
Delay (s)	20.0
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Future Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			6.6			6.6	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.46	1.00	0.99			0.93			0.98	
Flpb, ped/bikes	0.93	1.00	1.00	0.85	1.00			1.00			0.99	
Frt	1.00	1.00	0.85	1.00	0.99			0.97			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1459	3143	645	1329	1625			1496			1569	
Flt Permitted	0.52	1.00	1.00	0.51	1.00			1.00			0.91	
Satd. Flow (perm)	804	3143	645	715	1625			1490			1437	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	346	21	124	377	29	7	414	109	31	218	43
RTOR Reduction (vph)	0	0	15	0	3	0	0	8	0	0	5	0
Lane Group Flow (vph)	34	346	6	124	403	0	0	522	0	0	287	0
Confl. Peds. (#/hr)	71		372	372		71	87		403	403		87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Effective Green, g (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Actuated g/C Ratio	0.30	0.30	0.30	0.43	0.48			0.40			0.40	
Clearance Time (s)	6.6	6.6	6.6	4.6				6.6			6.6	
Lane Grp Cap (vph)	244	954	195	391	774			601			580	
v/s Ratio Prot		0.11		0.04	c0.25							
v/s Ratio Perm	0.04		0.01	0.10				c0.35			0.20	
v/c Ratio	0.14	0.36	0.03	0.32	0.52			0.87			0.49	
Uniform Delay, d1	27.8	30.0	26.9	19.4	20.1			30.1			24.4	
Progression Factor	1.13	1.10	1.00	0.47	0.35			1.00			1.00	
Incremental Delay, d2	1.1	1.0	0.3	1.5	1.8			15.6			3.0	
Delay (s)	32.6	33.9	27.2	10.7	8.8			45.7			27.4	
Level of Service	C	C	C	B	A			D			C	
Approach Delay (s)		33.5			9.2			45.7			27.4	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	13	15	48	28	30	550	0	0	445	17
Future Volume (vph)	0	0	13	15	48	28	30	550	0	0	445	17
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			3.0			4.0	
Lane Util. Factor			1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes			0.96	1.00	0.97			1.00			1.00	
Flpb, ped/bikes			1.00	0.98	1.00			1.00			1.00	
Frt			0.85	1.00	0.94			1.00			1.00	
Flt Protected			1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)			1277	1457	1436			1560			1555	
Flt Permitted			1.00	0.95	1.00			0.97			1.00	
Satd. Flow (perm)			1277	1457	1436			1510			1555	
Peak-hour factor, PHF	0.70	0.70	0.70	0.67	0.67	0.67	1.00	1.00	1.00	0.92	0.92	0.92
Adj. Flow (vph)	0	0	19	22	72	42	30	550	0	0	484	18
RTOR Reduction (vph)	0	0	13	0	26	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	6	22	88	0	0	580	0	0	500	0
Confl. Peds. (#/hr)	35		12	12		35	6		27	27		6
Turn Type	D.Pm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases	4		4	4			2					
Actuated Green, G (s)			27.0	27.0	27.0			47.0			47.0	
Effective Green, g (s)			26.0	26.0	26.0			47.0			46.0	
Actuated g/C Ratio			0.32	0.32	0.32			0.59			0.58	
Clearance Time (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			415	473	466			887			894	
v/s Ratio Prot					c0.06						0.32	
v/s Ratio Perm			0.00	0.02				c0.38				
v/c Ratio			0.01	0.05	0.19			0.65			0.56	
Uniform Delay, d1			18.3	18.5	19.4			11.1			10.7	
Progression Factor			1.00	0.80	0.74			0.52			1.00	
Incremental Delay, d2			0.1	0.2	0.8			3.0			2.5	
Delay (s)			18.4	15.0	15.2			8.7			13.2	
Level of Service			B	B	B			A			B	
Approach Delay (s)		18.4			15.2			8.7			13.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Future Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.98	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					3109			1644			1564	
Flt Permitted					1.00			0.91			1.00	
Satd. Flow (perm)					3109			1500			1564	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	40	825	10	55	558	0	0	275	112
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	0	0	0	874	0	0	613	0	0	372	0
Confl. Peds. (#/hr)	54		41	41		54	28		3	3		28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			44.0			44.0	
Effective Green, g (s)					44.0			44.0			44.0	
Actuated g/C Ratio					0.44			0.44			0.44	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1367			660			688	
v/s Ratio Prot											0.24	
v/s Ratio Perm					0.28			c0.41				
v/c Ratio					0.64			0.93			0.54	
Uniform Delay, d1					21.8			26.5			20.6	
Progression Factor					0.41			0.82			0.62	
Incremental Delay, d2					2.0			16.5			3.0	
Delay (s)					11.0			38.3			15.7	
Level of Service					B			D			B	
Approach Delay (s)		0.0			11.0			38.3			15.7	
Approach LOS		A			B			D			B	

Intersection Summary			
HCM 2000 Control Delay	20.9	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)	12.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Future Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.98			1.00			0.97	
Flpb, ped/bikes					0.92			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					4212			1730			1652	
Flt Permitted					0.99			0.67			1.00	
Satd. Flow (perm)					4212			1164			1652	
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	0	0	137	577	45	69	637	0	0	674	127
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	752	0	0	706	0	0	794	0
Confl. Peds. (#/hr)	131		247	247		131	146		249	249		146
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					30.0			62.0			62.0	
Effective Green, g (s)					31.0			61.0			62.0	
Actuated g/C Ratio					0.31			0.61			0.62	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1305			710			1024	
v/s Ratio Prot											0.48	
v/s Ratio Perm					0.18			c0.61				
v/c Ratio					0.58			0.99			0.78	
Uniform Delay, d1					29.0			19.3			13.9	
Progression Factor					1.33			0.72			0.40	
Incremental Delay, d2					0.5			32.1			4.4	
Delay (s)					39.1			46.1			9.9	
Level of Service					D			D			A	
Approach Delay (s)		0.0			39.1			46.1			9.9	
Approach LOS		A			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	50	13	11	22	5	18	529	6	6	283	9
Future Volume (vph)	10	50	13	11	22	5	18	529	6	6	283	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			1.00			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1603			1601			1649			1646	
Flt Permitted		0.97			0.94			0.99			0.99	
Satd. Flow (perm)		1568			1519			1628			1632	
Peak-hour factor, PHF	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. Flow (vph)	10	50	13	11	22	5	18	529	6	6	283	9
RTOR Reduction (vph)	0	8	0	0	4	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	65	0	0	34	0	0	553	0	0	297	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			59.4			59.4	
Effective Green, g (s)		29.4			29.4			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		460			446			967			969	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.02			c0.34			0.18	
v/c Ratio		0.14			0.08			0.57			0.31	
Uniform Delay, d1		26.0			25.5			12.5			10.1	
Progression Factor		0.82			1.20			1.80			0.11	
Incremental Delay, d2		0.6			0.3			0.2			0.7	
Delay (s)		21.9			30.8			22.7			1.9	
Level of Service		C			C			C			A	
Approach Delay (s)		21.9			30.8			22.7			1.9	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	16.5	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)	11.2
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	60	5	15	53	639	0	0	745	20
Future Volume (vph)	0	0	0	60	5	15	53	639	0	0	745	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.94			1.00			1.00	
Flpb, ped/bikes					0.71			1.00			1.00	
Frt					0.97			1.00			1.00	
Flt Protected					0.97			1.00			1.00	
Satd. Flow (prot)					1869			1557			1556	
Flt Permitted					0.97			0.88			1.00	
Satd. Flow (perm)					1869			1368			1556	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.80	0.80	0.87	0.87	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	60	6	19	61	734	0	0	745	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	85	0	0	795	0	0	764	0
Confl. Peds. (#/hr)	97		171	171		97	43		111	111		43
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					24.0			70.0			70.0	
Effective Green, g (s)					23.0			69.0			70.0	
Actuated g/C Ratio					0.23			0.69			0.70	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					429			943			1089	
v/s Ratio Prot											0.49	
v/s Ratio Perm					0.05			c0.58				
v/c Ratio					0.20			0.84			0.70	
Uniform Delay, d1					31.1			11.5			8.8	
Progression Factor					1.21			1.61			0.13	
Incremental Delay, d2					1.0			0.9			0.3	
Delay (s)					38.7			19.4			1.5	
Level of Service					D			B			A	
Approach Delay (s)		0.0			38.7			19.4			1.5	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.1	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)	8.0
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Future Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	0.92						0.94			1.00	
Flpb, ped/bikes	0.84	1.00						1.00			1.00	
Frt	1.00	0.95						0.98			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1245	2590						1438			1559	
Flt Permitted	0.95	1.00						1.00			0.97	
Satd. Flow (perm)	1245	2590						1438			1519	
Peak-hour factor, PHF	0.92	0.92	1.00	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00
Adj. Flow (vph)	52	193	94	0	0	0	0	549	117	22	662	0
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	227	0	0	0	0	0	666	0	0	684	0
Confl. Peds. (#/hr)	104		154	154		104	157		306	306		157
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	34.0	34.0						60.0			60.0	
Effective Green, g (s)	33.0	33.0						59.0			60.0	
Actuated g/C Ratio	0.33	0.33						0.59			0.60	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	410	854						848			911	
v/s Ratio Prot		c0.09						c0.46				
v/s Ratio Perm	0.04										0.45	
v/c Ratio	0.13	0.27						0.79			0.75	
Uniform Delay, d1	23.4	24.6						15.7			14.6	
Progression Factor	0.61	0.45						0.38			0.33	
Incremental Delay, d2	0.2	0.2						2.3			0.5	
Delay (s)	14.4	11.2						8.1			5.3	
Level of Service	B	B						A			A	
Approach Delay (s)		11.7			0.0			8.1			5.3	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	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)	8.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	721	49	0	0	0	0	571	102	54	721	0
Future Volume (vph)	85	721	49	0	0	0	0	571	102	54	721	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	1.00						1.00			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.99						0.98			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2939						4800			1559	
Flt Permitted	0.95	1.00						1.00			0.82	
Satd. Flow (perm)	1486	2939						1533			1284	
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)	92	784	53	0	0	0	0	621	111	59	784	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	837	0	0	0	0	0	732	0	0	843	0
Confl. Peds. (#/hr)			6	6								
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	32.0	32.0						62.0			62.0	
Effective Green, g (s)	31.0	31.0						61.0			62.0	
Actuated g/C Ratio	0.31	0.31						0.61			0.62	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	460	911						2928			796	
v/s Ratio Prot		c0.28						0.15				
v/s Ratio Perm	0.06										c0.66	
v/c Ratio	0.20	0.92						0.25			1.06	
Uniform Delay, d1	25.4	33.3						9.0			19.0	
Progression Factor	1.19	1.03						1.14			0.65	
Incremental Delay, d2	0.5	9.4						0.1			43.5	
Delay (s)	30.8	43.5						10.3			55.8	
Level of Service	C	D						B			E	
Approach Delay (s)		42.2			0.0			10.3			55.8	
Approach LOS		D			A			B			E	

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
Future Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
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			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			1.00			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.97			0.99			0.99			1.00	
Satd. Flow (prot)		1471			2869			1544			1495	
Flt Permitted		0.56			0.87			0.84			0.99	
Satd. Flow (perm)		849			2509			1305			1476	
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)	99	58	19	73	361	19	65	552	15	16	621	182
RTOR Reduction (vph)	0	0	0	0	3	0	0	1	0	0	10	0
Lane Group Flow (vph)	0	176	0	0	450	0	0	631	0	0	809	0
Confl. Peds. (#/hr)	27		55	55		27	27		66	66		27
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)		38.0			28.0			53.0			53.0	
Effective Green, g (s)		36.0			27.0			52.0			53.0	
Actuated g/C Ratio		0.36			0.27			0.52			0.53	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		361			677			678			782	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.13			c0.18			0.48			c0.55	
v/c Ratio		0.49			0.66			0.93			1.03	
Uniform Delay, d1		24.8			32.5			22.3			23.5	
Progression Factor		1.19			0.71			0.60			1.10	
Incremental Delay, d2		4.6			4.9			17.3			38.7	
Delay (s)		34.2			27.8			30.7			64.7	
Level of Service		C			C			C			E	
Approach Delay (s)		34.2			27.8			30.7			64.7	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	43.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	38	64	37	14	528	0	0	419	9
Future Volume (vph)	0	0	0	38	64	37	14	528	0	0	419	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.96			1.00			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2943			1651			1648	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					2943			1631			1648	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	38	64	37	14	528	0	0	419	9
RTOR Reduction (vph)	0	0	0	0	26	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	113	0	0	542	0	0	427	0
Confl. Peds. (#/hr)	2		6	6		2	20		17	17		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					865			968			978	
v/s Ratio Prot											0.26	
v/s Ratio Perm					0.04			c0.33				
v/c Ratio					0.13			0.56			0.44	
Uniform Delay, d1					25.9			12.3			11.1	
Progression Factor					0.74			0.18			0.38	
Incremental Delay, d2					0.3			0.2			1.3	
Delay (s)					19.5			2.4			5.5	
Level of Service					B			A			A	
Approach Delay (s)		0.0			19.5			2.4			5.5	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Future Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					6259			1559			1519	
Flt Permitted					0.99			0.23			1.00	
Satd. Flow (perm)					6259			356			1519	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	569	2276	49	54	699	0	0	679	187
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	2894	0	0	753	0	0	863	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					57.0			37.0			37.0	
Effective Green, g (s)					56.0			36.0			37.0	
Actuated g/C Ratio					0.56			0.36			0.37	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3505			128			562	
v/s Ratio Prot											0.57	
v/s Ratio Perm					0.46			c2.11				
v/c Ratio					0.83			5.88			1.54	
Uniform Delay, d1					18.0			32.0			31.5	
Progression Factor					0.46			0.68			0.69	
Incremental Delay, d2					1.6			2203.7			248.4	
Delay (s)					9.9			2225.4			270.1	
Level of Service					A			F			F	
Approach Delay (s)		0.0			9.9			2225.4			270.1	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	429.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	15	78	27	30	550	0	0	444	18
Future Volume (vph)	0	0	0	15	78	27	30	550	0	0	444	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.97			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2819			1561			1556	
Flt Permitted					0.99			0.96			1.00	
Satd. Flow (perm)					2819			1508			1556	
Peak-hour factor, PHF	1.00	1.00	1.00	0.71	0.71	0.71	0.82	0.82	0.82	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	21	110	38	37	671	0	0	444	18
RTOR Reduction (vph)	0	0	0	0	28	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	141	0	0	708	0	0	460	0
Confl. Peds. (#/hr)	5		24	24		5	2		46	46		2
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					22.0			52.0			52.0	
Effective Green, g (s)					21.0			51.0			52.0	
Actuated g/C Ratio					0.26			0.64			0.65	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					739			961			1011	
v/s Ratio Prot											0.30	
v/s Ratio Perm					0.05			c0.47				
v/c Ratio					0.19			0.74			0.46	
Uniform Delay, d1					22.9			9.9			7.0	
Progression Factor					0.90			0.42			1.00	
Incremental Delay, d2					0.6			4.6			1.5	
Delay (s)					21.3			8.8			8.4	
Level of Service					C			A			A	
Approach Delay (s)		0.0			21.3			8.8			8.4	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
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)	0	0	0	9	40	6	18	602	0	0	339	19
Future Volume (vph)	0	0	0	9	40	6	18	602	0	0	339	19
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					1616			1652			1642	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					1616			1630			1642	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	9	40	6	18	602	0	0	339	19
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	51	0	0	620	0	0	356	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					475			968			975	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.03			c0.38				
v/c Ratio					0.11			0.64			0.37	
Uniform Delay, d1					25.7			13.3			10.5	
Progression Factor					1.11			0.86			0.30	
Incremental Delay, d2					0.4			2.8			0.9	
Delay (s)					29.0			14.2			4.0	
Level of Service					C			B			A	
Approach Delay (s)		0.0			29.0			14.2			4.0	
Approach LOS		A			C			B			A	

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)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Future Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3110			3110			1610			1615	
Flt Permitted		0.93			0.81			0.97			0.94	
Satd. Flow (perm)		2903			2544			1569			1529	
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)	21	831	32	46	514	12	28	505	88	19	281	32
RTOR Reduction (vph)	0	3	0	0	1	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	881	0	0	571	0	0	615	0	0	328	0
Confl. Peds. (#/hr)	31		25	25		31	55		11	11		55
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		51.9			51.9			35.9			35.9	
Effective Green, g (s)		51.9			51.9			35.9			35.9	
Actuated g/C Ratio		0.52			0.52			0.36			0.36	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1506			1320			563			548	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.22			c0.39			0.21	
v/c Ratio		0.59			0.43			1.09			0.60	
Uniform Delay, d1		16.6			14.9			32.0			26.2	
Progression Factor		0.94			0.24			1.28			0.97	
Incremental Delay, d2		1.1			0.1			61.7			4.7	
Delay (s)		16.7			3.7			102.8			30.1	
Level of Service		B			A			F			C	
Approach Delay (s)		16.7			3.7			102.8			30.1	
Approach LOS		B			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1385	53	0	0	0	0	629	0	79	244	0
Future Volume (vph)	0	1385	53	0	0	0	0	629	0	79	244	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						1.00			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		4248						1565			1546	
Flt Permitted		1.00						1.00			0.16	
Satd. Flow (perm)		4248						1565			245	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	1522	58	0	0	0	0	691	0	87	268	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1576	0	0	0	0	0	691	0	0	355	0
Confl. Peds. (#/hr)							41		1	1		41
Turn Type		NA						NA		Prot	NA	
Protected Phases		2						4		1	1 4	
Permitted Phases	2											
Actuated Green, G (s)		57.0						24.0			34.0	
Effective Green, g (s)		56.0						24.0			32.0	
Actuated g/C Ratio		0.56						0.24			0.32	
Clearance Time (s)		3.0						3.0				
Lane Grp Cap (vph)		2378						375			195	
v/s Ratio Prot		c0.37						c0.44			c0.16	
v/s Ratio Perm											0.42	
v/c Ratio		0.66						1.84			1.82	
Uniform Delay, d1		15.4						38.0			34.0	
Progression Factor		0.23						0.63			1.33	
Incremental Delay, d2		0.5						382.5			378.8	
Delay (s)		4.0						406.3			423.9	
Level of Service		A						F			F	
Approach Delay (s)		4.0			0.0			406.3			423.9	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	166.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	0	0	0	94	0	696	19	0	577	0
Future Volume (vph)	10	10	0	0	0	94	0	696	19	0	577	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0				4.0		4.0			3.0	
Lane Util. Factor		1.00				1.00		1.00			1.00	
Frt		1.00				0.86		1.00			1.00	
Flt Protected		0.98				1.00		1.00			1.00	
Satd. Flow (prot)		1527				1353		1559			1565	
Flt Permitted		0.98				1.00		1.00			1.00	
Satd. Flow (perm)		1527				1353		1559			1565	
Peak-hour factor, PHF	1.00	1.00	1.00	0.78	1.00	0.78	1.00	0.99	0.99	1.00	1.00	1.00
Adj. Flow (vph)	10	10	0	0	0	121	0	703	19	0	577	0
RTOR Reduction (vph)	0	0	0	0	0	99	0	1	0	0	0	0
Lane Group Flow (vph)	0	20	0	0	0	22	0	721	0	0	577	0
Turn Type	Perm	NA				Perm		NA			NA	
Protected Phases		4						2			2	
Permitted Phases	4					4				2		
Actuated Green, G (s)		19.0				19.0		75.0			75.0	
Effective Green, g (s)		18.0				18.0		74.0			75.0	
Actuated g/C Ratio		0.18				0.18		0.74			0.75	
Clearance Time (s)		3.0				3.0		3.0			3.0	
Lane Grp Cap (vph)		274				243		1153			1173	
v/s Ratio Prot								c0.46			0.37	
v/s Ratio Perm		0.01				c0.02						
v/c Ratio		0.07				0.09		0.63			0.49	
Uniform Delay, d1		34.1				34.2		6.3			5.0	
Progression Factor		1.00				1.00		0.25			1.00	
Incremental Delay, d2		0.5				0.7		1.9			1.5	
Delay (s)		34.6				34.9		3.5			6.4	
Level of Service		C				C		A			A	
Approach Delay (s)		34.6			34.9			3.5			6.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	865	22	0	0	0	0	498	47	14	276	0
Future Volume (vph)	48	865	22	0	0	0	0	498	47	14	276	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						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						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3116						1629			1649	
Flt Permitted		1.00						1.00			0.97	
Satd. Flow (perm)		3116						1629			1600	
Peak-hour factor, PHF	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. Flow (vph)	48	865	22	0	0	0	0	498	47	14	276	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	933	0	0	0	0	0	542	0	0	290	0
Confl. Peds. (#/hr)	7		15	15		7	12		20	20		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		44.4						44.4			44.4	
Effective Green, g (s)		44.4						44.4			44.4	
Actuated g/C Ratio		0.44						0.44			0.44	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1383						723			710	
v/s Ratio Prot								c0.33				
v/s Ratio Perm		0.30									0.18	
v/c Ratio		0.67						0.75			0.41	
Uniform Delay, d1		22.1						23.2			18.9	
Progression Factor		0.62						0.17			0.58	
Incremental Delay, d2		2.1						5.6			1.5	
Delay (s)		15.8						9.6			12.4	
Level of Service		B						A			B	
Approach Delay (s)		15.8			0.0			9.6			12.4	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	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)	11.2
Intersection Capacity Utilization	76.1%	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)	48	854	22	0	0	0	0	498	46	14	276	0
Future Volume (vph)	48	854	22	0	0	0	0	498	46	14	276	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3117						1627			1650	
Flt Permitted		1.00						1.00			0.97	
Satd. Flow (perm)		3117						1627			1600	
Peak-hour factor, PHF	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. Flow (vph)	48	854	22	0	0	0	0	498	46	14	276	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	922	0	0	0	0	0	540	0	0	290	0
Confl. Peds. (#/hr)	7		8	8		7	19		29	29		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		47.4						41.4			41.4	
Effective Green, g (s)		47.4						41.4			41.4	
Actuated g/C Ratio		0.47						0.41			0.41	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1477						673			662	
v/s Ratio Prot								c0.33				
v/s Ratio Perm		0.30									0.18	
v/c Ratio		0.62						0.80			0.44	
Uniform Delay, d1		19.7						25.7			21.0	
Progression Factor		0.21						0.77			0.42	
Incremental Delay, d2		1.4						8.3			1.8	
Delay (s)		5.5						28.2			10.6	
Level of Service		A						C			B	
Approach Delay (s)		5.5			0.0			28.2			10.6	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	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)	11.2
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	210	0	0	0	0	355
Future Volume (vph)	210	0	0	0	0	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	0.97					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	2884					4272
Flt Permitted	0.95					1.00
Satd. Flow (perm)	2884					4272
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	210	0	0	0	0	355
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	210	0	0	0	0	355
Turn Type	Prot					NA
Protected Phases	4					2
Permitted Phases						
Actuated Green, G (s)	32.0					62.0
Effective Green, g (s)	31.0					61.0
Actuated g/C Ratio	0.31					0.61
Clearance Time (s)	3.0					3.0
Lane Grp Cap (vph)	894					2605
v/s Ratio Prot	c0.07					c0.08
v/s Ratio Perm						
v/c Ratio	0.23					0.14
Uniform Delay, d1	25.7					8.3
Progression Factor	0.60					1.00
Incremental Delay, d2	0.5					0.1
Delay (s)	15.8					8.4
Level of Service	B					A
Approach Delay (s)	15.8		0.0			8.4
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	20.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
Future Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
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	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						1.00	
Frt		0.98			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1524			2939						4182	
Flt Permitted		1.00			0.89						1.00	
Satd. Flow (perm)		1524			2623						4182	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	124	19	79	528	0	0	0	0	17	562	56
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	137	0	0	607	0	0	0	0	0	635	0
Confl. Peds. (#/hr)	51		40	40		51	6		88	88		6
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		32.0			32.0						62.0	
Effective Green, g (s)		31.0			31.0						61.0	
Actuated g/C Ratio		0.31			0.31						0.61	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		472			813						2551	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.23						0.15	
v/c Ratio		0.29			0.75						0.25	
Uniform Delay, d1		26.2			31.0						9.0	
Progression Factor		0.55			0.92						0.96	
Incremental Delay, d2		0.7			3.6						0.2	
Delay (s)		15.0			32.1						8.8	
Level of Service		B			C						A	
Approach Delay (s)		15.0			32.1			0.0			8.8	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.7	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)	8.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	24	7	18	602	4	0	339	19
Future Volume (vph)	0	0	0	9	24	7	18	602	4	0	339	19
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.98			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					1574			1649			1638	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					1574			1628			1638	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	9	24	7	18	602	4	0	339	19
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	35	0	0	624	0	0	356	0
Confl. Peds. (#/hr)	12		8	8		12	10		3	3		10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					462			967			972	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.02			c0.38				
v/c Ratio					0.08			0.64			0.37	
Uniform Delay, d1					25.5			13.4			10.5	
Progression Factor					1.00			0.21			0.62	
Incremental Delay, d2					0.3			2.7			0.8	
Delay (s)					25.8			5.6			7.4	
Level of Service					C			A			A	
Approach Delay (s)		0.0			25.8			5.6			7.4	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	50	20	11	25	9	24	468	18	18	452	38
Future Volume (vph)	40	50	20	11	25	9	24	468	18	18	452	38
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			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.98			1.00			1.00	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.98			0.97			1.00			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1447			1464			1551			1539	
Flt Permitted		0.90			0.95			0.97			0.98	
Satd. Flow (perm)		1327			1403			1508			1512	
Peak-hour factor, PHF	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. Flow (vph)	40	50	20	11	25	9	24	468	18	18	452	38
RTOR Reduction (vph)	0	10	0	0	7	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	100	0	0	38	0	0	508	0	0	505	0
Confl. Peds. (#/hr)	32		26	26		32	19		8	8		19
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)		22.0			22.0			52.0			52.0	
Effective Green, g (s)		21.0			21.0			51.0			52.0	
Actuated g/C Ratio		0.26			0.26			0.64			0.65	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		348			368			961			982	
v/s Ratio Prot												
v/s Ratio Perm		c0.08			0.03			c0.34			0.33	
v/c Ratio		0.29			0.10			0.53			0.51	
Uniform Delay, d1		23.5			22.4			7.9			7.4	
Progression Factor		1.08			0.89			0.28			0.95	
Incremental Delay, d2		2.0			0.6			2.0			1.5	
Delay (s)		27.3			20.5			4.3			8.5	
Level of Service		C			C			A			A	
Approach Delay (s)		27.3			20.5			4.3			8.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	98	2	7	25	8	15	476	21	12	319	12
Future Volume (vph)	17	98	2	7	25	8	15	476	21	12	319	12
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			4.6			4.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.97			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1626			1558			1640			1640	
Flt Permitted		0.96			0.96			0.99			0.98	
Satd. Flow (perm)		1579			1508			1621			1612	
Peak-hour factor, PHF	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. Flow (vph)	17	98	2	7	25	8	15	476	21	12	319	12
RTOR Reduction (vph)	0	1	0	0	6	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	116	0	0	34	0	0	510	0	0	342	0
Confl. Peds. (#/hr)	16		31	31		16	11		4	4		11
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			60.4			60.4	
Effective Green, g (s)		29.4			29.4			60.4			60.4	
Actuated g/C Ratio		0.29			0.29			0.60			0.60	
Clearance Time (s)		5.6			5.6			4.6			4.6	
Lane Grp Cap (vph)		464			443			979			973	
v/s Ratio Prot												
v/s Ratio Perm		c0.07			0.02			c0.31			0.21	
v/c Ratio		0.25			0.08			0.52			0.35	
Uniform Delay, d1		26.9			25.5			11.4			10.0	
Progression Factor		0.94			1.00			0.10			1.00	
Incremental Delay, d2		1.3			0.3			1.7			1.0	
Delay (s)		26.6			25.8			2.9			11.0	
Level of Service		C			C			A			B	
Approach Delay (s)		26.6			25.8			2.9			11.0	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.2
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

Description: As provided 1651 - Intersection Timing Sheets use 1702 split 6

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	440	277	0
Future Volume (vph)	0	0	0	440	277	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)				5.6	5.6	
Lane Util. Factor				1.00	1.00	
Frpb, ped/bikes				1.00	1.00	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				1654	1654	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				1654	1654	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	440	277	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	440	277	0
Confl. Peds. (#/hr)	34	8	14			14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot			NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)				63.4	63.4	
Effective Green, g (s)				63.4	63.4	
Actuated g/C Ratio				0.58	0.58	
Clearance Time (s)				5.6	5.6	
Lane Grp Cap (vph)				953	953	
v/s Ratio Prot				c0.27	0.17	
v/s Ratio Perm						
v/c Ratio				0.46	0.29	
Uniform Delay, d1				13.4	11.9	
Progression Factor				0.24	1.00	
Incremental Delay, d2				1.1	0.8	
Delay (s)				4.4	12.6	
Level of Service				A	B	
Approach Delay (s)	0.0			4.4	12.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	57	3	8	36	8	16	476	22	13	319	13
Future Volume (vph)	17	57	3	8	36	8	16	476	22	13	319	13
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.98			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1596			1575			1610			1610	
Flt Permitted		0.94			0.96			0.98			0.98	
Satd. Flow (perm)		1519			1526			1587			1575	
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)	18	62	3	9	39	9	17	517	24	14	347	14
RTOR Reduction (vph)	0	1	0	0	7	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	82	0	0	50	0	0	557	0	0	374	0
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)		25.4			25.4			63.4			63.4	
Effective Green, g (s)		25.4			25.4			63.4			63.4	
Actuated g/C Ratio		0.25			0.25			0.63			0.63	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		385			387			1006			998	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			c0.35			0.24	
v/c Ratio		0.21			0.13			0.55			0.37	
Uniform Delay, d1		29.4			28.8			10.3			8.8	
Progression Factor		1.00			1.07			0.84			1.00	
Incremental Delay, d2		1.3			0.7			2.0			1.1	
Delay (s)		30.7			31.4			10.7			9.9	
Level of Service		C			C			B			A	
Approach Delay (s)		30.7			31.4			10.7			9.9	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	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)	11.2
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX D

EXISTING CONDITIONS TRAVEL TIMES

St. Paul Street

AM Travel Times

Arterial Level of Service: NB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
32nd St	1786	10.5	22.1	0.1	12
33rd St	351	8.7	16.2	0.1	19
	7234	3.3	10.5	0.1	25
Total		22.6	48.8	0.2	17

Arterial Level of Service: SB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7234	13.2	33.4	0.2	17
33rd St	351	36.2	44.4	0.1	6
32nd St	1786	4.7	14.8	0.1	21
31st St	320	3.9	12.8	0.1	21
29th St	371	11.3	31.5	0.2	20
28th St	1170	3.9	15.0	0.1	22
27th St	478	2.4	12.5	0.1	25
25th St	878	10.2	32.8	0.2	21
24th St	851	2.3	14.8	0.1	25
23rd St	323	1.8	11.0	0.1	24
21st St	325	3.7	20.2	0.1	25
20th St	551	3.6	11.8	0.1	22
North Ave	156	11.6	20.2	0.1	14
Lafayette Ave	354	19.1	28.2	0.1	11
Lanvale St	324	9.2	15.9	0.1	17
Penn Station	387	11.4	23.0	0.1	21
	350	15.2	23.3	0.1	14
Preston St	327	21.2	27.7	0.1	9
Biddle St	348	33.8	42.0	0.1	6
Chase St	328	26.0	32.3	0.1	8
Eager St	319	54.8	63.5	0.1	5
Read St	330	47.2	75.9	0.1	6
Madison St	335	37.5	46.4	0.1	6
E Mt. Vernon Pl	326	30.6	38.3	0.1	7
Centre St	318	98.9	106.8	0.1	3
Franklin St	393	44.9	52.0	0.1	6
Mulberry St	1044	11.5	16.5	0.1	12
Saratoga St	191	16.1	27.7	0.1	18
Lexington St	190	26.5	32.9	0.1	9
Fayette St	188	36.5	40.5	0.0	4
Total		649.2	968.2	2.8	11

Calvert Street

AM Travel Times

Arterial Level of Service: NB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	509	2.7	8.5	0.1	22
Saratoga St	518	6.0	15.1	0.1	20
Pleasant St	221	2.2	12.4	0.1	25
Bath St	1120	2.2	9.4	0.1	24
Centre St	222	9.0	23.0	0.1	21
Monument St	224	8.0	16.8	0.1	18
Madison St	223	3.0	11.7	0.1	22
Read St	1576	1.6	9.9	0.1	26
Eager St	219	1.4	12.3	0.1	28
Chase St	220	1.7	12.9	0.1	27
Biddle St	226	7.9	15.9	0.1	16
Preston St	229	8.3	17.3	0.1	15
Mt. Royal Ave	231	2.4	9.9	0.1	25
Lanvale St	227	3.0	29.5	0.2	27
Lafayette Ave	764	2.6	11.8	0.1	22
North Ave	155	20.6	29.7	0.1	11
20th St	228	2.6	12.2	0.1	23
21st St	259	1.3	9.2	0.1	28
22nd St	230	1.1	9.3	0.1	27
23rd St	7149	0.5	8.8	0.1	29
24th St	1422	1.8	10.6	0.1	25
25th St	244	8.6	20.3	0.1	18
27th St	232	17.6	40.0	0.2	17
28th St	1168	14.7	24.4	0.1	13
29th St	233	14.1	25.0	0.1	13
31st St	262	2.0	22.5	0.2	28
32nd St	1651	2.8	11.8	0.1	23
33rd St	298	59.0	69.5	0.1	4
34th St	1748	28.2	36.7	0.1	7
University Pkwy	150	160.8	246.0	0.1	2
Total		397.9	792.5	2.8	14

St. Paul Street

PM Travel Times

Arterial Level of Service: NB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
32nd St	1786	7.9	19.5	0.1	14
33rd St	351	17.3	25.7	0.1	12
	7234	1.6	8.5	0.1	31
Total		26.9	53.7	0.2	16

Arterial Level of Service: SB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7234	3.1	23.9	0.2	24
33rd St	351	23.2	31.4	0.1	9
32nd St	1786	10.7	20.7	0.1	15
31st St	320	5.0	13.9	0.1	19
29th St	371	13.3	33.6	0.2	19
28th St	1170	9.4	20.5	0.1	16
27th St	478	1.4	11.7	0.1	27
25th St	878	19.0	40.8	0.2	17
24th St	851	3.6	16.1	0.1	23
23rd St	323	1.7	10.8	0.1	25
21st St	325	3.3	19.5	0.1	26
20th St	551	3.6	11.7	0.1	22
North Ave	156	20.4	29.4	0.1	9
Lafayette Ave	354	15.5	26.2	0.1	12
Lanvale St	324	6.2	15.3	0.1	17
	3149	4.0	19.4	0.1	25
St. Paul St Exit	350	13.4	24.3	0.1	13
Preston St	327	3.5	12.3	0.1	20
Biddle St	348	6.1	15.3	0.1	17
Chase St	328	2.5	10.8	0.1	24
Eager St	319	2.4	14.2	0.1	24
Read St	330	2.8	13.8	0.1	24
Madison St	335	6.2	14.7	0.1	18
E Mt. Vernon Pl	326	3.0	11.5	0.1	22
Centre St	318	11.3	21.6	0.1	14
Franklin St	41	39.7	49.8	0.1	7
Mulberry St	1044	6.7	13.5	0.1	15
Saratoga St	191	27.4	42.2	0.1	12
Lexington St	190	38.2	47.3	0.1	6
Fayette St	188	33.8	38.5	0.0	5
Total		340.0	674.6	2.8	15

Calvert Street

PM Travel Times

Arterial Level of Service: NB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	509	5.4	10.9	0.1	17
Saratoga St	518	15.1	25.1	0.1	12
Pleasant St	221	12.2	22.5	0.1	14
Bath St	1120	1.4	8.6	0.1	26
Centre St	222	9.5	24.3	0.1	20
Monument St	224	6.7	17.1	0.1	17
Madison St	223	5.0	13.7	0.1	19
Read St	1576	1.6	10.0	0.1	26
Eager St	219	2.4	13.6	0.1	25
Chase St	220	6.1	17.8	0.1	19
Biddle St	226	6.2	14.4	0.1	18
Preston St	229	4.8	14.3	0.1	18
Mt. Royal Ave	231	17.1	24.8	0.1	10
Lanvale St	227	4.4	31.2	0.2	26
Lafayette Ave	764	2.7	12.0	0.1	22
North Ave	155	24.7	33.1	0.1	9
20th St	228	11.9	21.7	0.1	13
21st St	259	6.2	14.4	0.1	18
22nd St	230	6.5	14.8	0.1	17
23rd St	7149	1.9	10.4	0.1	25
24th St	1422	3.7	12.4	0.1	21
25th St	244	10.3	22.4	0.1	17
27th St	232	6.7	29.5	0.2	24
28th St	1168	7.7	18.3	0.1	18
29th St	233	8.3	19.4	0.1	16
31st St	262	5.6	26.5	0.2	24
32nd St	1651	12.7	21.9	0.1	13
33rd St	298	37.2	47.0	0.1	6
34th St	1748	24.1	33.0	0.1	8
University Pkwy	149	41.6	51.6	0.1	8
Total		309.6	636.9	2.8	16

APPENDIX E

TWO-WAY FLOW INITIAL ANALYSIS TRAVEL TIMES

St. Paul Street

AM Travel Times

Arterial Level of Service: NB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	190	62.8	77.8	0.0	3
Saratoga St	191	52.1	61.6	0.1	5
Mulberry St	1044	39.4	53.9	0.1	9
US 40	393	44.9	52.2	0.1	4
St. Paul St	318	54.8	64.2	0.1	5
Monument St	326	19.0	30.6	0.1	12
Madison St	335	22.5	28.9	0.1	9
Read St	330	25.0	33.5	0.1	9
Eager St	319	19.2	27.2	0.1	12
Chase St	328	30.3	38.7	0.1	9
Biddle St	348	40.7	46.6	0.1	6
Preston St	327	16.0	22.7	0.1	12
Mt. Royal Ave	350	21.2	26.9	0.1	9
Penn Station	387	2.1	10.2	0.1	31
Lanvale St	324	10.2	21.9	0.1	22
Lafayette Ave	354	7.2	13.9	0.1	19
North Ave	156	18.9	28.4	0.1	11
20th St	551	17.1	26.9	0.1	10
21st St	325	26.1	33.9	0.1	8
23rd St	323	14.2	30.5	0.1	17
24th St	851	8.4	17.3	0.1	15
25th St	878	9.6	20.9	0.1	18
27th St	478	13.8	36.2	0.2	19
28th St	1170	15.1	23.7	0.1	13
29th St	371	8.5	19.6	0.1	16
31st St	320	54.3	74.7	0.2	9
32nd St	1786	110.8	125.7	0.1	2
33rd St	351	208.8	336.6	0.1	1
	7234	103.1	120.9	0.1	2
University Pkwy	86	459.4	826.9	0.2	1
Total		1535.5	2332.9	2.8	6

Arterial Level of Service: SB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7234	835.6	1596.1	0.2	1
33rd St	351	451.8	458.6	0.1	1
32nd St	1786	691.9	1017.3	0.1	0
31st St	320	805.2	813.0	0.1	0
29th St	371	2415.8	2426.6	0.2	0
28th St	1170	2423.2	3517.2	0.1	0
27th St	478	2593.2	4119.4	0.1	0
25th St	878	3116.4	3117.8	0.2	0
24th St	851	2352.7	4371.9	0.1	0
23rd St	323	2405.6	3252.2	0.1	0
21st St	325	2188.3	2302.5	0.1	0
20th St	551	1694.0	1697.5	0.1	0
North Ave	156	1519.3	3030.0	0.1	0
Lafayette Ave	354	1624.9	1628.7	0.1	0
Lanvale St	324	1341.5	1376.4	0.1	0
Penn Station	387	1375.4	1380.5	0.1	0
	350	1501.9	1597.2	0.1	0
Preston St	327	62.6	229.4	0.1	4
Biddle St	348	89.8	96.6	0.1	3
Chase St	328	42.6	48.8	0.1	5
Eager St	319	108.4	116.9	0.1	3
Read St	330	136.9	179.8	0.1	2
Madison St	335	111.2	153.2	0.1	2
E Mt. Vernon Pl	326	127.6	176.2	0.1	2
Centre St	318	134.7	142.0	0.1	2
Franklin St	393	193.8	201.0	0.1	2
Mulberry St	1044	59.5	157.1	0.1	3
Saratoga St	191	278.1	287.2	0.1	2
Lexington St	190	172.6	178.5	0.1	2
Fayette St	188	43.3	47.6	0.0	4
Total		30897.8	39717.5	2.8	0

Calvert Street

AM Travel Times

Arterial Level of Service: NB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	509	17.0	25.1	0.0	8
Saratoga St	518	56.6	65.7	0.1	5
Pleasant St	221	55.9	155.0	0.1	5
Bath St	1120	18.7	26.8	0.1	9
Centre St	222	46.9	60.0	0.1	8
Monument St	224	59.4	124.7	0.1	4
Madison St	223	54.5	63.1	0.1	4
Read St	1576	14.2	23.5	0.1	12
Eager St	219	20.5	31.3	0.1	11
Chase St	220	29.6	40.6	0.1	8
Biddle St	226	25.0	32.9	0.1	8
Preston St	229	29.1	38.0	0.1	7
Mt. Royal Ave	231	44.9	52.3	0.1	5
Lanvale St	227	359.0	379.6	0.2	2
Lafayette Ave	764	275.4	311.5	0.1	1
North Ave	155	316.1	543.1	0.1	1
20th St	228	222.8	231.7	0.1	1
21st St	259	128.4	135.9	0.1	2
22nd St	230	43.1	50.6	0.1	5
23rd St	7149	111.1	180.5	0.1	2
24th St	1422	285.2	303.1	0.1	1
25th St	244	41.9	52.7	0.1	7
27th St	232	279.2	296.1	0.2	2
28th St	1168	41.8	50.3	0.1	6
29th St	233	205.8	215.5	0.1	1
31st St	262	706.3	724.7	0.2	1
32nd St	1651	820.9	828.0	0.1	0
33rd St	298	1115.6	1121.7	0.1	0
34th St	1748	643.8	3324.7	0.1	0
University Pkwy	150	19.6	26.5	0.1	15
Total		6088.4	9515.2	2.8	2

Arterial Level of Service: SB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
34th St	1748	325.1	3266.2	0.1	1
33rd St	298	295.1	1181.9	0.1	1
32nd St	1651	90.6	146.6	0.1	3
31st St	262	131.5	140.3	0.1	2
29th St	233	526.7	543.8	0.2	1
28th St	1168	161.0	190.8	0.1	2
27th St	232	348.2	499.2	0.1	1
25th St	244	461.1	480.9	0.2	1
24th St	1422	485.5	721.8	0.1	1
23rd St	7149	100.5	155.6	0.1	2
22nd St	230	128.0	164.7	0.1	2
21st St	259	128.0	146.4	0.1	2
20th St	228	133.3	141.2	0.1	2
North Ave	155	104.8	155.1	0.1	2
Lafayette Ave	764	11.8	22.5	0.1	14
Lanvale St	227	7.0	16.0	0.1	17
Mt. Royal Ave	231	27.4	51.7	0.2	16
Preston St	229	56.2	69.3	0.1	4
Biddle St	226	83.8	101.7	0.1	3
Chase St	220	49.6	59.6	0.1	4
Eager St	219	79.2	90.7	0.1	4
Read St	1576	86.3	121.9	0.1	4
Madison St	223	66.9	90.3	0.1	4
Monument St	224	44.9	57.6	0.1	5
Centre St	222	54.2	91.6	0.1	5
	1120	77.0	92.3	0.1	5
Pleasant St	221	47.7	55.0	0.1	4
Saratoga St	518	78.8	207.1	0.1	3
Lexington St	509	52.7	62.7	0.1	5
Fayette St	390	29.1	34.0	0.0	5
Total		4272.1	9158.5	2.8	2

St. Paul Street

PM Travel Times

Arterial Level of Service: NB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	190	186.1	298.0	0.0	1
Saratoga St	191	385.7	752.9	0.1	1
Mulberry St	1044	432.5	444.5	0.1	1
	41	232.3	238.8	0.1	1
St. Paul St (Lower)	318	161.2	516.4	0.1	2
Monument St	326	208.7	344.2	0.1	1
Madison St	335	225.7	407.8	0.1	1
Read St	330	265.9	273.9	0.1	1
Eager St	319	274.8	284.7	0.1	1
Chase St	328	278.5	288.8	0.1	1
Biddle St	348	232.5	259.8	0.1	1
Preston St	327	70.7	79.7	0.1	3
Mt. Royal Ave	350	80.3	87.6	0.1	3
	3149	52.3	66.4	0.1	5
Lanvale St	324	132.0	146.8	0.1	3
Lafayette Ave	354	93.3	107.4	0.1	3
North Ave	156	110.6	120.4	0.1	3
20th St	551	62.6	86.3	0.1	4
21st St	325	74.6	113.9	0.1	3
23rd St	323	159.0	174.8	0.1	3
24th St	851	98.6	152.5	0.1	2
25th St	878	157.3	168.5	0.1	2
27th St	478	338.3	427.9	0.2	2
28th St	1170	199.7	209.5	0.1	2
29th St	371	233.4	244.2	0.1	1
31st St	320	546.3	579.5	0.2	1
32nd St	1786	229.2	372.6	0.1	1
33rd St	351	231.9	324.8	0.1	1
	7234	169.3	197.9	0.1	2
University Pkwy	84	412.2	427.6	0.2	1
Total		6335.5	8198.0	2.8	2

Arterial Level of Service: SB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7234	59.2	80.4	0.2	7
33rd St	351	68.7	78.6	0.1	3
32nd St	1786	54.5	67.9	0.1	5
31st St	320	78.6	92.2	0.1	3
29th St	371	268.0	334.4	0.2	2
28th St	1170	234.9	280.7	0.1	1
27th St	478	272.3	281.9	0.1	1
25th St	878	823.0	941.5	0.2	1
24th St	851	498.5	637.6	0.1	1
23rd St	323	561.6	682.3	0.1	0
21st St	325	1150.7	1585.9	0.1	0
20th St	551	560.2	1069.9	0.1	0
North Ave	156	757.6	1394.6	0.1	0
Lafayette Ave	354	594.6	602.4	0.1	1
Lanvale St	324	686.5	693.7	0.1	0
	3149	978.6	2352.9	0.1	0
St. Paul St Exit	350	932.2	1469.3	0.1	0
Preston St	327	197.7	205.6	0.1	1
Biddle St	348	282.2	290.7	0.1	1
Chase St	328	118.3	167.4	0.1	2
Eager St	319	294.5	305.7	0.1	1
Read St	330	349.7	373.7	0.1	1
Madison St	335	121.3	129.5	0.1	2
E Mt. Vernon Pl	326	132.9	194.0	0.1	2
Centre St	318	112.9	124.5	0.1	2
Franklin St	41	109.9	155.3	0.1	3
Mulberry St	1044	72.0	162.0	0.1	3
Saratoga St	191	112.5	126.4	0.1	4
Lexington St	190	67.3	75.8	0.1	4
Fayette St	188	34.4	42.1	0.0	5
Total		10585.4	14998.8	2.8	1

Calvert Street

PM Travel Times

Arterial Level of Service: NB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	509	29.1	64.2	0.1	5
Saratoga St	518	51.5	95.4	0.1	5
Pleasant St	221	57.7	114.0	0.1	5
Bath St	1120	33.1	51.6	0.1	6
Centre St	222	48.4	62.3	0.1	8
Monument St	224	69.4	126.7	0.1	4
Madison St	223	79.2	133.5	0.1	3
Read St	1576	85.5	93.7	0.1	3
Eager St	219	121.0	131.6	0.1	3
Chase St	220	145.3	156.3	0.1	2
Biddle St	226	18.6	26.8	0.1	10
Preston St	229	23.1	32.4	0.1	8
Mt. Royal Ave	231	36.4	43.9	0.1	6
Lanvale St	227	141.1	166.8	0.2	5
Lafayette Ave	764	108.7	117.7	0.1	2
North Ave	155	128.0	136.1	0.1	2
20th St	228	102.3	115.9	0.1	2
21st St	259	58.1	82.6	0.1	4
22nd St	230	65.0	110.0	0.1	3
23rd St	7149	68.6	87.1	0.1	3
24th St	1422	93.9	151.3	0.1	3
25th St	244	73.0	84.9	0.1	4
27th St	232	79.3	111.9	0.2	7
28th St	1168	11.0	21.6	0.1	15
29th St	233	17.8	28.7	0.1	11
31st St	262	4.2	24.8	0.2	26
32nd St	1651	2.7	11.8	0.1	23
33rd St	298	26.1	35.8	0.1	8
34th St	1748	2.7	11.5	0.1	22
University Pkwy	149	17.3	27.2	0.1	14
Total		1798.2	2457.9	2.8	5

Arterial Level of Service: SB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
34th St	1748	19.4	32.9	0.1	17
33rd St	298	36.0	44.7	0.1	6
32nd St	1651	16.5	26.8	0.1	11
31st St	262	26.1	35.3	0.1	8
29th St	233	122.4	151.3	0.2	4
28th St	1168	75.8	88.6	0.1	4
27th St	232	103.6	113.9	0.1	3
25th St	244	165.0	196.6	0.2	4
24th St	1422	184.9	208.1	0.1	2
23rd St	7149	76.6	93.4	0.1	3
22nd St	230	111.4	130.3	0.1	2
21st St	259	111.3	183.0	0.1	2
20th St	228	133.4	203.5	0.1	2
North Ave	155	144.5	216.0	0.1	2
Lafayette Ave	764	125.5	135.7	0.1	2
Lanvale St	227	142.7	151.6	0.1	2
Mt. Royal Ave	231	570.0	591.2	0.2	1
Preston St	229	209.4	217.1	0.1	1
Biddle St	226	301.0	309.4	0.1	1
Chase St	220	205.3	484.7	0.1	1
Eager St	219	274.7	285.7	0.1	1
Read St	1576	297.8	317.8	0.1	1
Madison St	223	286.8	312.9	0.1	1
Monument St	224	239.2	319.8	0.1	1
Centre St	222	235.6	245.1	0.1	1
	1120	335.8	349.7	0.1	1
Pleasant St	221	170.9	177.8	0.1	1
Saratoga St	518	139.3	147.7	0.1	2
Lexington St	509	146.2	154.6	0.1	2
Fayette St	393	61.5	65.9	0.1	3
Total		5068.7	5991.3	2.8	2

APPENDIX F

STRATEGIES TO IMPROVE TWO-WAY OPERATIONS HCM REPORTS

Strategies to Improve Two-way Operation – HCM Reports

AM Peak Hour

10% Diversion

HCM Signalized Intersection Capacity Analysis
86: Greenway & St Paul St & University Pkwy

10/28/2015

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Future Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.93		1.00	0.99		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.97			1.00	
Flt Protected		1.00	1.00		1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3077	1286		2927	1236		1515			2988	
Flt Permitted		0.94	1.00		0.91	1.00		0.26			0.73	
Satd. Flow (perm)		2888	1286		2668	1236		398			2236	
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
Growth Factor (vph)	100%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	100%
Adj. Flow (vph)	10	345	130	20	317	80	91	28	34	396	368	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	53	0	0	53	0
Lane Group Flow (vph)	0	355	130	0	345	72	0	100	0	0	724	0
Confl. Peds. (#/hr)	2		21	21		2	29		7	7		29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Effective Green, g (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.35			0.35	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		820	365		758	351		139			784	
v/s Ratio Prot												
v/s Ratio Perm		0.12	0.10		c0.13	0.06		0.25			c0.32	
v/c Ratio		0.43	0.36		0.46	0.21		0.72			0.92	
Uniform Delay, d1		48.2	47.0		48.5	44.9		46.6			51.4	
Progression Factor		0.52	0.54		0.76	0.78		1.00			1.00	
Incremental Delay, d2		1.4	2.2		1.9	1.3		27.6			18.2	
Delay (s)		26.6	27.7		38.8	36.2		74.2			69.7	
Level of Service		C	C		D	D		E			E	
Approach Delay (s)		26.9			38.4			74.2			69.7	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	51.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	140.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NER2	SWL2	SWL	SWT	SWR
Lane Configurations					
Traffic Volume (vph)	0	29	20	0	32
Future Volume (vph)	0	29	20	0	32
Ideal Flow (vphpl)	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1	
Lane Util. Factor		1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00	0.95	
Flpb, ped/bikes		0.99	0.95	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	0.95	1.00	
Satd. Flow (prot)		1526	1468	1309	
Flt Permitted		0.95	0.95	1.00	
Satd. Flow (perm)		1526	1468	1309	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97
Growth Factor (vph)	100%	90%	90%	100%	100%
Adj. Flow (vph)	0	27	19	0	33
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	27	19	33	0
Confl. Peds. (#/hr)	21	7	21		29
Turn Type	Free	Perm	Perm	NA	
Protected Phases				4	
Permitted Phases	Free	4	4		
Actuated Green, G (s)		37.9	37.9	37.9	
Effective Green, g (s)		37.9	37.9	37.9	
Actuated g/C Ratio		0.23	0.23	0.23	
Clearance Time (s)		7.1	7.1	7.1	
Lane Grp Cap (vph)		350	337	300	
v/s Ratio Prot				c0.03	
v/s Ratio Perm		0.02	0.01		
v/c Ratio		0.08	0.06	0.11	
Uniform Delay, d1		49.8	49.6	50.2	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		0.4	0.3	0.7	
Delay (s)		50.3	49.9	51.0	
Level of Service		D	D	D	
Approach Delay (s)				50.5	
Approach LOS				D	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Future Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.88		1.00			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		1.00			0.97				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1613	1211		1603			1479				
Flt Permitted		0.97	1.00		0.96			0.96				
Satd. Flow (perm)		1574	1211		1546			1479				
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor (vph)	100%	90%	90%	90%	90%	100%	90%	90%	90%	100%	100%	100%
Adj. Flow (vph)	16	289	548	22	299	5	125	5	34	0	0	0
RTOR Reduction (vph)	0	0	228	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	305	320	0	327	0	0	158	0	0	0	0
Confl. Peds. (#/hr)	29		30	30		29	9		19	19		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		96.4	96.4		96.4			55.4				
Effective Green, g (s)		96.4	96.4		96.4			55.4				
Actuated g/C Ratio		0.58	0.58		0.58			0.34				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		919	707		903			496				
v/s Ratio Prot												
v/s Ratio Perm		0.19	c0.26		0.21			0.11				
v/c Ratio		0.33	0.45		0.36			0.32				
Uniform Delay, d1		17.7	19.4		18.1			40.8				
Progression Factor		0.66	0.92		1.00			1.00				
Incremental Delay, d2		0.7	1.6		1.1			1.7				
Delay (s)		12.4	19.4		19.2			42.4				
Level of Service		B	B		B			D				
Approach Delay (s)		16.9			19.2			42.4			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Future Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	3.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.91			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.99			1.00			0.98			0.98	
Flt Protected	0.95	1.00			1.00			0.99			1.00	
Satd. Flow (prot)	1386	2745			3947			1416			1417	
Flt Permitted	0.95	1.00			0.86			0.87			0.97	
Satd. Flow (perm)	1386	2745			3394			1242			1381	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	58	812	40	45	1081	28	33	169	27	36	521	92
RTOR Reduction (vph)	0	3	0	0	2	0	0	4	0	0	6	0
Lane Group Flow (vph)	58	849	0	0	1152	0	0	225	0	0	643	0
Confl. Peds. (#/hr)	26		40	40		26	32		38	38		32
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	13.0	51.0			35.0			49.0			49.0	
Effective Green, g (s)	13.0	51.0			35.0			49.0			49.0	
Actuated g/C Ratio	0.12	0.46			0.32			0.45			0.45	
Clearance Time (s)	3.0				5.0			5.0			5.0	
Lane Grp Cap (vph)	163	1272			1079			553			615	
v/s Ratio Prot	0.04	c0.31										
v/s Ratio Perm					c0.34			0.18			c0.47	
v/c Ratio	0.36	0.67			1.07			0.41			1.05	
Uniform Delay, d1	44.6	22.9			37.5			20.6			30.5	
Progression Factor	1.65	0.46			0.90			1.00			0.85	
Incremental Delay, d2	0.5	0.3			47.2			2.2			42.2	
Delay (s)	74.0	10.7			80.8			22.9			68.1	
Level of Service	E	B			F			C			E	
Approach Delay (s)		14.8			80.8			22.9			68.1	
Approach LOS		B			F			C			E	

Intersection Summary			
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	117.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Future Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0	3.0	4.0	4.0			5.0			5.0	
Lane Util. Factor		0.95	1.00	1.00	0.91			1.00			1.00	
Frpb, ped/bikes		1.00	0.89	1.00	1.00			0.99			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			0.98			0.98	
Flt Protected		1.00	1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)		2760	1105	1386	3962			1411			1410	
Flt Permitted		0.76	1.00	0.95	1.00			0.87			0.97	
Satd. Flow (perm)		2113	1105	1386	3962			1240			1375	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	59	854	43	48	1116	28	33	174	28	37	537	94
RTOR Reduction (vph)	0	0	32	0	3	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	913	11	48	1141	0	0	231	0	0	664	0
Confl. Peds. (#/hr)	46		33	33		46	64		55	55		64
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4				2			2		
Actuated Green, G (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Effective Green, g (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Actuated g/C Ratio		0.25	0.25	0.07	0.36			0.56			0.56	
Clearance Time (s)		3.0	3.0	4.0				5.0			5.0	
Lane Grp Cap (vph)		537	281	100	1440			698			775	
v/s Ratio Prot				0.03	c0.29							
v/s Ratio Perm		c0.43	0.01					0.19			c0.48	
v/c Ratio		1.70	0.04	0.48	0.79			0.33			0.86	
Uniform Delay, d1		41.0	30.9	49.0	31.3			12.9			20.2	
Progression Factor		1.28	3.44	1.43	1.00			1.00			0.35	
Incremental Delay, d2		322.8	0.3	1.5	0.4			1.3			9.2	
Delay (s)		375.4	106.6	71.5	31.8			14.1			16.4	
Level of Service		F	F	E	C			B			B	
Approach Delay (s)		363.3			33.4			14.1			16.4	
Approach LOS		F			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	131.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.91	1.00					1.00			1.00	
Frt		1.00	0.85					0.97			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		4237	1250					1510			6000	
Flt Permitted		0.99	1.00					1.00			0.78	
Satd. Flow (perm)		4237	1250					1510			6000	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	123	630	45	0	0	0	0	467	163	77	784	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	753	45	0	0	0	0	619	0	0	861	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		35.0	35.0					67.0			67.0	
Effective Green, g (s)		36.0	36.0					67.0			66.0	
Actuated g/C Ratio		0.33	0.33					0.61			0.60	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		1386	409					919			3600	
v/s Ratio Prot			0.04					c0.41				
v/s Ratio Perm		0.18									0.14	
v/c Ratio		0.54	0.11					0.67			0.24	
Uniform Delay, d1		30.3	25.8					14.2			10.3	
Progression Factor		0.87	1.06					0.40			0.37	
Incremental Delay, d2		1.4	0.5					0.4			0.2	
Delay (s)		27.8	27.8					6.0			4.0	
Level of Service		C	C					A			A	
Approach Delay (s)		27.8			0.0			6.0			4.0	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	113.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Future Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.97			1.00			0.96	
Flpb, ped/bikes				0.51	0.97			1.00			1.00	
Frt				1.00	0.99			1.00			0.98	
Flt Protected				0.95	1.00			0.99			1.00	
Satd. Flow (prot)				651	3711			1557			6000	
Flt Permitted				0.95	1.00			0.44			1.00	
Satd. Flow (perm)				651	3711			693			6000	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	136	647	77	58	510	0	0	786	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	82	778	0	0	568	0	0	914	0
Confl. Peds. (#/hr)	134		223	223		134	166		119	119		166
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				42.0	42.0			62.0			62.0	
Effective Green, g (s)				41.0	41.0			62.0			61.0	
Actuated g/C Ratio				0.37	0.37			0.56			0.55	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				242	1383			390			3327	
v/s Ratio Prot											0.15	
v/s Ratio Perm				0.13	0.21			c0.82				
v/c Ratio				0.34	0.56			1.46			0.27	
Uniform Delay, d1				24.8	27.4			24.0			12.9	
Progression Factor				0.36	0.35			0.72			0.42	
Incremental Delay, d2				2.8	1.2			216.0			0.1	
Delay (s)				11.8	10.8			233.2			5.6	
Level of Service				B	B			F			A	
Approach Delay (s)		0.0			10.9			233.2			5.6	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	62.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Future Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4685			1558			1518	
Flt Permitted				0.95	1.00			0.28			1.00	
Satd. Flow (perm)				2600	4685			437			1518	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	475	1644	33	52	560	0	0	645	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	394	1758	0	0	612	0	0	829	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			2			1 2	
Permitted Phases							2					
Actuated Green, G (s)				41.0	51.0			37.0			50.0	
Effective Green, g (s)				40.0	49.0			37.0			49.0	
Actuated g/C Ratio				0.36	0.45			0.34			0.45	
Clearance Time (s)				3.0				3.0				
Lane Grp Cap (vph)				945	2257			146			676	
v/s Ratio Prot				0.15	c0.28						c0.55	
v/s Ratio Perm					0.09			c1.40				
v/c Ratio				0.42	0.78			4.19			1.23	
Uniform Delay, d1				26.3	25.9			36.5			30.5	
Progression Factor				0.19	0.22			1.00			0.76	
Incremental Delay, d2				0.7	1.4			1452.3			103.1	
Delay (s)				5.8	7.1			1488.8			126.4	
Level of Service				A	A			F			F	
Approach Delay (s)		0.0			6.9			1488.8			126.4	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	286.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.21		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL
Lane Configurations									
Traffic Volume (vph)	29	54	25	614	35	25	150	42	860
Future Volume (vph)	29	54	25	614	35	25	150	42	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		6.0			4.0		4.0
Lane Util. Factor		0.95		1.00			1.00		*0.91
Frt		0.97		0.99			0.97		0.99
Flt Protected		0.99		1.00			0.99		1.00
Satd. Flow (prot)		2832		1552			1511		4500
Flt Permitted		0.99		1.00			0.31		1.00
Satd. Flow (perm)		2832		1552			474		4500
Peak-hour factor, PHF	0.86	0.92	0.92	1.00	1.00	0.94	0.94	0.94	0.82
Growth Factor (vph)	100%	100%	100%	90%	100%	100%	90%	100%	90%
Adj. Flow (vph)	34	59	27	553	35	27	144	45	944
RTOR Reduction (vph)	0	0	0	50	0	0	0	0	0
Lane Group Flow (vph)	0	120	0	538	0	0	216	0	944
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0
Turn Type	Perm	NA		NA		Perm	NA		Prot
Protected Phases		4		3			3		2
Permitted Phases	4					3			
Actuated Green, G (s)		25.0		19.0			19.0		51.0
Effective Green, g (s)		24.0		19.0			21.0		53.0
Actuated g/C Ratio		0.22		0.17			0.19		0.48
Clearance Time (s)		3.0		6.0			6.0		6.0
Lane Grp Cap (vph)		617		268			90		2168
v/s Ratio Prot				0.35					c0.21
v/s Ratio Perm		0.04					c0.46		
v/c Ratio		0.19		2.01			2.40		0.44
Uniform Delay, d1		35.1		45.5			44.5		18.7
Progression Factor		1.01		0.74			0.59		0.48
Incremental Delay, d2		0.7		455.2			660.1		0.6
Delay (s)		36.3		488.8			686.3		9.6
Level of Service		D		F			F		A
Approach Delay (s)		36.3		488.8			686.3		9.6
Approach LOS		D		F			F		A

Intersection Summary			
HCM 2000 Control Delay	240.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Future Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1530			2951			1553			1549	
Flt Permitted		0.76			0.95			0.96			0.98	
Satd. Flow (perm)		1178			2797			1494			1523	
Peak-hour factor, PHF	1.00	0.84	0.84	0.79	0.79	0.79	1.00	1.00	1.00	0.91	0.91	0.91
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	70	162	15	13	511	23	36	399	12	11	247	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	247	0	0	547	0	0	447	0	0	274	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		57.0			57.0			47.0			47.0	
Effective Green, g (s)		56.0			56.0			47.0			46.0	
Actuated g/C Ratio		0.51			0.51			0.43			0.42	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		599			1423			638			636	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.20			c0.30			0.18	
v/c Ratio		0.41			0.38			0.70			0.43	
Uniform Delay, d1		16.8			16.5			25.7			22.7	
Progression Factor		0.37			0.36			1.98			0.95	
Incremental Delay, d2		2.0			0.7			0.6			0.2	
Delay (s)		8.1			6.6			51.6			21.8	
Level of Service		A			A			D			C	
Approach Delay (s)		8.1			6.6			51.6			21.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	840	59	0	0	0	0	261	222	47	799	0
Future Volume (vph)	65	840	59	0	0	0	0	261	222	47	799	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frpb, ped/bikes	1.00	0.99						0.97			1.00	
Flpb, ped/bikes	0.91	1.00						1.00			1.00	
Frt	1.00	0.99						0.93			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1355	4192						3500			1558	
Flt Permitted	0.95	1.00						1.00			0.95	
Satd. Flow (perm)	1355	4192						3500			1488	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	68	875	61	0	0	0	0	245	231	49	749	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	68	936	0	0	0	0	0	476	0	0	798	0
Confl. Peds. (#/hr)	42		57	57		42	31		54	54		31
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	30.0	30.0						42.0			42.0	
Effective Green, g (s)	31.0	31.0						41.0			42.0	
Actuated g/C Ratio	0.39	0.39						0.51			0.52	
Clearance Time (s)	5.0	5.0						3.0			3.0	
Lane Grp Cap (vph)	525	1624						1793			781	
v/s Ratio Prot		c0.22						0.14				
v/s Ratio Perm	0.05										c0.54	
v/c Ratio	0.13	0.58						0.27			1.02	
Uniform Delay, d1	15.8	19.3						11.0			19.0	
Progression Factor	1.24	1.34						1.00			0.48	
Incremental Delay, d2	0.3	1.0						0.4			26.6	
Delay (s)	19.9	27.0						11.4			35.6	
Level of Service	B	C						B			D	
Approach Delay (s)		26.5			0.0			11.4			35.6	
Approach LOS		C			A			B			D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	408	349	0	0	0	0	205	27	91	451	0
Future Volume (vph)	25	408	349	0	0	0	0	205	27	91	451	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.93						0.98			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2703						1533			1548	
Flt Permitted		1.00						1.00			0.90	
Satd. Flow (perm)		2703						1533			1403	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	27	443	379	0	0	0	0	201	29	99	441	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	849	0	0	0	0	0	230	0	0	540	0
Confl. Peds. (#/hr)	19		16	16		19	42		13	13		42
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		37.0						37.0			37.0	
Effective Green, g (s)		36.0						36.0			37.0	
Actuated g/C Ratio		0.45						0.45			0.46	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1216						689			648	
v/s Ratio Prot								0.15				
v/s Ratio Perm		0.31									c0.38	
v/c Ratio		0.70						0.33			0.83	
Uniform Delay, d1		17.6						14.2			18.8	
Progression Factor		0.77						0.51			0.66	
Incremental Delay, d2		3.2						1.3			8.8	
Delay (s)		16.8						8.6			21.2	
Level of Service		B						A			C	
Approach Delay (s)		16.8			0.0			8.6			21.2	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Future Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3124			1639			1576	
Flt Permitted					1.00			0.50			1.00	
Satd. Flow (perm)					3124			826			1576	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	82	1161	7	38	169	0	0	493	179
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	1249	0	0	207	0	0	660	0
Confl. Peds. (#/hr)	14		7	7		14	19		9	9		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					52.4			46.4			46.4	
Effective Green, g (s)					52.4			46.4			46.4	
Actuated g/C Ratio					0.48			0.42			0.42	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1488			348			664	
v/s Ratio Prot											c0.42	
v/s Ratio Perm					0.40			0.25				
v/c Ratio					0.84			0.59			0.99	
Uniform Delay, d1					25.1			24.5			31.7	
Progression Factor					0.59			0.69			1.59	
Incremental Delay, d2					5.5			7.0			27.0	
Delay (s)					20.3			24.1			77.3	
Level of Service					C			C			E	
Approach Delay (s)		0.0			20.3			24.1			77.3	
Approach LOS		A			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Future Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3120			3115			1605			1634	
Flt Permitted		0.93			0.91			0.92			0.98	
Satd. Flow (perm)		2896			2854			1480			1606	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	21	568	23	26	717	37	18	115	29	29	563	43
RTOR Reduction (vph)	0	3	0	0	3	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	609	0	0	777	0	0	155	0	0	633	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		49.8			36.4			43.9			43.9	
Effective Green, g (s)		49.8			36.4			43.9			43.9	
Actuated g/C Ratio		0.45			0.33			0.40			0.40	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1338			944			590			640	
v/s Ratio Prot		c0.06										
v/s Ratio Perm		0.15			c0.27			0.10			c0.39	
v/c Ratio		0.46			0.82			0.26			0.99	
Uniform Delay, d1		20.8			33.8			22.2			32.8	
Progression Factor		0.41			1.34			0.37			0.61	
Incremental Delay, d2		0.9			7.6			1.1			23.5	
Delay (s)		9.5			53.1			9.4			43.6	
Level of Service		A			D			A			D	
Approach Delay (s)		9.5			53.1			9.4			43.6	
Approach LOS		A			D			A			D	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Future Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6			6.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.98			1.00			1.00	
Frt		1.00			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3122			2991			1581			1618	
Flt Permitted		0.84			0.81			0.97			0.99	
Satd. Flow (perm)		2649			2456			1532			1610	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	25	258	0	142	629	75	9	138	49	11	578	87
RTOR Reduction (vph)	0	0	0	0	7	0	0	11	0	0	5	0
Lane Group Flow (vph)	0	283	0	0	839	0	0	185	0	0	671	0
Confl. Peds. (#/hr)	36		47	47		36	13		21	21		13
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		58.4			58.4			38.9			38.9	
Effective Green, g (s)		58.4			58.4			38.9			38.9	
Actuated g/C Ratio		0.53			0.53			0.35			0.35	
Clearance Time (s)		6.6			6.6			6.1			6.1	
Lane Grp Cap (vph)		1406			1303			541			569	
v/s Ratio Prot												
v/s Ratio Perm		0.11			c0.34			0.12			c0.42	
v/c Ratio		0.20			0.64			0.34			1.18	
Uniform Delay, d1		13.6			18.4			26.1			35.5	
Progression Factor		0.66			0.10			1.58			0.49	
Incremental Delay, d2		0.3			0.2			1.7			94.6	
Delay (s)		9.3			2.0			43.1			112.1	
Level of Service		A			A			D			F	
Approach Delay (s)		9.3			2.0			43.1			112.1	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	44.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL2	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	65	744	60	261	222	48	503	295
Future Volume (vph)	65	744	60	261	222	48	503	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		5.0				4.0
Lane Util. Factor		0.86		1.00				1.00
Frpb, ped/bikes		0.99		0.94				1.00
Flpb, ped/bikes		0.99		1.00				1.00
Frt		0.99		0.93				1.00
Flt Protected		1.00		1.00				0.97
Satd. Flow (prot)		5210		1376				3000
Flt Permitted		1.00		1.00				0.23
Satd. Flow (perm)		5210		1376				3000
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (vph)	100%	100%	100%	90%	100%	100%	90%	90%
Adj. Flow (vph)	68	783	63	247	234	51	477	279
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	914	0	481	0	0	0	807
Confl. Peds. (#/hr)	97		59		115	115		
Turn Type	Perm	NA		NA		custom	Prot	NA
Protected Phases		4		3			2	2 3
Permitted Phases	4					2		
Actuated Green, G (s)		22.0		25.0				43.0
Effective Green, g (s)		23.0		25.0				45.0
Actuated g/C Ratio		0.29		0.31				0.56
Clearance Time (s)		5.0		5.0				
Lane Grp Cap (vph)		1497		430				1837
v/s Ratio Prot				c0.35				c0.10
v/s Ratio Perm		0.18						0.16
v/c Ratio		0.61		1.12				0.44
Uniform Delay, d1		24.6		27.5				10.2
Progression Factor		1.42		1.00				2.11
Incremental Delay, d2		1.4		79.8				0.7
Delay (s)		36.3		107.3				22.1
Level of Service		D		F				C
Approach Delay (s)		36.3		107.3				22.1
Approach LOS		D		F				C

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Future Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		2899						1531			1524	
Flt Permitted		1.00						1.00			0.74	
Satd. Flow (perm)		2899						1531			6000	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	26	353	31	0	0	0	0	192	27	434	728	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	403	0	0	0	0	0	213	0	0	1162	0
Confl. Peds. (#/hr)	28		40	40		28	40		25	25		40
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1123						803			3075	
v/s Ratio Prot								0.14				
v/s Ratio Perm		0.14									c0.19	
v/c Ratio		0.36						0.27			0.38	
Uniform Delay, d1		17.4						10.5			11.8	
Progression Factor		0.58						0.53			0.13	
Incremental Delay, d2		0.8						0.8			0.3	
Delay (s)		11.0						6.3			1.9	
Level of Service		B						A			A	
Approach Delay (s)		11.0			0.0			6.3			1.9	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Future Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			7.1			7.1	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.79	1.00	0.99			0.95			1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.90	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.98			0.96			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1550	3143	1106	1415	1611			1503			1613	
Flt Permitted	0.35	1.00	1.00	0.65	1.00			0.97			0.99	
Satd. Flow (perm)	578	3143	1106	968	1611			1458			1605	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	29	161	26	139	505	80	9	134	63	11	567	85
RTOR Reduction (vph)	0	0	20	0	5	0	0	14	0	0	5	0
Lane Group Flow (vph)	29	161	6	139	580	0	0	192	0	0	658	0
Confl. Peds. (#/hr)	19		111	111		19	20		112	112		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Effective Green, g (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Actuated g/C Ratio	0.25	0.25	0.25	0.39	0.43			0.44			0.44	
Clearance Time (s)	6.6	6.6	6.6	4.6				7.1			7.1	
Lane Grp Cap (vph)	143	782	275	439	694			648			713	
v/s Ratio Prot		0.05		0.04	c0.36							
v/s Ratio Perm	0.05		0.01	0.08				0.13			c0.41	
v/c Ratio	0.20	0.21	0.02	0.32	0.84			0.30			0.92	
Uniform Delay, d1	32.7	32.7	31.2	22.8	27.8			19.5			28.8	
Progression Factor	0.64	0.61	1.00	1.22	1.00			0.77			1.00	
Incremental Delay, d2	3.1	0.6	0.2	1.3	8.2			1.2			19.4	
Delay (s)	24.1	20.4	31.4	29.0	36.2			16.2			48.2	
Level of Service	C	C	C	C	D			B			D	
Approach Delay (s)		22.2			34.8			16.2			48.2	
Approach LOS		C			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Future Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.97	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3101			1639			1546	
Flt Permitted					1.00			0.67			1.00	
Satd. Flow (perm)					3101			1103			1546	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	80	1275	6	37	166	0	0	489	177
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1361	0	0	203	0	0	661	0
Confl. Peds. (#/hr)	56		53	53		56	61		42	42		61
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			54.0			54.0	
Effective Green, g (s)					44.0			54.0			54.0	
Actuated g/C Ratio					0.40			0.49			0.49	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1240			541			758	
v/s Ratio Prot											c0.43	
v/s Ratio Perm					0.44			0.18				
v/c Ratio					1.10			0.38			0.87	
Uniform Delay, d1					33.0			17.5			24.9	
Progression Factor					0.45			0.55			0.39	
Incremental Delay, d2					50.9			1.9			10.0	
Delay (s)					65.8			11.6			19.6	
Level of Service					E			B			B	
Approach Delay (s)		0.0			65.8			11.6			19.6	
Approach LOS		A			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Future Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.97			1.00			0.96	
Flpb, ped/bikes					0.93			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					3898			4800			1534	
Flt Permitted					0.99			0.28			1.00	
Satd. Flow (perm)					3898			4800			1534	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	138	807	78	57	516	0	0	793	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1023	0	0	573	0	0	916	0
Confl. Peds. (#/hr)	219		297	297		219	186		264	264		186
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					45.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1630			2443			794	
v/s Ratio Prot											c0.60	
v/s Ratio Perm					0.26			0.12				
v/c Ratio					0.63			0.23			1.15	
Uniform Delay, d1					25.2			15.1			26.5	
Progression Factor					1.04			0.72			0.50	
Incremental Delay, d2					1.8			0.2			75.9	
Delay (s)					28.0			11.1			89.1	
Level of Service					C			B			F	
Approach Delay (s)		0.0			28.0			11.1			89.1	
Approach LOS		A			C			B			F	

Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Future Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frt	1.00	0.96						0.99			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2862						4800			1563	
Flt Permitted	0.95	1.00						1.00			0.98	
Satd. Flow (perm)	1486	2862						4800			1529	
Peak-hour factor, PHF	0.91	0.91	0.91	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	33	82	27	0	0	0	0	553	35	25	867	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	33	109	0	0	0	0	0	588	0	0	892	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	35.0	35.0						69.0			69.0	
Effective Green, g (s)	34.0	34.0						68.0			69.0	
Actuated g/C Ratio	0.31	0.31						0.62			0.63	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	459	884						2967			959	
v/s Ratio Prot		c0.04						0.12				
v/s Ratio Perm	0.02										c0.58	
v/c Ratio	0.07	0.12						0.20			0.93	
Uniform Delay, d1	26.9	27.3						9.1			18.3	
Progression Factor	0.35	0.34						0.40			0.38	
Incremental Delay, d2	0.1	0.1						0.1			2.1	
Delay (s)	9.4	9.3						3.8			9.0	
Level of Service	A	A						A			A	
Approach Delay (s)		9.3			0.0			3.8			9.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.6%	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)	122	743	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	122	743	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frt	1.00	0.99						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	4236						4800			1558	
Flt Permitted	0.95	1.00						1.00			0.71	
Satd. Flow (perm)	1486	4236						4800			1118	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	128	782	46	0	0	0	0	481	168	79	809	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	128	828	0	0	0	0	0	649	0	0	888	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	42.0	42.0						62.0			62.0	
Effective Green, g (s)	41.0	41.0						61.0			62.0	
Actuated g/C Ratio	0.37	0.37						0.55			0.56	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	553	1578						2661			630	
v/s Ratio Prot		c0.20						0.14				
v/s Ratio Perm	0.09										c0.79	
v/c Ratio	0.23	0.52						0.24			1.41	
Uniform Delay, d1	23.7	26.9						12.6			24.0	
Progression Factor	0.59	0.53						0.33			0.46	
Incremental Delay, d2	0.9	1.1						0.2			185.2	
Delay (s)	14.8	15.4						4.4			196.3	
Level of Service	B	B						A			F	
Approach Delay (s)		15.4			0.0			4.4			196.3	
Approach LOS		B			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	77.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Future Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1471			2757			1544			1492	
Flt Permitted		0.63			0.83			0.85			0.98	
Satd. Flow (perm)		956			2325			1316			1463	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	74	62	12	109	352	19	39	416	12	31	834	206
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	150	0	0	480	0	0	468	0	0	1063	0
Confl. Peds. (#/hr)	39		97	97		39	42		57	57		42
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	3 4			4			2			2		
Actuated Green, G (s)		44.0			29.0			57.0			57.0	
Effective Green, g (s)		42.0			28.0			56.0			57.0	
Actuated g/C Ratio		0.38			0.25			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		430			591			669			758	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.09			c0.21			0.36			c0.73	
v/c Ratio		0.35			0.81			0.70			1.40	
Uniform Delay, d1		24.2			38.5			20.6			26.5	
Progression Factor		0.67			1.09			0.46			0.80	
Incremental Delay, d2		2.1			10.0			5.9			186.6	
Delay (s)		18.3			52.0			15.5			207.8	
Level of Service		B			D			B			F	
Approach Delay (s)		18.3			52.0			15.5			207.8	
Approach LOS		B			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	118.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	450	1913	31	49	592	0	0	681	175
Future Volume (vph)	0	0	0	450	1913	31	49	592	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					7500			1558			1518	
Flt Permitted					0.99			0.46			1.00	
Satd. Flow (perm)					7500			717			1518	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	474	2014	33	52	561	0	0	645	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2521	0	0	613	0	0	829	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					47.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3136			365			786	
v/s Ratio Prot											0.55	
v/s Ratio Perm					0.34			c0.86				
v/c Ratio					0.80			1.68			1.05	
Uniform Delay, d1					28.0			27.0			26.5	
Progression Factor					0.46			0.40			0.82	
Incremental Delay, d2					1.9			312.8			38.8	
Delay (s)					14.7			323.6			60.7	
Level of Service					B			F			E	
Approach Delay (s)		0.0			14.7			323.6			60.7	
Approach LOS		A			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	72.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Future Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3111			3097			1593			1628	
Flt Permitted		0.91			0.91			0.92			0.98	
Satd. Flow (perm)		2836			2809			1473			1602	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	22	620	24	28	687	38	17	118	30	29	574	44
RTOR Reduction (vph)	0	2	0	0	4	0	0	7	0	0	3	0
Lane Group Flow (vph)	0	664	0	0	749	0	0	158	0	0	644	0
Confl. Peds. (#/hr)	26		16	16		26	27		19	19		27
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		43.9			43.9			53.9			53.9	
Effective Green, g (s)		43.9			43.9			53.9			53.9	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1131			1121			721			784	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			0.11			c0.40	
v/c Ratio		0.59			0.67			0.22			0.82	
Uniform Delay, d1		25.9			27.1			16.0			24.0	
Progression Factor		0.41			0.50			0.92			0.34	
Incremental Delay, d2		2.1			1.7			0.7			6.8	
Delay (s)		12.6			15.2			15.5			15.0	
Level of Service		B			B			B			B	
Approach Delay (s)		12.6			15.2			15.5			15.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
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)	0	127	64	95	436	0	0	0	0	20	728	116
Future Volume (vph)	0	127	64	95	436	0	0	0	0	20	728	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.98			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.95			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1462			2927						4500	
Flt Permitted		1.00			0.83						1.00	
Satd. Flow (perm)		1462			2453						4140	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	90%	100%
Adj. Flow (vph)	0	131	66	98	449	0	0	0	0	21	675	120
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	197	0	0	547	0	0	0	0	0	816	0
Confl. Peds. (#/hr)	38		39	39		38	3		90	90		3
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		45.0			45.0						59.0	
Effective Green, g (s)		44.0			44.0						58.0	
Actuated g/C Ratio		0.40			0.40						0.53	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		584			981						2182	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.22						c0.20	
v/c Ratio		0.34			0.56						0.37	
Uniform Delay, d1		22.9			25.5						15.3	
Progression Factor		0.44			0.65						0.80	
Incremental Delay, d2		1.5			0.2						0.5	
Delay (s)		11.6			16.7						12.8	
Level of Service		B			B						B	
Approach Delay (s)		11.6			16.7			0.0			12.8	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

20% Diversion

HCM Signalized Intersection Capacity Analysis
86: Greenway & St Paul St & University Pkwy

10/28/2015

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Future Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.93		1.00	0.99		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.97			1.00	
Flt Protected		1.00	1.00		1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3076	1286		2927	1236		1514			2987	
Flt Permitted		0.94	1.00		0.91	1.00		0.33			0.74	
Satd. Flow (perm)		2887	1286		2683	1236		511			2262	
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
Growth Factor (vph)	100%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	100%
Adj. Flow (vph)	10	307	115	18	282	71	81	25	31	352	327	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	53	0	0	53	0
Lane Group Flow (vph)	0	317	115	0	307	64	0	84	0	0	639	0
Confl. Peds. (#/hr)	2		21	21		2	29		7	7		29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Effective Green, g (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.35			0.35	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		820	365		762	351		179			793	
v/s Ratio Prot												
v/s Ratio Perm		0.11	0.09		c0.11	0.05		0.17			c0.28	
v/c Ratio		0.39	0.32		0.40	0.18		0.47			0.81	
Uniform Delay, d1		47.5	46.4		47.7	44.6		41.7			48.5	
Progression Factor		0.53	0.55		0.77	0.79		1.00			1.00	
Incremental Delay, d2		1.1	1.9		1.5	1.1		8.7			8.6	
Delay (s)		26.3	27.3		38.3	36.3		50.3			57.1	
Level of Service		C	C		D	D		D			E	
Approach Delay (s)		26.6			37.9			50.3			57.1	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	44.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	138.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NER2	SWL2	SWL	SWT	SWR
Lane Configurations					
Traffic Volume (vph)	0	29	20	0	32
Future Volume (vph)	0	29	20	0	32
Ideal Flow (vphpl)	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1	
Lane Util. Factor		1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00	0.95	
Flpb, ped/bikes		0.99	0.95	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	0.95	1.00	
Satd. Flow (prot)		1526	1468	1309	
Flt Permitted		0.95	0.95	1.00	
Satd. Flow (perm)		1526	1468	1309	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97
Growth Factor (vph)	100%	80%	80%	100%	100%
Adj. Flow (vph)	0	24	16	0	33
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	24	16	33	0
Confl. Peds. (#/hr)	21	7	21		29
Turn Type	Free	Perm	Perm	NA	
Protected Phases				4	
Permitted Phases	Free	4	4		
Actuated Green, G (s)		37.9	37.9	37.9	
Effective Green, g (s)		37.9	37.9	37.9	
Actuated g/C Ratio		0.23	0.23	0.23	
Clearance Time (s)		7.1	7.1	7.1	
Lane Grp Cap (vph)		350	337	300	
v/s Ratio Prot				c0.03	
v/s Ratio Perm		0.02	0.01		
v/c Ratio		0.07	0.05	0.11	
Uniform Delay, d1		49.7	49.5	50.2	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		0.4	0.3	0.7	
Delay (s)		50.1	49.8	51.0	
Level of Service		D	D	D	
Approach Delay (s)				50.4	
Approach LOS				D	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Future Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.88		1.00			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		1.00			0.97				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1611	1211		1602			1480				
Flt Permitted		0.97	1.00		0.97			0.96				
Satd. Flow (perm)		1571	1211		1553			1480				
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor (vph)	100%	80%	80%	80%	80%	100%	80%	80%	80%	100%	100%	100%
Adj. Flow (vph)	16	257	487	20	265	5	111	5	30	0	0	0
RTOR Reduction (vph)	0	0	202	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	273	285	0	290	0	0	141	0	0	0	0
Confl. Peds. (#/hr)	29		30	30		29	9		19	19		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		96.4	96.4		96.4			55.4				
Effective Green, g (s)		96.4	96.4		96.4			55.4				
Actuated g/C Ratio		0.58	0.58		0.58			0.34				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		917	707		907			496				
v/s Ratio Prot												
v/s Ratio Perm		0.17	c0.23		0.19			0.10				
v/c Ratio		0.30	0.40		0.32			0.28				
Uniform Delay, d1		17.3	18.6		17.5			40.2				
Progression Factor		0.58	0.68		1.00			1.00				
Incremental Delay, d2		0.7	1.4		0.9			1.4				
Delay (s)		10.6	14.1		18.5			41.7				
Level of Service		B	B		B			D				
Approach Delay (s)		12.9			18.5			41.7			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
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)	56	788	39	44	1049	27	32	182	26	35	561	89
Future Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	3.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.91			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.99			1.00			0.98			0.98	
Flt Protected	0.95	1.00			1.00			0.99			1.00	
Satd. Flow (prot)	1386	2745			3947			1412			1413	
Flt Permitted	0.95	1.00			0.86			0.88			0.97	
Satd. Flow (perm)	1386	2745			3394			1247			1376	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	58	812	40	45	1081	28	33	150	27	36	463	92
RTOR Reduction (vph)	0	3	0	0	2	0	0	5	0	0	6	0
Lane Group Flow (vph)	58	849	0	0	1152	0	0	205	0	0	585	0
Confl. Peds. (#/hr)	26		40	40		26	32		38	38		32
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	13.0	51.0			35.0			49.0			49.0	
Effective Green, g (s)	13.0	51.0			35.0			49.0			49.0	
Actuated g/C Ratio	0.12	0.46			0.32			0.45			0.45	
Clearance Time (s)	3.0				5.0			5.0			5.0	
Lane Grp Cap (vph)	163	1272			1079			555			612	
v/s Ratio Prot	0.04	c0.31										
v/s Ratio Perm					c0.34			0.16			c0.43	
v/c Ratio	0.36	0.67			1.07			0.37			0.96	
Uniform Delay, d1	44.6	22.9			37.5			20.2			29.5	
Progression Factor	1.65	0.46			0.90			1.00			0.86	
Incremental Delay, d2	0.5	0.3			47.2			1.9			20.5	
Delay (s)	74.1	10.8			80.8			22.1			45.7	
Level of Service	E	B			F			C			D	
Approach Delay (s)		14.8			80.8			22.1			45.7	
Approach LOS		B			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	48.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Future Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0	3.0	4.0	4.0			5.0			5.0	
Lane Util. Factor		0.95	1.00	1.00	0.91			1.00			1.00	
Frpb, ped/bikes		1.00	0.89	1.00	1.00			0.99			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			0.98			0.98	
Flt Protected		1.00	1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)		2760	1105	1386	3962			1407			1405	
Flt Permitted		0.76	1.00	0.95	1.00			0.87			0.97	
Satd. Flow (perm)		2113	1105	1386	3962			1238			1369	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	59	854	43	48	1116	28	33	155	28	37	477	94
RTOR Reduction (vph)	0	0	32	0	3	0	0	5	0	0	4	0
Lane Group Flow (vph)	0	913	11	48	1141	0	0	211	0	0	604	0
Confl. Peds. (#/hr)	46		33	33		46	64		55	55		64
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4				2			2		
Actuated Green, G (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Effective Green, g (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Actuated g/C Ratio		0.25	0.25	0.07	0.36			0.56			0.56	
Clearance Time (s)		3.0	3.0	4.0				5.0			5.0	
Lane Grp Cap (vph)		537	281	100	1440			697			771	
v/s Ratio Prot				0.03	c0.29							
v/s Ratio Perm		c0.43	0.01					0.17			c0.44	
v/c Ratio		1.70	0.04	0.48	0.79			0.30			0.78	
Uniform Delay, d1		41.0	30.9	49.0	31.3			12.6			18.7	
Progression Factor		1.28	3.44	1.43	1.00			1.00			0.31	
Incremental Delay, d2		322.8	0.3	1.5	0.4			1.1			6.1	
Delay (s)		375.4	106.6	71.6	31.8			13.7			11.9	
Level of Service		F	F	E	C			B			B	
Approach Delay (s)		363.3			33.4			13.7			11.9	
Approach LOS		F			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	133.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.91	1.00					1.00			1.00	
Frt		1.00	0.85					0.96			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		4237	1250					1505			6000	
Flt Permitted		0.99	1.00					1.00			0.81	
Satd. Flow (perm)		4237	1250					1505			6000	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	123	630	45	0	0	0	0	415	163	77	697	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	753	45	0	0	0	0	565	0	0	774	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		35.0	35.0					67.0			67.0	
Effective Green, g (s)		36.0	36.0					67.0			66.0	
Actuated g/C Ratio		0.33	0.33					0.61			0.60	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		1386	409					916			3600	
v/s Ratio Prot			0.04					c0.38				
v/s Ratio Perm		0.18									0.13	
v/c Ratio		0.54	0.11					0.62			0.21	
Uniform Delay, d1		30.3	25.8					13.5			10.1	
Progression Factor		0.87	1.06					0.41			0.40	
Incremental Delay, d2		1.4	0.5					0.3			0.1	
Delay (s)		27.8	27.8					5.8			4.1	
Level of Service		C	C					A			A	
Approach Delay (s)		27.8			0.0			5.8			4.1	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Future Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.97			1.00			0.96	
Flpb, ped/bikes				0.51	0.97			1.00			1.00	
Frt				1.00	0.99			1.00			0.98	
Flt Protected				0.95	1.00			0.99			1.00	
Satd. Flow (prot)				651	3711			1556			6000	
Flt Permitted				0.95	1.00			0.56			1.00	
Satd. Flow (perm)				651	3711			874			6000	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	136	647	77	58	454	0	0	699	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	82	778	0	0	512	0	0	827	0
Confl. Peds. (#/hr)	134		223	223		134	166		119	119		166
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				42.0	42.0			62.0			62.0	
Effective Green, g (s)				41.0	41.0			62.0			61.0	
Actuated g/C Ratio				0.37	0.37			0.56			0.55	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				242	1383			492			3327	
v/s Ratio Prot											0.14	
v/s Ratio Perm				0.13	0.21			c0.59				
v/c Ratio				0.34	0.56			1.04			0.25	
Uniform Delay, d1				24.8	27.4			24.0			12.7	
Progression Factor				0.37	0.35			0.76			0.43	
Incremental Delay, d2				2.8	1.2			47.3			0.1	
Delay (s)				11.9	10.9			65.5			5.6	
Level of Service				B	B			E			A	
Approach Delay (s)		0.0			11.0			65.5			5.6	
Approach LOS		A			B			E			A	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Future Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4685			1557			1513	
Flt Permitted				0.95	1.00			0.46			1.00	
Satd. Flow (perm)				2600	4685			715			1513	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	475	1644	33	52	498	0	0	573	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	394	1758	0	0	550	0	0	757	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			2			1 2	
Permitted Phases							2					
Actuated Green, G (s)				41.0	51.0			37.0			50.0	
Effective Green, g (s)				40.0	49.0			37.0			49.0	
Actuated g/C Ratio				0.36	0.45			0.34			0.45	
Clearance Time (s)				3.0				3.0				
Lane Grp Cap (vph)				945	2257			240			673	
v/s Ratio Prot				0.15	c0.28						c0.50	
v/s Ratio Perm					0.09			c0.77				
v/c Ratio				0.42	0.78			2.29			1.12	
Uniform Delay, d1				26.3	25.9			36.5			30.5	
Progression Factor				0.19	0.22			1.00			0.76	
Incremental Delay, d2				0.7	1.5			594.3			58.3	
Delay (s)				5.8	7.2			630.8			81.3	
Level of Service				A	A			F			F	
Approach Delay (s)		0.0			7.0			630.8			81.3	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	122.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL
Lane Configurations									
Traffic Volume (vph)	29	54	25	614	35	25	150	42	860
Future Volume (vph)	29	54	25	614	35	25	150	42	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		6.0			4.0		4.0
Lane Util. Factor		0.95		1.00			1.00		*0.91
Frt		0.97		0.99			0.97		0.99
Flt Protected		0.99		1.00			0.99		1.00
Satd. Flow (prot)		2832		1551			1507		4500
Flt Permitted		0.99		1.00			0.31		1.00
Satd. Flow (perm)		2832		1551			474		4500
Peak-hour factor, PHF	0.86	0.92	0.92	1.00	1.00	0.94	0.94	0.94	0.82
Growth Factor (vph)	100%	100%	100%	80%	100%	100%	80%	100%	80%
Adj. Flow (vph)	34	59	27	491	35	27	128	45	839
RTOR Reduction (vph)	0	0	0	50	0	0	0	0	0
Lane Group Flow (vph)	0	120	0	476	0	0	200	0	839
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0
Turn Type	Perm	NA		NA		Perm	NA		Prot
Protected Phases		4		3			3		2
Permitted Phases	4					3			
Actuated Green, G (s)		25.0		19.0			19.0		51.0
Effective Green, g (s)		24.0		19.0			21.0		53.0
Actuated g/C Ratio		0.22		0.17			0.19		0.48
Clearance Time (s)		3.0		6.0			6.0		6.0
Lane Grp Cap (vph)		617		267			90		2168
v/s Ratio Prot				0.31					c0.19
v/s Ratio Perm		0.04					c0.42		
v/c Ratio		0.19		1.78			2.22		0.39
Uniform Delay, d1		35.1		45.5			44.5		18.2
Progression Factor		1.01		0.79			0.61		0.49
Incremental Delay, d2		0.7		357.2			582.2		0.5
Delay (s)		36.3		393.1			609.4		9.5
Level of Service		D		F			F		A
Approach Delay (s)		36.3		393.1			609.4		9.5
Approach LOS		D		F			F		A

Intersection Summary			
HCM 2000 Control Delay	202.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Future Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1530			2951			1551			1548	
Flt Permitted		0.76			0.95			0.96			0.98	
Satd. Flow (perm)		1178			2797			1491			1521	
Peak-hour factor, PHF	1.00	0.84	0.84	0.79	0.79	0.79	1.00	1.00	1.00	0.91	0.91	0.91
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	70	162	15	13	511	23	36	354	12	11	220	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	247	0	0	547	0	0	402	0	0	247	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		57.0			57.0			47.0			47.0	
Effective Green, g (s)		56.0			56.0			47.0			46.0	
Actuated g/C Ratio		0.51			0.51			0.43			0.42	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		599			1423			637			636	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.20			c0.27			0.16	
v/c Ratio		0.41			0.38			0.63			0.39	
Uniform Delay, d1		16.8			16.5			24.7			22.2	
Progression Factor		0.37			0.36			1.98			0.96	
Incremental Delay, d2		2.0			0.7			0.4			0.2	
Delay (s)		8.1			6.6			49.4			21.5	
Level of Service		A			A			D			C	
Approach Delay (s)		8.1			6.6			49.4			21.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	840	59	0	0	0	0	261	222	47	799	0
Future Volume (vph)	65	840	59	0	0	0	0	261	222	47	799	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frpb, ped/bikes	1.00	0.99						0.97			1.00	
Flpb, ped/bikes	0.91	1.00						1.00			1.00	
Frt	1.00	0.99						0.93			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1355	4192						3500			1557	
Flt Permitted	0.95	1.00						1.00			0.95	
Satd. Flow (perm)	1355	4192						3500			1484	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	68	875	61	0	0	0	0	218	231	49	666	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	68	936	0	0	0	0	0	449	0	0	715	0
Confl. Peds. (#/hr)	42		57	57		42	31		54	54		31
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	30.0	30.0						42.0			42.0	
Effective Green, g (s)	31.0	31.0						41.0			42.0	
Actuated g/C Ratio	0.39	0.39						0.51			0.52	
Clearance Time (s)	5.0	5.0						3.0			3.0	
Lane Grp Cap (vph)	525	1624						1793			779	
v/s Ratio Prot		c0.22						0.13				
v/s Ratio Perm	0.05										c0.48	
v/c Ratio	0.13	0.58						0.25			0.92	
Uniform Delay, d1	15.8	19.3						10.9			17.4	
Progression Factor	1.23	1.34						1.00			0.48	
Incremental Delay, d2	0.4	1.0						0.3			8.8	
Delay (s)	19.8	27.0						11.2			17.2	
Level of Service	B	C						B			B	
Approach Delay (s)		26.5			0.0			11.2			17.2	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.5%	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)	25	408	349	0	0	0	0	205	27	91	451	0
Future Volume (vph)	25	408	349	0	0	0	0	205	27	91	451	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.93						0.98			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2703						1529			1546	
Flt Permitted		1.00						1.00			0.90	
Satd. Flow (perm)		2703						1529			1397	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	27	443	379	0	0	0	0	178	29	99	392	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	849	0	0	0	0	0	207	0	0	491	0
Confl. Peds. (#/hr)	19		16	16		19	42		13	13		42
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		37.0						37.0			37.0	
Effective Green, g (s)		36.0						36.0			37.0	
Actuated g/C Ratio		0.45						0.45			0.46	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1216						688			646	
v/s Ratio Prot								0.14				
v/s Ratio Perm		0.31									c0.35	
v/c Ratio		0.70						0.30			0.76	
Uniform Delay, d1		17.6						14.0			17.8	
Progression Factor		0.77						0.52			0.66	
Incremental Delay, d2		3.2						1.1			6.0	
Delay (s)		16.8						8.3			17.8	
Level of Service		B						A			B	
Approach Delay (s)		16.8			0.0			8.3			17.8	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Future Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3124			1637			1570	
Flt Permitted					1.00			0.58			1.00	
Satd. Flow (perm)					3124			952			1570	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	82	1161	7	38	150	0	0	438	179
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	0	0	1249	0	0	188	0	0	604	0
Confl. Peds. (#/hr)	14		7	7		14	19		9	9		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					52.4			46.4			46.4	
Effective Green, g (s)					52.4			46.4			46.4	
Actuated g/C Ratio					0.48			0.42			0.42	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1488			401			662	
v/s Ratio Prot											c0.38	
v/s Ratio Perm					0.40			0.20				
v/c Ratio					0.84			0.47			0.91	
Uniform Delay, d1					25.1			22.9			29.9	
Progression Factor					0.59			0.69			1.59	
Incremental Delay, d2					5.5			3.8			13.8	
Delay (s)					20.3			19.5			61.4	
Level of Service					C			B			E	
Approach Delay (s)		0.0			20.3			19.5			61.4	
Approach LOS		A			C			B			E	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Future Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.99	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3120			3115			1601			1631	
Flt Permitted		0.93			0.91			0.92			0.98	
Satd. Flow (perm)		2896			2854			1477			1602	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	21	568	23	26	717	37	18	102	29	29	500	43
RTOR Reduction (vph)	0	3	0	0	3	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	609	0	0	777	0	0	141	0	0	570	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		49.8			36.4			43.9			43.9	
Effective Green, g (s)		49.8			36.4			43.9			43.9	
Actuated g/C Ratio		0.45			0.33			0.40			0.40	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1338			944			589			639	
v/s Ratio Prot		c0.06										
v/s Ratio Perm		0.15			c0.27			0.10			c0.36	
v/c Ratio		0.46			0.82			0.24			0.89	
Uniform Delay, d1		20.8			33.8			22.0			30.8	
Progression Factor		0.41			1.34			0.36			0.62	
Incremental Delay, d2		0.9			7.6			1.0			10.3	
Delay (s)		9.5			53.1			8.8			29.4	
Level of Service		A			D			A			C	
Approach Delay (s)		9.5			53.1			8.8			29.4	
Approach LOS		A			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.3
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)	23	237	0	131	579	69	8	141	45	10	591	80
Future Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6			6.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.98			1.00			1.00	
Frt		1.00			0.99			0.96			0.98	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3122			2991			1575			1615	
Flt Permitted		0.84			0.81			0.97			0.99	
Satd. Flow (perm)		2649			2456			1531			1606	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	25	258	0	142	629	75	9	123	49	11	514	87
RTOR Reduction (vph)	0	0	0	0	7	0	0	12	0	0	5	0
Lane Group Flow (vph)	0	283	0	0	839	0	0	169	0	0	607	0
Confl. Peds. (#/hr)	36		47	47		36	13		21	21		13
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		58.4			58.4			38.9			38.9	
Effective Green, g (s)		58.4			58.4			38.9			38.9	
Actuated g/C Ratio		0.53			0.53			0.35			0.35	
Clearance Time (s)		6.6			6.6			6.1			6.1	
Lane Grp Cap (vph)		1406			1303			541			567	
v/s Ratio Prot												
v/s Ratio Perm		0.11			c0.34			0.11			c0.38	
v/c Ratio		0.20			0.64			0.31			1.07	
Uniform Delay, d1		13.6			18.4			25.8			35.5	
Progression Factor		0.64			0.10			1.66			0.44	
Incremental Delay, d2		0.3			0.2			1.5			52.2	
Delay (s)		9.0			2.0			44.3			67.8	
Level of Service		A			A			D			E	
Approach Delay (s)		9.0			2.0			44.3			67.8	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL2	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	65	744	60	261	222	48	503	295
Future Volume (vph)	65	744	60	261	222	48	503	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		5.0				4.0
Lane Util. Factor		0.86		1.00				1.00
Frpb, ped/bikes		0.99		0.94				1.00
Flpb, ped/bikes		0.99		1.00				0.99
Frt		0.99		0.93				1.00
Flt Protected		1.00		1.00				0.97
Satd. Flow (prot)		5210		1366				3000
Flt Permitted		1.00		1.00				0.27
Satd. Flow (perm)		5210		1366				3000
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (vph)	100%	100%	100%	80%	100%	100%	80%	80%
Adj. Flow (vph)	68	783	63	220	234	51	424	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	914	0	454	0	0	0	723
Confl. Peds. (#/hr)	97		59		115	115		
Turn Type	Perm	NA		NA		custom	Prot	NA
Protected Phases		4		3			2	2 3
Permitted Phases	4					2		
Actuated Green, G (s)		22.0		25.0				43.0
Effective Green, g (s)		23.0		25.0				45.0
Actuated g/C Ratio		0.29		0.31				0.56
Clearance Time (s)		5.0		5.0				
Lane Grp Cap (vph)		1497		426				1837
v/s Ratio Prot				c0.33				c0.09
v/s Ratio Perm		0.18						0.15
v/c Ratio		0.61		1.07				0.39
Uniform Delay, d1		24.6		27.5				9.8
Progression Factor		1.42		1.00				2.03
Incremental Delay, d2		1.4		62.2				0.5
Delay (s)		36.3		89.7				20.6
Level of Service		D		F				C
Approach Delay (s)		36.3		89.7				20.6
Approach LOS		D		F				C

Intersection Summary			
HCM 2000 Control Delay	42.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Future Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		2899						1527			1520	
Flt Permitted		1.00						1.00			0.75	
Satd. Flow (perm)		2899						1527			6000	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	26	353	31	0	0	0	0	171	27	434	647	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	403	0	0	0	0	0	191	0	0	1081	0
Confl. Peds. (#/hr)	28		40	40		28	40		25	25		40
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1123						801			3075	
v/s Ratio Prot								0.12				
v/s Ratio Perm		0.14									c0.18	
v/c Ratio		0.36						0.24			0.35	
Uniform Delay, d1		17.4						10.3			11.6	
Progression Factor		0.58						0.54			0.13	
Incremental Delay, d2		0.8						0.7			0.3	
Delay (s)		11.0						6.2			1.8	
Level of Service		B						A			A	
Approach Delay (s)		11.0			0.0			6.2			1.8	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Future Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			7.1			7.1	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.79	1.00	0.99			0.95			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.90	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.98			0.96			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1550	3143	1106	1415	1611			1491			1609	
Flt Permitted	0.35	1.00	1.00	0.65	1.00			0.97			0.99	
Satd. Flow (perm)	578	3143	1106	968	1611			1448			1600	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	29	161	26	139	505	80	9	119	63	11	504	85
RTOR Reduction (vph)	0	0	20	0	5	0	0	16	0	0	6	0
Lane Group Flow (vph)	29	161	6	139	580	0	0	175	0	0	594	0
Confl. Peds. (#/hr)	19		111	111		19	20		112	112		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Effective Green, g (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Actuated g/C Ratio	0.25	0.25	0.25	0.39	0.43			0.44			0.44	
Clearance Time (s)	6.6	6.6	6.6	4.6				7.1			7.1	
Lane Grp Cap (vph)	143	782	275	439	694			643			711	
v/s Ratio Prot		0.05		0.04	c0.36							
v/s Ratio Perm	0.05		0.01	0.08				0.12			c0.37	
v/c Ratio	0.20	0.21	0.02	0.32	0.84			0.27			0.84	
Uniform Delay, d1	32.7	32.7	31.2	22.8	27.8			19.3			27.0	
Progression Factor	0.64	0.61	1.00	1.22	1.01			0.76			1.00	
Incremental Delay, d2	3.1	0.6	0.2	1.3	8.4			1.0			11.2	
Delay (s)	24.1	20.4	31.4	29.0	36.4			15.7			38.2	
Level of Service	C	C	C	C	D			B			D	
Approach Delay (s)		22.2			35.0			15.7			38.2	
Approach LOS		C			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Future Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.97	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3101			1638			1536	
Flt Permitted					1.00			0.72			1.00	
Satd. Flow (perm)					3101			1196			1536	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	80	1275	6	37	148	0	0	435	177
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1361	0	0	185	0	0	607	0
Confl. Peds. (#/hr)	56		53	53		56	61		42	42		61
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			54.0			54.0	
Effective Green, g (s)					44.0			54.0			54.0	
Actuated g/C Ratio					0.40			0.49			0.49	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1240			587			754	
v/s Ratio Prot											c0.40	
v/s Ratio Perm					0.44			0.15				
v/c Ratio					1.10			0.32			0.81	
Uniform Delay, d1					33.0			16.9			23.6	
Progression Factor					0.46			0.58			0.37	
Incremental Delay, d2					51.1			1.4			6.7	
Delay (s)					66.2			11.1			15.4	
Level of Service					E			B			B	
Approach Delay (s)		0.0			66.2			11.1			15.4	
Approach LOS		A			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Future Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.97			1.00			0.96	
Flpb, ped/bikes					0.93			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					3898			4800			1525	
Flt Permitted					0.99			0.42			1.00	
Satd. Flow (perm)					3898			4800			1525	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	138	807	78	57	458	0	0	705	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	0	0	0	1023	0	0	515	0	0	827	0
Confl. Peds. (#/hr)	219		297	297		219	186		264	264		186
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					45.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1630			2443			790	
v/s Ratio Prot											c0.54	
v/s Ratio Perm					0.26			0.11				
v/c Ratio					0.63			0.21			1.05	
Uniform Delay, d1					25.2			14.8			26.5	
Progression Factor					1.04			0.73			0.51	
Incremental Delay, d2					1.8			0.2			38.4	
Delay (s)					28.0			11.0			51.9	
Level of Service					C			B			D	
Approach Delay (s)		0.0			28.0			11.0			51.9	
Approach LOS		A			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Future Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frt	1.00	0.96						0.99			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2862						4800			1562	
Flt Permitted	0.95	1.00						1.00			0.98	
Satd. Flow (perm)	1486	2862						4800			1529	
Peak-hour factor, PHF	0.91	0.91	0.91	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	33	82	27	0	0	0	0	491	35	25	770	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	33	109	0	0	0	0	0	526	0	0	795	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	35.0	35.0						69.0			69.0	
Effective Green, g (s)	34.0	34.0						68.0			69.0	
Actuated g/C Ratio	0.31	0.31						0.62			0.63	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	459	884						2967			959	
v/s Ratio Prot		c0.04						0.11				
v/s Ratio Perm	0.02										c0.52	
v/c Ratio	0.07	0.12						0.18			0.83	
Uniform Delay, d1	26.9	27.3						9.0			15.9	
Progression Factor	0.35	0.34						0.44			0.35	
Incremental Delay, d2	0.1	0.1						0.1			0.8	
Delay (s)	9.4	9.3						4.1			6.4	
Level of Service	A	A						A			A	
Approach Delay (s)		9.3			0.0			4.1			6.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	743	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	122	743	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frt	1.00	0.99						0.96			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	4236						4800			1557	
Flt Permitted	0.95	1.00						1.00			0.76	
Satd. Flow (perm)	1486	4236						4800			1190	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	128	782	46	0	0	0	0	428	168	79	719	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	128	828	0	0	0	0	0	596	0	0	798	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	42.0	42.0						62.0			62.0	
Effective Green, g (s)	41.0	41.0						61.0			62.0	
Actuated g/C Ratio	0.37	0.37						0.55			0.56	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	553	1578						2661			670	
v/s Ratio Prot		c0.20						0.12				
v/s Ratio Perm	0.09										c0.67	
v/c Ratio	0.23	0.52						0.22			1.19	
Uniform Delay, d1	23.7	26.9						12.5			24.0	
Progression Factor	0.59	0.53						0.35			0.49	
Incremental Delay, d2	0.9	1.1						0.2			90.3	
Delay (s)	14.9	15.5						4.6			102.0	
Level of Service	B	B						A			F	
Approach Delay (s)		15.4			0.0			4.6			102.0	
Approach LOS		B			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Future Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1471			2757			1541			1485	
Flt Permitted		0.63			0.83			0.86			0.98	
Satd. Flow (perm)		956			2325			1328			1456	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	74	62	12	109	352	19	39	370	12	31	742	206
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	150	0	0	480	0	0	422	0	0	970	0
Confl. Peds. (#/hr)	39		97	97		39	42		57	57		42
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	3 4			4			2			2		
Actuated Green, G (s)		44.0			29.0			57.0			57.0	
Effective Green, g (s)		42.0			28.0			56.0			57.0	
Actuated g/C Ratio		0.38			0.25			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		430			591			676			754	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.09			c0.21			0.32			c0.67	
v/c Ratio		0.35			0.81			0.62			1.29	
Uniform Delay, d1		24.2			38.5			19.4			26.5	
Progression Factor		0.67			1.09			0.45			0.80	
Incremental Delay, d2		2.1			10.0			4.3			135.9	
Delay (s)		18.3			52.0			13.0			157.1	
Level of Service		B			D			B			F	
Approach Delay (s)		18.3			52.0			13.0			157.1	
Approach LOS		B			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	92.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	450	1913	31	49	592	0	0	681	175
Future Volume (vph)	0	0	0	450	1913	31	49	592	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					7500			1557			1513	
Flt Permitted					0.99			0.56			1.00	
Satd. Flow (perm)					7500			876			1513	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	474	2014	33	52	499	0	0	573	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2521	0	0	551	0	0	757	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					47.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3136			445			784	
v/s Ratio Prot											0.50	
v/s Ratio Perm					0.34			c0.63				
v/c Ratio					0.80			1.24			0.96	
Uniform Delay, d1					28.0			27.0			25.5	
Progression Factor					0.46			0.38			0.81	
Incremental Delay, d2					1.9			118.4			16.2	
Delay (s)					14.7			128.6			36.9	
Level of Service					B			F			D	
Approach Delay (s)		0.0			14.7			128.6			36.9	
Approach LOS		A			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Future Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.97			0.99	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3111			3097			1587			1625	
Flt Permitted		0.91			0.91			0.92			0.98	
Satd. Flow (perm)		2836			2809			1471			1597	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	22	620	24	28	687	38	17	105	30	29	510	44
RTOR Reduction (vph)	0	2	0	0	4	0	0	8	0	0	3	0
Lane Group Flow (vph)	0	664	0	0	749	0	0	144	0	0	580	0
Confl. Peds. (#/hr)	26		16	16		26	27		19	19		27
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		43.9			43.9			53.9			53.9	
Effective Green, g (s)		43.9			43.9			53.9			53.9	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1131			1121			720			782	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			0.10			c0.36	
v/c Ratio		0.59			0.67			0.20			0.74	
Uniform Delay, d1		25.9			27.1			15.9			22.5	
Progression Factor		0.41			0.50			0.93			0.35	
Incremental Delay, d2		2.1			1.8			0.6			4.4	
Delay (s)		12.6			15.3			15.4			12.4	
Level of Service		B			B			B			B	
Approach Delay (s)		12.6			15.3			15.4			12.4	
Approach LOS		B			B			B			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)	110.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	127	64	95	436	0	0	0	0	20	728	116
Future Volume (vph)	0	127	64	95	436	0	0	0	0	20	728	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.98			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.95			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1462			2927						4500	
Flt Permitted		1.00			0.83						1.00	
Satd. Flow (perm)		1462			2453						4127	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	80%	100%
Adj. Flow (vph)	0	131	66	98	449	0	0	0	0	21	600	120
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	197	0	0	547	0	0	0	0	0	741	0
Confl. Peds. (#/hr)	38		39	39		38	3		90	90		3
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		45.0			45.0						59.0	
Effective Green, g (s)		44.0			44.0						58.0	
Actuated g/C Ratio		0.40			0.40						0.53	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		584			981						2176	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.22						c0.18	
v/c Ratio		0.34			0.56						0.34	
Uniform Delay, d1		22.9			25.5						15.0	
Progression Factor		0.45			0.65						0.80	
Incremental Delay, d2		1.5			0.7						0.4	
Delay (s)		11.7			17.3						12.5	
Level of Service		B			B						B	
Approach Delay (s)		11.7			17.3			0.0			12.5	
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	0.43		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Signal Timing Changes

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Future Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.93		1.00	0.99		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.97			1.00	
Flt Protected		1.00	1.00		1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3077	1286		2927	1236		1516			2989	
Flt Permitted		0.94	1.00		0.90	1.00		0.21			0.72	
Satd. Flow (perm)		2889	1286		2644	1236		320			2211	
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)	10	384	144	23	353	89	101	31	38	440	409	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	53	0	0	53	0
Lane Group Flow (vph)	0	394	144	0	385	80	0	117	0	0	809	0
Confl. Peds. (#/hr)	2		21	21		2	29		7	7		29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Effective Green, g (s)		46.9	46.9		46.9	46.9		57.9			57.9	
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.35			0.35	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		821	365		751	351		112			775	
v/s Ratio Prot												
v/s Ratio Perm		0.14	0.11		c0.15	0.06		c0.37			0.37	
v/c Ratio		0.48	0.39		0.51	0.23		1.05			1.04	
Uniform Delay, d1		48.9	47.6		49.5	45.2		53.6			53.6	
Progression Factor		0.52	0.54		0.76	0.79		1.00			1.00	
Incremental Delay, d2		1.7	2.6		2.3	1.4		98.7			44.5	
Delay (s)		27.0	28.1		40.1	36.9		152.2			98.1	
Level of Service		C	C		D	D		F			F	
Approach Delay (s)		27.3			39.5			152.2			98.1	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	69.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	143.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NER2	SWL2	SWL	SWT	SWR
Lane Configurations					
Traffic Volume (vph)	0	29	20	0	32
Future Volume (vph)	0	29	20	0	32
Ideal Flow (vphpl)	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1	
Lane Util. Factor		1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00	0.95	
Flpb, ped/bikes		0.99	0.95	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	0.95	1.00	
Satd. Flow (prot)		1526	1468	1309	
Flt Permitted		0.95	0.95	1.00	
Satd. Flow (perm)		1526	1468	1309	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	30	21	0	33
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	30	21	33	0
Confl. Peds. (#/hr)	21	7	21		29
Turn Type	Free	Perm	Perm	NA	
Protected Phases				4	
Permitted Phases	Free	4	4		
Actuated Green, G (s)		37.9	37.9	37.9	
Effective Green, g (s)		37.9	37.9	37.9	
Actuated g/C Ratio		0.23	0.23	0.23	
Clearance Time (s)		7.1	7.1	7.1	
Lane Grp Cap (vph)		350	337	300	
v/s Ratio Prot				c0.03	
v/s Ratio Perm		0.02	0.01		
v/c Ratio		0.09	0.06	0.11	
Uniform Delay, d1		49.9	49.7	50.2	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		0.5	0.4	0.7	
Delay (s)		50.4	50.0	51.0	
Level of Service		D	D	D	
Approach Delay (s)				50.5	
Approach LOS				D	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Future Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.88		1.00			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		1.00			0.97				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1614	1211		1605			1479				
Flt Permitted		0.97	1.00		0.96			0.96				
Satd. Flow (perm)		1576	1211		1543			1479				
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	322	609	25	332	5	139	6	38	0	0	0
RTOR Reduction (vph)	0	0	253	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	338	356	0	362	0	0	177	0	0	0	0
Confl. Peds. (#/hr)	29		30	30		29	9		19	19		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		96.4	96.4		96.4			55.4				
Effective Green, g (s)		96.4	96.4		96.4			55.4				
Actuated g/C Ratio		0.58	0.58		0.58			0.34				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		920	707		901			496				
v/s Ratio Prot												
v/s Ratio Perm		0.21	c0.29		0.23			0.12				
v/c Ratio		0.37	0.50		0.40			0.36				
Uniform Delay, d1		18.2	20.2		18.6			41.4				
Progression Factor		0.71	1.05		1.00			1.00				
Incremental Delay, d2		0.8	1.7		1.3			2.0				
Delay (s)		13.6	23.0		20.0			43.4				
Level of Service		B	C		B			D				
Approach Delay (s)		19.6			20.0			43.4			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Future Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	3.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95			0.91			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.99			1.00			0.99			0.98	
Flt Protected	0.95	1.00			1.00			0.99			1.00	
Satd. Flow (prot)	1386	2745			3947			1419			1420	
Flt Permitted	0.95	1.00			0.86			0.86			0.97	
Satd. Flow (perm)	1386	2745			3394			1233			1386	
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)	58	812	40	45	1081	28	33	188	27	36	578	92
RTOR Reduction (vph)	0	3	0	0	2	0	0	4	0	0	5	0
Lane Group Flow (vph)	58	849	0	0	1152	0	0	244	0	0	701	0
Confl. Peds. (#/hr)	26		40	40		26	32		38	38		32
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	13.0	51.0			35.0			49.0			49.0	
Effective Green, g (s)	13.0	51.0			35.0			49.0			49.0	
Actuated g/C Ratio	0.12	0.46			0.32			0.45			0.45	
Clearance Time (s)	3.0				5.0			5.0			5.0	
Lane Grp Cap (vph)	163	1272			1079			549			617	
v/s Ratio Prot	0.04	c0.31										
v/s Ratio Perm					c0.34			0.20			c0.51	
v/c Ratio	0.36	0.67			1.07			0.44			1.14	
Uniform Delay, d1	44.6	22.9			37.5			21.1			30.5	
Progression Factor	1.65	0.45			0.90			1.00			0.85	
Incremental Delay, d2	0.5	0.3			47.2			2.6			74.4	
Delay (s)	74.3	10.7			80.8			23.7			100.2	
Level of Service	E	B			F			C			F	
Approach Delay (s)		14.7			80.8			23.7			100.2	
Approach LOS		B			F			C			F	

Intersection Summary			
HCM 2000 Control Delay	60.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	121.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Future Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0	3.0	4.0	4.0			5.0			5.0	
Lane Util. Factor		0.95	1.00	1.00	0.91			1.00			1.00	
Frpb, ped/bikes		1.00	0.89	1.00	1.00			0.99			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			0.99			0.98	
Flt Protected		1.00	1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)		2760	1105	1386	3962			1415			1414	
Flt Permitted		0.76	1.00	0.95	1.00			0.87			0.97	
Satd. Flow (perm)		2113	1105	1386	3962			1241			1380	
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)	59	854	43	48	1116	28	33	194	28	37	597	94
RTOR Reduction (vph)	0	0	32	0	3	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	913	11	48	1141	0	0	251	0	0	724	0
Confl. Peds. (#/hr)	46		33	33		46	64		55	55		64
Turn Type	Perm	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4				2			2		
Actuated Green, G (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Effective Green, g (s)		28.0	28.0	8.0	40.0			62.0			62.0	
Actuated g/C Ratio		0.25	0.25	0.07	0.36			0.56			0.56	
Clearance Time (s)		3.0	3.0	4.0				5.0			5.0	
Lane Grp Cap (vph)		537	281	100	1440			699			777	
v/s Ratio Prot				0.03	c0.29							
v/s Ratio Perm		c0.43	0.01					0.20			c0.52	
v/c Ratio		1.70	0.04	0.48	0.79			0.36			0.93	
Uniform Delay, d1		41.0	30.9	49.0	31.3			13.1			22.0	
Progression Factor		1.28	3.44	1.42	1.00			1.00			0.40	
Incremental Delay, d2		322.8	0.3	1.5	0.4			1.4			16.1	
Delay (s)		375.4	106.6	71.2	31.7			14.6			24.9	
Level of Service		F	F	E	C			B			C	
Approach Delay (s)		363.3			33.3			14.6			24.9	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	130.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	121	617	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.91	1.00					1.00			1.00	
Frt		1.00	0.85					0.97			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		4237	1250					1514			6000	
Flt Permitted		0.99	1.00					1.00			0.74	
Satd. Flow (perm)		4237	1250					1514			6000	
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)	123	630	45	0	0	0	0	518	163	77	871	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	753	45	0	0	0	0	671	0	0	948	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		35.0	35.0					67.0			67.0	
Effective Green, g (s)		36.0	36.0					67.0			66.0	
Actuated g/C Ratio		0.33	0.33					0.61			0.60	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		1386	409					922			3600	
v/s Ratio Prot			0.04					c0.44				
v/s Ratio Perm		0.18									0.16	
v/c Ratio		0.54	0.11					0.73			0.26	
Uniform Delay, d1		30.3	25.8					15.1			10.5	
Progression Factor		0.87	1.06					0.39			0.35	
Incremental Delay, d2		1.4	0.5					0.5			0.2	
Delay (s)		27.8	27.8					6.3			3.8	
Level of Service		C	C					A			A	
Approach Delay (s)		27.8			0.0			6.3			3.8	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	121.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Future Volume (vph)	0	0	0	132	628	75	56	550	0	0	847	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.97			1.00			0.97	
Flpb, ped/bikes				0.51	0.97			1.00			1.00	
Frt				1.00	0.99			1.00			0.98	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				651	3711			1557			6000	
Flt Permitted				0.95	1.00			0.30			1.00	
Satd. Flow (perm)				651	3711			473			6000	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	136	647	77	58	567	0	0	873	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	82	778	0	0	625	0	0	1001	0
Confl. Peds. (#/hr)	134		223	223		134	166		119	119		166
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				42.0	42.0			62.0			62.0	
Effective Green, g (s)				41.0	41.0			62.0			61.0	
Actuated g/C Ratio				0.37	0.37			0.56			0.55	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				242	1383			266			3327	
v/s Ratio Prot											0.17	
v/s Ratio Perm				0.13	0.21			c1.32				
v/c Ratio				0.34	0.56			2.35			0.30	
Uniform Delay, d1				24.8	27.4			24.0			13.1	
Progression Factor				0.36	0.35			0.67			0.41	
Incremental Delay, d2				2.7	1.2			615.6			0.2	
Delay (s)				11.6	10.7			631.7			5.6	
Level of Service				B	B			F			A	
Approach Delay (s)		0.0			10.8			631.7			5.6	
Approach LOS		A			B			F			A	

Intersection Summary			
HCM 2000 Control Delay	164.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Future Volume (vph)	0	0	0	451	1562	31	49	591	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4685			1559			1522	
Flt Permitted				0.95	1.00			0.26			1.00	
Satd. Flow (perm)				2600	4685			404			1522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	475	1644	33	52	622	0	0	717	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	394	1758	0	0	674	0	0	901	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			2			1 2	
Permitted Phases							2					
Actuated Green, G (s)				41.0	51.0			37.0			50.0	
Effective Green, g (s)				40.0	49.0			37.0			49.0	
Actuated g/C Ratio				0.36	0.45			0.34			0.45	
Clearance Time (s)				3.0				3.0				
Lane Grp Cap (vph)				945	2257			135			677	
v/s Ratio Prot				0.15	c0.28						c0.59	
v/s Ratio Perm					0.09			c1.67				
v/c Ratio				0.42	0.78			4.99			1.33	
Uniform Delay, d1				26.3	25.9			36.5			30.5	
Progression Factor				0.19	0.22			1.00			0.78	
Incremental Delay, d2				0.6	1.3			1813.2			149.8	
Delay (s)				5.7	7.0			1849.7			173.6	
Level of Service				A	A			F			F	
Approach Delay (s)		0.0			6.7			1849.7			173.6	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	380.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL
Lane Configurations									
Traffic Volume (vph)	29	54	25	614	35	25	150	42	860
Future Volume (vph)	29	54	25	614	35	25	150	42	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		6.0			4.0		4.0
Lane Util. Factor		0.95		1.00			1.00		*0.91
Frt		0.97		0.99			0.97		0.99
Flt Protected		0.99		1.00			0.99		1.00
Satd. Flow (prot)		2832		1553			1515		4500
Flt Permitted		0.99		1.00			0.31		1.00
Satd. Flow (perm)		2832		1553			475		4500
Peak-hour factor, PHF	0.86	0.92	0.92	1.00	1.00	0.94	0.94	0.94	0.82
Adj. Flow (vph)	34	59	27	614	35	27	160	45	1049
RTOR Reduction (vph)	0	0	0	50	0	0	0	0	0
Lane Group Flow (vph)	0	120	0	599	0	0	232	0	1049
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0
Turn Type	Perm	NA		NA		Perm	NA		Prot
Protected Phases		4		3			3		2
Permitted Phases	4					3			
Actuated Green, G (s)		25.0		19.0			19.0		51.0
Effective Green, g (s)		24.0		19.0			21.0		53.0
Actuated g/C Ratio		0.22		0.17			0.19		0.48
Clearance Time (s)		3.0		6.0			6.0		6.0
Lane Grp Cap (vph)		617		268			90		2168
v/s Ratio Prot				0.39					c0.23
v/s Ratio Perm		0.04					c0.49		
v/c Ratio		0.19		2.24			2.58		0.48
Uniform Delay, d1		35.1		45.5			44.5		19.3
Progression Factor		1.01		0.73			0.57		0.47
Incremental Delay, d2		0.7		557.5			738.3		0.7
Delay (s)		36.3		590.8			763.5		9.7
Level of Service		D		F			F		A
Approach Delay (s)		36.3		590.8			763.5		9.7
Approach LOS		D		F			F		A

Intersection Summary			
HCM 2000 Control Delay	280.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Future Volume (vph)	70	136	13	10	404	18	36	443	12	10	250	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1530			2951			1554			1551	
Flt Permitted		0.76			0.95			0.96			0.98	
Satd. Flow (perm)		1178			2797			1497			1524	
Peak-hour factor, PHF	1.00	0.84	0.84	0.79	0.79	0.79	1.00	1.00	1.00	0.91	0.91	0.91
Adj. Flow (vph)	70	162	15	13	511	23	36	443	12	11	275	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	247	0	0	547	0	0	491	0	0	302	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		57.0			57.0			47.0			47.0	
Effective Green, g (s)		56.0			56.0			47.0			46.0	
Actuated g/C Ratio		0.51			0.51			0.43			0.42	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		599			1423			639			637	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.20			c0.33			0.20	
v/c Ratio		0.41			0.38			0.77			0.47	
Uniform Delay, d1		16.8			16.5			26.9			23.2	
Progression Factor		0.37			0.36			1.97			0.95	
Incremental Delay, d2		2.0			0.7			0.8			0.2	
Delay (s)		8.1			6.6			53.9			22.3	
Level of Service		A			A			D			C	
Approach Delay (s)		8.1			6.6			53.9			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.7%	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)	65	840	59	0	0	0	0	261	222	47	799	0
Future Volume (vph)	65	840	59	0	0	0	0	261	222	47	799	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frpb, ped/bikes	1.00	0.99						0.97			1.00	
Flpb, ped/bikes	0.91	1.00						1.00			1.00	
Frt	1.00	0.99						0.94			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1355	4192						3500			1559	
Flt Permitted	0.95	1.00						1.00			0.95	
Satd. Flow (perm)	1355	4192						3500			1492	
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	875	61	0	0	0	0	272	231	49	832	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	68	936	0	0	0	0	0	503	0	0	881	0
Confl. Peds. (#/hr)	42		57	57		42	31		54	54		31
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	30.0	30.0						42.0			42.0	
Effective Green, g (s)	31.0	31.0						41.0			42.0	
Actuated g/C Ratio	0.39	0.39						0.51			0.52	
Clearance Time (s)	5.0	5.0						3.0			3.0	
Lane Grp Cap (vph)	525	1624						1793			783	
v/s Ratio Prot		c0.22						0.14				
v/s Ratio Perm	0.05										c0.59	
v/c Ratio	0.13	0.58						0.28			1.13	
Uniform Delay, d1	15.8	19.3						11.1			19.0	
Progression Factor	1.24	1.34						1.00			0.52	
Incremental Delay, d2	0.3	1.0						0.4			65.8	
Delay (s)	19.9	27.0						11.5			75.6	
Level of Service	B	C						B			E	
Approach Delay (s)		26.5			0.0			11.5			75.6	
Approach LOS		C			A			B			E	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	408	349	0	0	0	0	205	27	91	451	0
Future Volume (vph)	25	408	349	0	0	0	0	205	27	91	451	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.93						0.98			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2703						1536			1549	
Flt Permitted		1.00						1.00			0.90	
Satd. Flow (perm)		2703						1536			1409	
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	443	379	0	0	0	0	223	29	99	490	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	849	0	0	0	0	0	252	0	0	589	0
Confl. Peds. (#/hr)	19		16	16		19	42		13	13		42
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		37.0						37.0			37.0	
Effective Green, g (s)		36.0						36.0			37.0	
Actuated g/C Ratio		0.45						0.45			0.46	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1216						691			651	
v/s Ratio Prot								0.16				
v/s Ratio Perm		0.31									c0.42	
v/c Ratio		0.70						0.36			0.90	
Uniform Delay, d1		17.6						14.5			19.9	
Progression Factor		0.77						0.51			0.68	
Incremental Delay, d2		3.2						1.5			14.9	
Delay (s)		16.8						8.9			28.4	
Level of Service		B						A			C	
Approach Delay (s)		16.8			0.0			8.9			28.4	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Future Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3124			1640			1582	
Flt Permitted					1.00			0.41			1.00	
Satd. Flow (perm)					3124			685			1582	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	82	1161	7	38	188	0	0	548	179
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	1249	0	0	226	0	0	717	0
Confl. Peds. (#/hr)	14		7	7		14	19		9	9		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					52.4			46.4			46.4	
Effective Green, g (s)					52.4			46.4			46.4	
Actuated g/C Ratio					0.48			0.42			0.42	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1488			288			667	
v/s Ratio Prot											c0.45	
v/s Ratio Perm					0.40			0.33				
v/c Ratio					0.84			0.78			1.07	
Uniform Delay, d1					25.1			27.5			31.8	
Progression Factor					0.59			0.75			1.59	
Incremental Delay, d2					5.5			18.5			50.6	
Delay (s)					20.3			39.2			101.1	
Level of Service					C			D			F	
Approach Delay (s)		0.0			20.3			39.2			101.1	
Approach LOS		A			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	48.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Future Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3120			3115			1608			1635	
Flt Permitted		0.93			0.91			0.91			0.98	
Satd. Flow (perm)		2896			2854			1473			1609	
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)	21	568	23	26	717	37	18	127	29	29	625	43
RTOR Reduction (vph)	0	3	0	0	3	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	609	0	0	777	0	0	167	0	0	695	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		49.8			36.4			43.9			43.9	
Effective Green, g (s)		49.8			36.4			43.9			43.9	
Actuated g/C Ratio		0.45			0.33			0.40			0.40	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1338			944			587			642	
v/s Ratio Prot		c0.06										
v/s Ratio Perm		0.15			c0.27			0.11			c0.43	
v/c Ratio		0.46			0.82			0.29			1.08	
Uniform Delay, d1		20.8			33.8			22.4			33.0	
Progression Factor		0.41			1.34			0.38			0.62	
Incremental Delay, d2		0.9			7.6			1.2			52.0	
Delay (s)		9.5			53.1			9.8			72.3	
Level of Service		A			D			A			E	
Approach Delay (s)		9.5			53.1			9.8			72.3	
Approach LOS		A			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Future Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6			6.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.98			1.00			1.00	
Frt		1.00			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3122			2991			1586			1621	
Flt Permitted		0.84			0.81			0.97			0.99	
Satd. Flow (perm)		2646			2458			1540			1614	
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)	25	258	0	142	629	75	9	153	49	11	642	87
RTOR Reduction (vph)	0	0	0	0	6	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	283	0	0	840	0	0	201	0	0	736	0
Confl. Peds. (#/hr)	36		47	47		36	13		21	21		13
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		55.4			55.4			41.9			41.9	
Effective Green, g (s)		55.4			55.4			41.9			41.9	
Actuated g/C Ratio		0.50			0.50			0.38			0.38	
Clearance Time (s)		6.6			6.6			6.1			6.1	
Lane Grp Cap (vph)		1332			1237			586			614	
v/s Ratio Prot												
v/s Ratio Perm		0.11			c0.34			0.13			c0.46	
v/c Ratio		0.21			0.68			0.34			1.20	
Uniform Delay, d1		15.2			20.6			24.2			34.0	
Progression Factor		0.66			0.09			1.63			0.52	
Incremental Delay, d2		0.4			0.3			1.6			101.8	
Delay (s)		10.3			2.2			41.1			119.4	
Level of Service		B			A			D			F	
Approach Delay (s)		10.3			2.2			41.1			119.4	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	NBT	NBR	SBL2	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	65	744	60	261	222	48	503	295
Future Volume (vph)	65	744	60	261	222	48	503	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0		5.0				4.0
Lane Util. Factor		0.86		1.00				1.00
Frpb, ped/bikes		0.99		0.94				1.00
Flpb, ped/bikes		0.99		1.00				1.00
Frt		0.99		0.94				1.00
Flt Protected		1.00		1.00				0.97
Satd. Flow (prot)		5210		1387				3000
Flt Permitted		1.00		1.00				0.19
Satd. Flow (perm)		5210		1387				3000
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	783	63	275	234	51	529	311
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	914	0	509	0	0	0	891
Confl. Peds. (#/hr)	97		59		115	115		
Turn Type	Perm	NA		NA		custom	Prot	NA
Protected Phases		4		3			2	2 3
Permitted Phases	4					2		
Actuated Green, G (s)		22.0		25.0				43.0
Effective Green, g (s)		23.0		25.0				45.0
Actuated g/C Ratio		0.29		0.31				0.56
Clearance Time (s)		5.0		5.0				
Lane Grp Cap (vph)		1497		433				1837
v/s Ratio Prot				c0.37				c0.12
v/s Ratio Perm		0.18						0.18
v/c Ratio		0.61		1.18				0.49
Uniform Delay, d1		24.6		27.5				10.5
Progression Factor		1.42		1.00				2.12
Incremental Delay, d2		1.4		100.8				0.8
Delay (s)		36.3		128.3				23.1
Level of Service		D		F				C
Approach Delay (s)		36.3		128.3				23.1
Approach LOS		D		F				C

Intersection Summary			
HCM 2000 Control Delay	51.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Future Volume (vph)	25	339	30	0	0	0	0	205	26	417	776	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		2899						1534			1527	
Flt Permitted		1.00						1.00			0.73	
Satd. Flow (perm)		2899						1534			6000	
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)	26	353	31	0	0	0	0	214	27	434	808	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	403	0	0	0	0	0	235	0	0	1242	0
Confl. Peds. (#/hr)	28		40	40		28	40		25	25		40
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1123						805			3075	
v/s Ratio Prot								0.15				
v/s Ratio Perm		0.14									c0.21	
v/c Ratio		0.36						0.29			0.40	
Uniform Delay, d1		17.4						10.7			12.0	
Progression Factor		0.58						0.53			0.15	
Incremental Delay, d2		0.8						0.9			0.4	
Delay (s)		11.0						6.5			2.1	
Level of Service		B						A			A	
Approach Delay (s)		11.0			0.0			6.5			2.1	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Future Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			7.1			7.1	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.79	1.00	0.99			0.95			1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.90	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.98			0.96			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1550	3143	1106	1415	1611			1513			1617	
Flt Permitted	0.35	1.00	1.00	0.65	1.00			0.97			0.99	
Satd. Flow (perm)	578	3143	1106	968	1611			1467			1609	
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)	29	161	26	139	505	80	9	149	63	11	630	85
RTOR Reduction (vph)	0	0	20	0	5	0	0	13	0	0	4	0
Lane Group Flow (vph)	29	161	6	139	580	0	0	208	0	0	722	0
Confl. Peds. (#/hr)	19		111	111		19	20		112	112		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Effective Green, g (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Actuated g/C Ratio	0.25	0.25	0.25	0.39	0.43			0.44			0.44	
Clearance Time (s)	6.6	6.6	6.6	4.6				7.1			7.1	
Lane Grp Cap (vph)	143	782	275	439	694			652			715	
v/s Ratio Prot		0.05		0.04	c0.36							
v/s Ratio Perm	0.05		0.01	0.08				0.14			c0.45	
v/c Ratio	0.20	0.21	0.02	0.32	0.84			0.32			1.01	
Uniform Delay, d1	32.7	32.7	31.2	22.8	27.8			19.8			30.6	
Progression Factor	0.64	0.61	1.00	1.20	0.99			0.79			1.00	
Incremental Delay, d2	3.1	0.6	0.2	1.2	7.8			1.3			35.9	
Delay (s)	24.1	20.4	31.4	28.6	35.5			16.8			66.5	
Level of Service	C	C	C	C	D			B			E	
Approach Delay (s)		22.2			34.2			16.8			66.5	
Approach LOS		C			C			B			E	

Intersection Summary			
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Future Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.97	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3101			1640			1554	
Flt Permitted					1.00			0.60			1.00	
Satd. Flow (perm)					3101			1000			1554	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	80	1275	6	37	185	0	0	543	177
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1361	0	0	222	0	0	715	0
Confl. Peds. (#/hr)	56		53	53		56	61		42	42		61
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			54.0			54.0	
Effective Green, g (s)					44.0			54.0			54.0	
Actuated g/C Ratio					0.40			0.49			0.49	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1240			490			762	
v/s Ratio Prot											c0.46	
v/s Ratio Perm					0.44			0.22				
v/c Ratio					1.10			0.45			0.94	
Uniform Delay, d1					33.0			18.3			26.4	
Progression Factor					0.45			0.54			0.40	
Incremental Delay, d2					50.6			2.9			16.4	
Delay (s)					65.4			12.8			27.0	
Level of Service					E			B			C	
Approach Delay (s)		0.0			65.4			12.8			27.0	
Approach LOS		A			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	48.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Future Volume (vph)	0	0	0	132	775	75	55	550	0	0	846	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.97			1.00			0.97	
Flpb, ped/bikes					0.93			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					3898			4800			1542	
Flt Permitted					0.99			0.23			1.00	
Satd. Flow (perm)					3898			4800			1542	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	138	807	78	57	573	0	0	881	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1023	0	0	630	0	0	1004	0
Confl. Peds. (#/hr)	219		297	297		219	186		264	264		186
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					45.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1630			2443			799	
v/s Ratio Prot											c0.65	
v/s Ratio Perm					0.26			0.13				
v/c Ratio					0.63			0.26			1.26	
Uniform Delay, d1					25.2			15.3			26.5	
Progression Factor					1.04			0.71			0.48	
Incremental Delay, d2					1.8			0.3			118.3	
Delay (s)					28.0			11.0			131.1	
Level of Service					C			B			F	
Approach Delay (s)		0.0			28.0			11.0			131.1	
Approach LOS		A			C			B			F	

Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Future Volume (vph)	30	75	25	0	0	0	0	614	35	25	963	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frt	1.00	0.96						0.99			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2862						4800			1563	
Flt Permitted	0.95	1.00						1.00			0.98	
Satd. Flow (perm)	1486	2862						4800			1529	
Peak-hour factor, PHF	0.91	0.91	0.91	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	82	27	0	0	0	0	614	35	25	963	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	33	109	0	0	0	0	0	649	0	0	988	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	35.0	35.0						69.0			69.0	
Effective Green, g (s)	34.0	34.0						68.0			69.0	
Actuated g/C Ratio	0.31	0.31						0.62			0.63	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	459	884						2967			959	
v/s Ratio Prot		c0.04						0.14				
v/s Ratio Perm	0.02										c0.65	
v/c Ratio	0.07	0.12						0.22			1.03	
Uniform Delay, d1	26.9	27.3						9.3			20.5	
Progression Factor	0.35	0.34						0.38			0.41	
Incremental Delay, d2	0.0	0.0						0.2			18.0	
Delay (s)	9.3	9.2						3.6			26.3	
Level of Service	A	A						A			C	
Approach Delay (s)		9.2			0.0			3.6			26.3	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	743	44	0	0	0	0	508	160	75	854	0
Future Volume (vph)	122	743	44	0	0	0	0	508	160	75	854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.91						1.00			1.00	
Frt	1.00	0.99						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	4236						4800			1558	
Flt Permitted	0.95	1.00						1.00			0.66	
Satd. Flow (perm)	1486	4236						4800			1037	
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)	128	782	46	0	0	0	0	535	168	79	899	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	128	828	0	0	0	0	0	703	0	0	978	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	42.0	42.0						62.0			62.0	
Effective Green, g (s)	41.0	41.0						61.0			62.0	
Actuated g/C Ratio	0.37	0.37						0.55			0.56	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	553	1578						2661			584	
v/s Ratio Prot		c0.20						0.15				
v/s Ratio Perm	0.09										c0.94	
v/c Ratio	0.23	0.52						0.26			1.67	
Uniform Delay, d1	23.7	26.9						12.8			24.0	
Progression Factor	0.59	0.53						0.30			0.43	
Incremental Delay, d2	0.9	1.1						0.2			304.3	
Delay (s)	14.7	15.4						4.1			314.5	
Level of Service	B	B						A			F	
Approach Delay (s)		15.3			0.0			4.1			314.5	
Approach LOS		B			A			A			F	

Intersection Summary			
HCM 2000 Control Delay	123.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Future Volume (vph)	71	60	12	105	338	18	37	444	12	30	890	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.98	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1471			2757			1546			1498	
Flt Permitted		0.63			0.83			0.84			0.98	
Satd. Flow (perm)		956			2325			1304			1469	
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)	74	62	12	109	352	19	39	462	12	31	927	206
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	150	0	0	480	0	0	515	0	0	1157	0
Confl. Peds. (#/hr)	39		97	97		39	42		57	57		42
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	3 4			4			2			2		
Actuated Green, G (s)		44.0			29.0			57.0			57.0	
Effective Green, g (s)		42.0			28.0			56.0			57.0	
Actuated g/C Ratio		0.38			0.25			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		430			591			663			761	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.09			c0.21			0.40			c0.79	
v/c Ratio		0.35			0.81			0.78			1.52	
Uniform Delay, d1		24.2			38.5			21.9			26.5	
Progression Factor		0.66			1.09			0.49			0.82	
Incremental Delay, d2		2.1			10.0			8.6			239.0	
Delay (s)		18.2			52.0			19.3			260.6	
Level of Service		B			D			B			F	
Approach Delay (s)		18.2			52.0			19.3			260.6	
Approach LOS		B			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	147.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	450	1913	31	49	592	0	0	681	175
Future Volume (vph)	0	0	0	450	1913	31	49	592	0	0	681	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					7500			1559			1522	
Flt Permitted					0.99			0.34			1.00	
Satd. Flow (perm)					7500			531			1522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	474	2014	33	52	623	0	0	717	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2521	0	0	675	0	0	901	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					47.0			57.0			57.0	
Effective Green, g (s)					46.0			56.0			57.0	
Actuated g/C Ratio					0.42			0.51			0.52	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3136			270			788	
v/s Ratio Prot											0.59	
v/s Ratio Perm					0.34			c1.27				
v/c Ratio					0.80			2.50			1.14	
Uniform Delay, d1					28.0			27.0			26.5	
Progression Factor					0.46			0.40			0.83	
Incremental Delay, d2					1.9			681.5			72.6	
Delay (s)					14.7			692.2			94.5	
Level of Service					B			F			F	
Approach Delay (s)		0.0			14.7			692.2			94.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	143.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Future Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3111			3097			1597			1631	
Flt Permitted		0.91			0.91			0.92			0.98	
Satd. Flow (perm)		2836			2809			1474			1606	
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	620	24	28	687	38	17	131	30	29	638	44
RTOR Reduction (vph)	0	2	0	0	4	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	664	0	0	749	0	0	171	0	0	709	0
Confl. Peds. (#/hr)	26		16	16		26	27		19	19		27
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		43.9			43.9			53.9			53.9	
Effective Green, g (s)		43.9			43.9			53.9			53.9	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1131			1121			722			786	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			0.12			c0.44	
v/c Ratio		0.59			0.67			0.24			0.90	
Uniform Delay, d1		25.9			27.1			16.2			25.6	
Progression Factor		0.41			0.50			0.91			0.38	
Incremental Delay, d2		2.1			1.7			0.8			12.1	
Delay (s)		12.6			15.2			15.6			21.8	
Level of Service		B			B			B			C	
Approach Delay (s)		12.6			15.2			15.6			21.8	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	99.5%	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)	0	127	64	95	436	0	0	0	0	20	728	116
Future Volume (vph)	0	127	64	95	436	0	0	0	0	20	728	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.98			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						1.00	
Frt		0.95			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1462			2927						4500	
Flt Permitted		1.00			0.83						1.00	
Satd. Flow (perm)		1462			2453						4151	
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	131	66	98	449	0	0	0	0	21	751	120
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	197	0	0	547	0	0	0	0	0	892	0
Confl. Peds. (#/hr)	38		39	39		38	3		90	90		3
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		45.0			45.0						59.0	
Effective Green, g (s)		44.0			44.0						58.0	
Actuated g/C Ratio		0.40			0.40						0.53	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		584			981						2188	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.22						c0.21	
v/c Ratio		0.34			0.56						0.41	
Uniform Delay, d1		22.9			25.5						15.7	
Progression Factor		0.44			0.64						0.80	
Incremental Delay, d2		1.4			0.2						0.6	
Delay (s)		11.6			16.6						13.1	
Level of Service		B			B						B	
Approach Delay (s)		11.6			16.6			0.0			13.1	
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	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Strategies to Improve Two-way Operation – HCM Reports

PM Peak Hour

10% Diversion

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Future Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.91		0.99	0.97		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		0.99			1.00	
Frt		1.00	0.85		0.95	0.85		0.98			1.00	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.97	
Satd. Flow (prot)		3070	1258		2760	1221		1542			2977	
Flt Permitted		0.90	1.00		0.92	1.00		0.59			0.55	
Satd. Flow (perm)		2767	1258		2543	1221		924			1691	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor (vph)	100%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	100%
Adj. Flow (vph)	22	342	73	20	263	351	148	220	70	201	156	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	61	0	0	61	0
Lane Group Flow (vph)	0	364	73	0	434	200	0	377	0	0	307	0
Confl. Peds. (#/hr)	11		30	30		11	40		5	5		40
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Effective Green, g (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Actuated g/C Ratio		0.39	0.39		0.39	0.39		0.24			0.24	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		1088	494		1000	480		223			408	
v/s Ratio Prot												
v/s Ratio Perm		0.13	0.06		c0.17	0.16		c0.41			0.18	
v/c Ratio		0.33	0.15		0.43	0.42		1.69			0.95dl	
Uniform Delay, d1		35.0	32.2		36.6	36.3		62.5			58.0	
Progression Factor		0.47	0.49		0.93	0.93		1.00			1.00	
Incremental Delay, d2		0.8	0.6		1.2	2.4		328.6			12.0	
Delay (s)		17.1	16.3		35.4	36.2		391.1			70.0	
Level of Service		B	B		D	D		F			E	
Approach Delay (s)		17.0			35.6			391.1			70.0	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	118.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NER2	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	0	21	15	0	12	6
Future Volume (vph)	0	21	15	0	12	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1		
Lane Util. Factor		1.00	1.00	1.00		
Frpb, ped/bikes		1.00	1.00	0.92		
Flpb, ped/bikes		0.99	0.93	1.00		
Frt		1.00	1.00	0.85		
Flt Protected		0.95	0.95	1.00		
Satd. Flow (prot)		1530	1437	1270		
Flt Permitted		0.95	0.95	1.00		
Satd. Flow (perm)		1530	1437	1270		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor (vph)	100%	90%	90%	100%	100%	100%
Adj. Flow (vph)	0	21	15	0	14	7
RTOR Reduction (vph)	0	0	0	16	0	0
Lane Group Flow (vph)	0	21	15	5	0	0
Confl. Peds. (#/hr)	30	5	30		40	11
Turn Type	Free	Perm	Perm	NA		
Protected Phases				4		
Permitted Phases	Free	4	4			
Actuated Green, G (s)		37.9	37.9	37.9		
Effective Green, g (s)		37.9	37.9	37.9		
Actuated g/C Ratio		0.23	0.23	0.23		
Clearance Time (s)		7.1	7.1	7.1		
Lane Grp Cap (vph)		351	330	291		
v/s Ratio Prot				0.00		
v/s Ratio Perm		c0.01	0.01			
v/c Ratio		0.06	0.05	0.02		
Uniform Delay, d1		49.6	49.5	49.1		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		0.3	0.3	0.1		
Delay (s)		50.0	49.7	49.2		
Level of Service		D	D	D		
Approach Delay (s)				49.6		
Approach LOS				D		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Future Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.91		0.99			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.98				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1609	1249		1591			1498				
Flt Permitted		0.95	1.00		0.96			0.96				
Satd. Flow (perm)		1533	1249		1533			1498				
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
Growth Factor (vph)	100%	90%	90%	90%	90%	100%	90%	90%	90%	100%	100%	100%
Adj. Flow (vph)	31	352	229	19	271	18	329	18	66	0	0	0
RTOR Reduction (vph)	0	0	134	0	1	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	383	95	0	307	0	0	409	0	0	0	0
Confl. Peds. (#/hr)	28		22	22		28	4		23	23		4
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		68.4	68.4		68.4			83.4				
Effective Green, g (s)		68.4	68.4		68.4			83.4				
Actuated g/C Ratio		0.41	0.41		0.41			0.51				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		635	517		635			757				
v/s Ratio Prot												
v/s Ratio Perm		c0.25	0.08		0.20			0.27				
v/c Ratio		0.60	0.18		0.48			0.54				
Uniform Delay, d1		37.7	30.6		35.4			27.8				
Progression Factor		1.22	4.48		1.00			1.00				
Incremental Delay, d2		3.4	0.6		2.6			2.8				
Delay (s)		49.4	137.8		38.0			30.5				
Level of Service		D	F		D			C				
Approach Delay (s)		82.5			38.0			30.5			0.0	
Approach LOS		F			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	56.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	945	18	35	971	41	29	470	78	35	409	38
Future Volume (vph)	31	945	18	35	971	41	29	470	78	35	409	38
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.91			0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.99			0.98			0.99	
Flt Protected	0.95	1.00			1.00			1.00			1.00	
Satd. Flow (prot)	1386	3962			2740			1416			1430	
Flt Permitted	0.95	1.00			0.84			0.96			0.94	
Satd. Flow (perm)	1386	3962			2305			1363			1343	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	32	984	19	36	1011	43	30	441	81	36	383	40
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	32	1001	0	0	1087	0	0	546	0	0	456	0
Confl. Peds. (#/hr)	28		46	46		28	30		39	39		30
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	8.0	34.0			34.0			45.0			45.0	
Effective Green, g (s)	8.0	34.0			34.0			45.0			45.0	
Actuated g/C Ratio	0.08	0.34			0.34			0.45			0.45	
Clearance Time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	110	1347			783			613			604	
v/s Ratio Prot	c0.02	0.25										
v/s Ratio Perm					c0.47			c0.40			0.34	
v/c Ratio	0.29	0.74			1.39			0.89			0.75	
Uniform Delay, d1	43.3	29.1			33.0			25.2			22.9	
Progression Factor	1.59	0.39			0.60			1.00			0.64	
Incremental Delay, d2	4.5	2.6			182.5			17.6			7.9	
Delay (s)	73.4	14.1			202.3			42.9			22.6	
Level of Service	E	B			F			D			C	
Approach Delay (s)		15.9			202.3			42.9			22.6	
Approach LOS		B			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	86.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	118.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Future Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0		4.0	4.0			5.0			5.0	
Lane Util. Factor		0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.98			0.99	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		3958		1386	2749			1415			1431	
Flt Permitted		0.88		0.95	1.00			0.96			0.92	
Satd. Flow (perm)		3475		1386	2749			1363			1322	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	31	918	18	36	1047	44	31	441	81	36	384	39
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	965	0	36	1088	0	0	547	0	0	456	0
Confl. Peds. (#/hr)	51		24	24		51	31		44	44		31
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		41.0		8.0	53.0			39.0			39.0	
Effective Green, g (s)		41.0		8.0	53.0			39.0			39.0	
Actuated g/C Ratio		0.41		0.08	0.53			0.39			0.39	
Clearance Time (s)		3.0		4.0				5.0			5.0	
Lane Grp Cap (vph)		1424		110	1456			531			515	
v/s Ratio Prot				0.03	c0.40							
v/s Ratio Perm		0.28						c0.40			0.34	
v/c Ratio		0.68		0.33	0.75			1.03			0.89	
Uniform Delay, d1		24.1		43.5	18.3			30.5			28.4	
Progression Factor		1.29		1.27	0.94			1.00			0.50	
Incremental Delay, d2		2.5		0.7	0.3			46.9			18.4	
Delay (s)		33.7		56.0	17.5			77.4			32.6	
Level of Service		C		E	B			E			C	
Approach Delay (s)		33.7			18.7			77.4			32.6	
Approach LOS		C			B			E			C	

Intersection Summary			
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Future Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.95	1.00					1.00			1.00	
Frt		1.00	0.85					0.98			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		2957	1250					1530			1434	
Flt Permitted		0.99	1.00					1.00			0.89	
Satd. Flow (perm)		2957	1250					1530			1275	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	88	720	52	0	0	0	0	530	105	57	668	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	808	52	0	0	0	0	628	0	0	725	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		30.0	30.0					62.0			62.0	
Effective Green, g (s)		31.0	31.0					62.0			61.0	
Actuated g/C Ratio		0.31	0.31					0.62			0.61	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		916	387					948			777	
v/s Ratio Prot			0.04					0.41				
v/s Ratio Perm		0.27									c0.57	
v/c Ratio		0.88	0.13					0.66			0.93	
Uniform Delay, d1		32.8	24.8					12.2			17.7	
Progression Factor		0.84	1.00					0.57			0.39	
Incremental Delay, d2		1.3	0.1					2.0			12.5	
Delay (s)		28.8	24.8					9.0			19.3	
Level of Service		C	C					A			B	
Approach Delay (s)		28.5			0.0			9.0			19.3	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Future Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.98			1.00			0.95	
Flpb, ped/bikes				0.51	0.98			1.00			1.00	
Frt				1.00	0.99			1.00			0.98	
Flt Protected				0.95	1.00			0.99			1.00	
Satd. Flow (prot)				655	3834			1556			1448	
Flt Permitted				0.95	1.00			0.69			1.00	
Satd. Flow (perm)				655	3834			1077			1448	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	136	585	44	67	568	0	0	600	124
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	116	641	0	0	635	0	0	724	0
Confl. Peds. (#/hr)	173		244	244		173	228		208	208		228
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				37.0	37.0			57.0			57.0	
Effective Green, g (s)				36.0	36.0			57.0			56.0	
Actuated g/C Ratio				0.36	0.36			0.57			0.56	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				235	1380			613			810	
v/s Ratio Prot											0.50	
v/s Ratio Perm				c0.18	0.17			c0.59				
v/c Ratio				0.49	0.46			1.04			0.89	
Uniform Delay, d1				24.9	24.6			21.5			19.4	
Progression Factor				0.45	0.47			0.73			1.03	
Incremental Delay, d2				5.7	0.9			40.6			10.7	
Delay (s)				17.0	12.3			56.4			30.7	
Level of Service				B	B			E			C	
Approach Delay (s)		0.0			13.0			56.4			30.7	
Approach LOS		A			B			E			C	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Future Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4500			1558			1521	
Flt Permitted				0.95	1.00			0.29			1.00	
Satd. Flow (perm)				2600	4500			456			1521	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	529	1761	47	51	584	0	0	659	173
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	476	1861	0	0	635	0	0	832	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			1 2			1 2	
Permitted Phases							1 2					
Actuated Green, G (s)				40.0	49.0			42.0			42.0	
Effective Green, g (s)				39.0	47.0			42.0			41.0	
Actuated g/C Ratio				0.39	0.47			0.42			0.41	
Clearance Time (s)				3.0								
Lane Grp Cap (vph)				1014	2295			191			623	
v/s Ratio Prot				0.18	c0.32						0.55	
v/s Ratio Perm					0.10			c1.39				
v/c Ratio				0.47	0.81			3.32			1.34	
Uniform Delay, d1				22.8	22.7			29.0			29.5	
Progression Factor				0.73	0.63			1.00			0.82	
Incremental Delay, d2				0.5	1.0			1059.4			157.9	
Delay (s)				17.1	15.3			1088.4			182.1	
Level of Service				B	B			F			F	
Approach Delay (s)		0.0			15.6			1088.4			182.1	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	231.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.15		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL2	SWL
Lane Configurations										
Traffic Volume (vph)	47	81	22	539	115	23	155	50	71	528
Future Volume (vph)	47	81	22	539	115	23	155	50	71	528
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		5.0			4.0			4.0
Lane Util. Factor		0.95		1.00			1.00			*0.91
Frpb, ped/bikes		0.98		1.00			0.98			1.00
Flpb, ped/bikes		1.00		1.00			1.00			1.00
Frt		0.98		0.97			0.97			1.00
Flt Protected		0.99		1.00			0.99			1.00
Satd. Flow (prot)		2817		1524			1472			4800
Flt Permitted		0.99		1.00			0.32			1.00
Satd. Flow (perm)		2817		1524			475			4272
Peak-hour factor, PHF	1.00	0.92	0.92	1.00	1.00	0.94	0.94	1.00	0.94	0.94
Growth Factor (vph)	100%	100%	100%	90%	100%	100%	90%	100%	100%	90%
Adj. Flow (vph)	47	88	24	485	115	24	148	50	76	506
RTOR Reduction (vph)	0	0	0	71	0	0	0	0	0	0
Lane Group Flow (vph)	0	159	0	529	0	0	222	0	0	582
Confl. Peds. (#/hr)			25			32		25		
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0	0
Turn Type	Perm	NA		NA		Perm	NA		Perm	Prot
Protected Phases		4		3			3			2
Permitted Phases	4					3			2	
Actuated Green, G (s)		16.0		18.0			18.0			50.0
Effective Green, g (s)		18.0		18.0			19.0			51.0
Actuated g/C Ratio		0.18		0.18			0.19			0.51
Clearance Time (s)		6.0		5.0			5.0			5.0
Lane Grp Cap (vph)		507		274			90			2178
v/s Ratio Prot				0.35						
v/s Ratio Perm		0.06					c0.47			c0.14
v/c Ratio		0.31		1.93			2.47			0.27
Uniform Delay, d1		35.6		41.0			40.5			13.9
Progression Factor		0.99		0.74			1.21			0.46
Incremental Delay, d2		1.6		421.4			686.4			0.3
Delay (s)		37.0		451.8			735.5			6.7
Level of Service		D		F			F			A
Approach Delay (s)		37.0		451.8			735.5			6.7
Approach LOS		D		F			F			A

Intersection Summary			
HCM 2000 Control Delay	284.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Future Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1512			2938			1551			1514	
Flt Permitted		0.49			0.84			0.93			0.97	
Satd. Flow (perm)		756			2494			1449			1476	
Peak-hour factor, PHF	0.59	0.59	0.59	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.64	0.64
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	159	158	29	92	568	24	61	477	13	15	257	78
RTOR Reduction (vph)	0	3	0	0	2	0	0	1	0	0	10	0
Lane Group Flow (vph)	0	343	0	0	682	0	0	550	0	0	340	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		52.0			52.0			42.0			42.0	
Effective Green, g (s)		51.0			51.0			42.0			41.0	
Actuated g/C Ratio		0.51			0.51			0.42			0.41	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		385			1271			608			605	
v/s Ratio Prot												
v/s Ratio Perm		c0.45			0.27			c0.38			0.23	
v/c Ratio		0.89			0.54			0.91			0.56	
Uniform Delay, d1		22.0			16.5			27.1			22.6	
Progression Factor		0.91			1.03			1.07			1.90	
Incremental Delay, d2		25.1			1.3			2.4			0.3	
Delay (s)		45.2			18.2			31.5			43.2	
Level of Service		D			B			C			D	
Approach Delay (s)		45.2			18.2			31.5			43.2	
Approach LOS		D			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
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)	105	1191	75	0	0	0	0	419	321	48	502	0
Future Volume (vph)	105	1191	75	0	0	0	0	419	321	48	502	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.86						1.00			1.00	
Frpb, ped/bikes		0.99						0.98			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.94			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		5238						1440			1556	
Flt Permitted		1.00						1.00			0.83	
Satd. Flow (perm)		5238						1440			1300	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	108	1228	77	0	0	0	0	389	331	49	466	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	1413	0	0	0	0	0	718	0	0	515	0
Confl. Peds. (#/hr)	48		57	57		48	71		29	29		71
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		26.0						46.0			46.0	
Effective Green, g (s)		27.0						45.0			46.0	
Actuated g/C Ratio		0.34						0.56			0.58	
Clearance Time (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1767						810			747	
v/s Ratio Prot								c0.50				
v/s Ratio Perm		0.27									0.40	
v/c Ratio		0.80						0.89			0.69	
Uniform Delay, d1		24.0						15.3			12.0	
Progression Factor		1.25						1.00			0.37	
Incremental Delay, d2		0.4						13.7			4.6	
Delay (s)		30.5						29.0			9.1	
Level of Service		C						C			A	
Approach Delay (s)		30.5			0.0			29.0			9.1	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Future Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.97						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.97						0.98			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		3987						1534			1546	
Flt Permitted		1.00						1.00			0.82	
Satd. Flow (perm)		3987						1534			1282	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	60	609	202	0	0	0	0	458	61	90	326	0
RTOR Reduction (vph)	0	69	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	802	0	0	0	0	0	513	0	0	416	0
Confl. Peds. (#/hr)	34		45	45		34	55		16	16		55
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		25.0						49.0			49.0	
Effective Green, g (s)		24.0						48.0			49.0	
Actuated g/C Ratio		0.30						0.60			0.61	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1196						920			785	
v/s Ratio Prot								c0.33				
v/s Ratio Perm		0.20									0.32	
v/c Ratio		0.67						0.56			0.53	
Uniform Delay, d1		24.5						9.6			8.9	
Progression Factor		0.31						0.36			0.27	
Incremental Delay, d2		1.3						2.0			2.3	
Delay (s)		8.8						5.4			4.7	
Level of Service		A						A			A	
Approach Delay (s)		8.8			0.0			5.4			4.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Future Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					3117			1643			1564	
Flt Permitted					1.00			0.93			1.00	
Satd. Flow (perm)					3117			1540			1564	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	38	664	11	52	471	0	0	231	104
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	712	0	0	523	0	0	319	0
Confl. Peds. (#/hr)	17		15	17		15	21		12	12		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					42.4			46.4			46.4	
Effective Green, g (s)					42.4			46.4			46.4	
Actuated g/C Ratio					0.42			0.46			0.46	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1321			714			725	
v/s Ratio Prot											0.20	
v/s Ratio Perm					0.23			c0.34				
v/c Ratio					0.54			0.73			0.44	
Uniform Delay, d1					21.5			21.8			18.0	
Progression Factor					0.55			0.15			1.75	
Incremental Delay, d2					1.6			4.3			1.9	
Delay (s)					13.4			7.6			33.5	
Level of Service					B			A			C	
Approach Delay (s)		0.0			13.4			7.6			33.5	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.7	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)	11.2
Intersection Capacity Utilization	89.9%	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)	20	868	31	46	504	12	27	495	87	18	275	30
Future Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3123			3120			1615			1626	
Flt Permitted		0.94			0.70			0.97			0.95	
Satd. Flow (perm)		2946			2191			1573			1549	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	22	954	34	51	554	13	30	490	96	20	272	33
RTOR Reduction (vph)	0	3	0	0	2	0	0	7	0	0	4	0
Lane Group Flow (vph)	0	1007	0	0	616	0	0	609	0	0	321	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		34.8			22.4			48.9			48.9	
Effective Green, g (s)		34.8			22.4			48.9			48.9	
Actuated g/C Ratio		0.35			0.22			0.49			0.49	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1047			490			769			757	
v/s Ratio Prot		c0.12										
v/s Ratio Perm		0.22			c0.28			c0.39			0.21	
v/c Ratio		0.96			1.26			0.79			0.42	
Uniform Delay, d1		32.0			38.8			21.3			16.5	
Progression Factor		0.79			0.56			0.62			1.44	
Incremental Delay, d2		17.6			131.2			6.5			1.7	
Delay (s)		42.8			152.9			19.8			25.4	
Level of Service		D			F			B			C	
Approach Delay (s)		42.8			152.9			19.8			25.4	
Approach LOS		D			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	61.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Future Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			0.97			1.00			1.00	
Frt		0.99			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		3068			2994			1590			1599	
Flt Permitted		0.87			0.70			0.99			0.91	
Satd. Flow (perm)		2681			2105			1583			1466	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	34	457	20	126	490	31	8	379	112	31	200	44
RTOR Reduction (vph)	0	3	0	0	3	0	0	9	0	0	7	0
Lane Group Flow (vph)	0	508	0	0	644	0	0	490	0	0	268	0
Confl. Peds. (#/hr)	32		102	102		32	20		21	21		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		46.9			46.9			50.4			50.4	
Effective Green, g (s)		46.9			46.9			50.4			50.4	
Actuated g/C Ratio		0.43			0.43			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.6			6.6	
Lane Grp Cap (vph)		1143			897			725			671	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.31			c0.31			0.18	
v/c Ratio		0.44			0.72			0.68			0.40	
Uniform Delay, d1		22.3			26.1			23.4			19.8	
Progression Factor		0.76			1.46			1.00			0.44	
Incremental Delay, d2		1.1			0.5			5.0			1.7	
Delay (s)		18.0			38.4			28.4			10.4	
Level of Service		B			D			C			B	
Approach Delay (s)		18.0			38.4			28.4			10.4	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	EBR2	NBT	NBR	SBL2	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	80	942	41	40	393	346	83	312	225
Future Volume (vph)	80	942	41	40	393	346	83	312	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		5.0				4.0
Lane Util. Factor		0.86	0.86		1.00				*0.95
Frpb, ped/bikes		1.00	1.00		0.95				1.00
Flpb, ped/bikes		0.99	1.00		1.00				1.00
Frt		1.00	0.85		0.93				1.00
Flt Protected		1.00	1.00		1.00				1.00
Satd. Flow (prot)		3977	1144		1390				3200
Flt Permitted		1.00	1.00		1.00				0.13
Satd. Flow (perm)		3977	1144		1390				188
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor (vph)	100%	100%	100%	100%	90%	100%	100%	90%	90%
Adj. Flow (vph)	82	971	42	41	365	357	86	289	209
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1057	79	0	722	0	0	0	584
Confl. Peds. (#/hr)	72		46			90	90		
Turn Type	Perm	NA	Prot		NA		custom	Prot	NA
Protected Phases		4	4		3			2	2 3
Permitted Phases	4						2		
Actuated Green, G (s)		22.0	22.0		25.0				43.0
Effective Green, g (s)		23.0	23.0		25.0				45.0
Actuated g/C Ratio		0.29	0.29		0.31				0.56
Clearance Time (s)		5.0	5.0		5.0				
Lane Grp Cap (vph)		1143	328		434				821
v/s Ratio Prot			0.07		c0.52				c0.17
v/s Ratio Perm		0.27							0.23
v/c Ratio		0.92	0.24		1.66				0.71
Uniform Delay, d1		27.7	21.8		27.5				12.8
Progression Factor		1.21	1.20		1.00				0.81
Incremental Delay, d2		9.6	1.1		308.7				4.5
Delay (s)		42.9	27.2		336.2				14.8
Level of Service		D	C		F				B
Approach Delay (s)		41.8			336.2				14.8
Approach LOS		D			F				B

Intersection Summary			
HCM 2000 Control Delay	122.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Future Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		4152						1530			1530	
Flt Permitted		1.00						1.00			0.46	
Satd. Flow (perm)		4152						1530			710	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	61	604	47	0	0	0	0	478	63	256	488	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	0	0	0	535	0	0	744	0
Confl. Peds. (#/hr)	42		48	48		42	39		40	40		39
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1608						803			363	
v/s Ratio Prot								0.35				
v/s Ratio Perm		0.17									c1.05	
v/c Ratio		0.44						0.67			2.05	
Uniform Delay, d1		18.1						13.9			19.5	
Progression Factor		1.53						2.06			0.53	
Incremental Delay, d2		0.8						3.6			477.1	
Delay (s)		28.4						32.2			487.3	
Level of Service		C						C			F	
Approach Delay (s)		28.4			0.0			32.2			487.3	
Approach LOS		C			A			C			F	

Intersection Summary			
HCM 2000 Control Delay	200.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Future Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			6.6			6.6	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.46	1.00	0.99			0.93			0.98	
Flpb, ped/bikes	0.93	1.00	1.00	0.85	1.00			1.00			0.99	
Frt	1.00	1.00	0.85	1.00	0.99			0.97			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1459	3143	645	1329	1625			1483			1560	
Flt Permitted	0.52	1.00	1.00	0.51	1.00			1.00			0.91	
Satd. Flow (perm)	804	3143	645	715	1625			1477			1434	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	34	346	21	124	377	29	7	372	109	31	196	43
RTOR Reduction (vph)	0	0	15	0	3	0	0	10	0	0	6	0
Lane Group Flow (vph)	34	346	6	124	403	0	0	478	0	0	264	0
Confl. Peds. (#/hr)	71		372	372		71	87		403	403		87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Effective Green, g (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Actuated g/C Ratio	0.30	0.30	0.30	0.43	0.48			0.40			0.40	
Clearance Time (s)	6.6	6.6	6.6	4.6				6.6			6.6	
Lane Grp Cap (vph)	244	954	195	391	774			596			578	
v/s Ratio Prot		0.11		0.04	c0.25							
v/s Ratio Perm	0.04		0.01	0.10				c0.32			0.18	
v/c Ratio	0.14	0.36	0.03	0.32	0.52			0.80			0.46	
Uniform Delay, d1	27.8	30.0	26.9	19.4	20.1			28.9			24.0	
Progression Factor	1.13	1.10	1.00	0.47	0.35			1.00			1.00	
Incremental Delay, d2	1.1	1.0	0.3	1.5	1.8			10.9			2.6	
Delay (s)	32.6	33.9	27.2	10.7	8.7			39.9			26.6	
Level of Service	C	C	C	B	A			D			C	
Approach Delay (s)		33.5			9.2			39.9			26.6	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Future Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.98	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					3109			1642			1557	
Flt Permitted					1.00			0.93			1.00	
Satd. Flow (perm)					3109			1531			1557	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	40	825	10	55	503	0	0	248	112
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	874	0	0	558	0	0	344	0
Confl. Peds. (#/hr)	54		41	41		54	28		3	3		28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			44.0			44.0	
Effective Green, g (s)					44.0			44.0			44.0	
Actuated g/C Ratio					0.44			0.44			0.44	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1367			673			685	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.28			c0.36				
v/c Ratio					0.64			0.83			0.50	
Uniform Delay, d1					21.8			24.7			20.1	
Progression Factor					0.41			0.79			0.58	
Incremental Delay, d2					2.0			7.3			2.5	
Delay (s)					11.0			26.8			14.2	
Level of Service					B			C			B	
Approach Delay (s)		0.0			11.0			26.8			14.2	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Future Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.98			1.00			0.97	
Flpb, ped/bikes					0.92			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					4212			1723			1644	
Flt Permitted					0.99			0.73			1.00	
Satd. Flow (perm)					4212			1262			1644	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	137	577	45	69	573	0	0	607	127
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	752	0	0	642	0	0	726	0
Confl. Peds. (#/hr)	131		247	247		131	146		249	249		146
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					30.0			62.0			62.0	
Effective Green, g (s)					31.0			61.0			62.0	
Actuated g/C Ratio					0.31			0.61			0.62	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1305			769			1019	
v/s Ratio Prot											0.44	
v/s Ratio Perm					0.18			c0.51				
v/c Ratio					0.58			0.83			0.71	
Uniform Delay, d1					29.0			15.5			12.9	
Progression Factor					1.33			0.72			0.41	
Incremental Delay, d2					0.5			10.3			3.5	
Delay (s)					39.1			21.4			8.7	
Level of Service					D			C			A	
Approach Delay (s)		0.0			39.1			21.4			8.7	
Approach LOS		A			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	23.3	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)	8.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Future Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	0.92						0.94			1.00	
Flpb, ped/bikes	0.84	1.00						1.00			1.00	
Frt	1.00	0.95						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1245	2590						1427			1557	
Flt Permitted	0.95	1.00						1.00			0.97	
Satd. Flow (perm)	1245	2590						1427			1517	
Peak-hour factor, PHF	0.92	0.92	1.00	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	52	193	94	0	0	0	0	494	117	22	596	0
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	227	0	0	0	0	0	611	0	0	618	0
Confl. Peds. (#/hr)	104		154	154		104	157		306	306		157
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	34.0	34.0						60.0			60.0	
Effective Green, g (s)	33.0	33.0						59.0			60.0	
Actuated g/C Ratio	0.33	0.33						0.59			0.60	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	410	854						841			910	
v/s Ratio Prot		c0.09						c0.43				
v/s Ratio Perm	0.04										0.41	
v/c Ratio	0.13	0.27						0.73			0.68	
Uniform Delay, d1	23.4	24.6						14.7			13.5	
Progression Factor	0.61	0.45						0.38			0.35	
Incremental Delay, d2	0.3	0.3						3.1			1.5	
Delay (s)	14.5	11.4						8.7			6.1	
Level of Service	B	B						A			A	
Approach Delay (s)		11.8			0.0			8.7			6.1	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.4	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)	8.0
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)	85	721	49	0	0	0	0	571	102	54	721	0
Future Volume (vph)	85	721	49	0	0	0	0	571	102	54	721	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	1.00						1.00			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.99						0.98			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2939						4800			1559	
Flt Permitted	0.95	1.00						1.00			0.87	
Satd. Flow (perm)	1486	2939						1530			1364	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	92	784	53	0	0	0	0	559	111	59	705	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	837	0	0	0	0	0	670	0	0	764	0
Confl. Peds. (#/hr)			6	6								
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	32.0	32.0						62.0			62.0	
Effective Green, g (s)	31.0	31.0						61.0			62.0	
Actuated g/C Ratio	0.31	0.31						0.61			0.62	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	460	911						2928			845	
v/s Ratio Prot		c0.28						0.14				
v/s Ratio Perm	0.06										c0.56	
v/c Ratio	0.20	0.92						0.23			0.90	
Uniform Delay, d1	25.4	33.3						8.8			16.4	
Progression Factor	1.20	1.03						1.14			0.68	
Incremental Delay, d2	0.5	9.7						0.1			11.6	
Delay (s)	30.9	43.9						10.2			22.8	
Level of Service	C	D						B			C	
Approach Delay (s)		42.6			0.0			10.2			22.8	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
Future Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
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			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.97			0.99			0.99			1.00	
Satd. Flow (prot)		1471			2869			1542			1489	
Flt Permitted		0.56			0.87			0.85			0.99	
Satd. Flow (perm)		849			2509			1312			1470	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	99	58	19	73	361	19	65	497	15	16	559	182
RTOR Reduction (vph)	0	0	0	0	3	0	0	1	0	0	11	0
Lane Group Flow (vph)	0	176	0	0	450	0	0	576	0	0	746	0
Confl. Peds. (#/hr)	27		55	55		27	27		66	66		27
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)		38.0			28.0			53.0			53.0	
Effective Green, g (s)		36.0			27.0			52.0			53.0	
Actuated g/C Ratio		0.36			0.27			0.52			0.53	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		361			677			682			779	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.13			c0.18			0.44			c0.51	
v/c Ratio		0.49			0.66			0.84			0.96	
Uniform Delay, d1		24.8			32.5			20.5			22.4	
Progression Factor		1.19			0.71			0.56			1.11	
Incremental Delay, d2		4.6			4.9			10.1			20.7	
Delay (s)		34.2			27.8			21.6			45.5	
Level of Service		C			C			C			D	
Approach Delay (s)		34.2			27.8			21.6			45.5	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Future Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					6259			1559			1515	
Flt Permitted					0.99			0.23			1.00	
Satd. Flow (perm)					6259			356			1515	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	0	0	0	569	2276	49	54	629	0	0	611	187
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	2894	0	0	683	0	0	795	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					57.0			37.0			37.0	
Effective Green, g (s)					56.0			36.0			37.0	
Actuated g/C Ratio					0.56			0.36			0.37	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3505			128			560	
v/s Ratio Prot											0.52	
v/s Ratio Perm					0.46			c1.92				
v/c Ratio					0.83			5.34			1.42	
Uniform Delay, d1					18.0			32.0			31.5	
Progression Factor					0.46			0.68			0.67	
Incremental Delay, d2					1.6			1957.7			197.0	
Delay (s)					9.9			1979.5			218.0	
Level of Service					A			F			F	
Approach Delay (s)		0.0			9.9			1979.5			218.0	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	355.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Future Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3110			3110			1606			1611	
Flt Permitted		0.93			0.81			0.97			0.95	
Satd. Flow (perm)		2903			2544			1564			1534	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	90%	100%	100%	90%	100%
Adj. Flow (vph)	21	831	32	46	514	12	28	455	88	19	253	32
RTOR Reduction (vph)	0	3	0	0	1	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	881	0	0	571	0	0	565	0	0	300	0
Confl. Peds. (#/hr)	31		25	25		31	55		11	11		55
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		51.9			51.9			35.9			35.9	
Effective Green, g (s)		51.9			51.9			35.9			35.9	
Actuated g/C Ratio		0.52			0.52			0.36			0.36	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1506			1320			561			550	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.22			c0.36			0.20	
v/c Ratio		0.59			0.43			1.01			0.54	
Uniform Delay, d1		16.6			14.9			32.0			25.5	
Progression Factor		0.94			0.25			1.29			0.98	
Incremental Delay, d2		1.1			0.1			34.9			3.7	
Delay (s)		16.7			3.8			76.4			28.8	
Level of Service		B			A			E			C	
Approach Delay (s)		16.7			3.8			76.4			28.8	
Approach LOS		B			A			E			C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
Future Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
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	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.98			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1524			2939						4173	
Flt Permitted		1.00			0.89						1.00	
Satd. Flow (perm)		1524			2623						4173	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	90%	100%
Adj. Flow (vph)	0	124	19	79	528	0	0	0	0	17	506	56
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	137	0	0	607	0	0	0	0	0	579	0
Confl. Peds. (#/hr)	51		40	40		51	6		88	88		6
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		32.0			32.0						62.0	
Effective Green, g (s)		31.0			31.0						61.0	
Actuated g/C Ratio		0.31			0.31						0.61	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		472			813						2545	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.23						0.14	
v/c Ratio		0.29			0.75						0.23	
Uniform Delay, d1		26.2			31.0						8.8	
Progression Factor		0.55			0.93						0.95	
Incremental Delay, d2		0.7			3.9						0.2	
Delay (s)		15.1			32.6						8.6	
Level of Service		B			C						A	
Approach Delay (s)		15.1			32.6			0.0			8.6	
Approach LOS		B			C			A			A	

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)	8.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

20% Diversion

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Future Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.91		0.99	0.97		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		0.99			1.00	
Frt		1.00	0.85		0.95	0.85		0.98			0.99	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.97	
Satd. Flow (prot)		3069	1258		2760	1221		1540			2974	
Flt Permitted		0.90	1.00		0.92	1.00		0.63			0.56	
Satd. Flow (perm)		2767	1258		2554	1221		994			1705	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor (vph)	100%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	100%
Adj. Flow (vph)	22	304	65	18	234	312	132	195	62	179	139	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	61	0	0	61	0
Lane Group Flow (vph)	0	326	65	0	386	178	0	328	0	0	268	0
Confl. Peds. (#/hr)	11		30	30		11	40		5	5		40
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Effective Green, g (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Actuated g/C Ratio		0.39	0.39		0.39	0.39		0.24			0.24	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		1088	494		1004	480		240			412	
v/s Ratio Prot												
v/s Ratio Perm		0.12	0.05		c0.15	0.15		c0.33			0.16	
v/c Ratio		0.30	0.13		0.38	0.37		1.36			0.65	
Uniform Delay, d1		34.4	32.0		35.8	35.5		62.5			56.3	
Progression Factor		0.47	0.49		0.95	0.95		1.00			1.00	
Incremental Delay, d2		0.7	0.5		1.0	2.0		188.6			7.7	
Delay (s)		16.9	16.2		34.9	35.6		251.2			64.0	
Level of Service		B	B		C	D		F			E	
Approach Delay (s)		16.8			35.2			251.2			64.0	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	85.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	126.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NER2	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	0	21	15	0	12	6
Future Volume (vph)	0	21	15	0	12	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1		
Lane Util. Factor		1.00	1.00	1.00		
Frpb, ped/bikes		1.00	1.00	0.92		
Flpb, ped/bikes		0.99	0.93	1.00		
Frt		1.00	1.00	0.85		
Flt Protected		0.95	0.95	1.00		
Satd. Flow (prot)		1530	1437	1270		
Flt Permitted		0.95	0.95	1.00		
Satd. Flow (perm)		1530	1437	1270		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor (vph)	100%	80%	80%	100%	100%	100%
Adj. Flow (vph)	0	19	14	0	14	7
RTOR Reduction (vph)	0	0	0	16	0	0
Lane Group Flow (vph)	0	19	14	5	0	0
Confl. Peds. (#/hr)	30	5	30		40	11
Turn Type	Free	Perm	Perm	NA		
Protected Phases				4		
Permitted Phases	Free	4	4			
Actuated Green, G (s)		37.9	37.9	37.9		
Effective Green, g (s)		37.9	37.9	37.9		
Actuated g/C Ratio		0.23	0.23	0.23		
Clearance Time (s)		7.1	7.1	7.1		
Lane Grp Cap (vph)		351	330	291		
v/s Ratio Prot				0.00		
v/s Ratio Perm		c0.01	0.01			
v/c Ratio		0.05	0.04	0.02		
Uniform Delay, d1		49.6	49.4	49.1		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		0.3	0.2	0.1		
Delay (s)		49.9	49.7	49.2		
Level of Service		D	D	D		
Approach Delay (s)				49.6		
Approach LOS				D		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Future Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.91		0.99			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.98				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1607	1249		1587			1498				
Flt Permitted		0.95	1.00		0.97			0.96				
Satd. Flow (perm)		1529	1249		1537			1498				
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
Growth Factor (vph)	100%	80%	80%	80%	80%	100%	80%	80%	80%	100%	100%	100%
Adj. Flow (vph)	31	313	204	17	241	18	292	16	58	0	0	0
RTOR Reduction (vph)	0	0	119	0	2	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	344	85	0	274	0	0	362	0	0	0	0
Confl. Peds. (#/hr)	28		22	22		28	4		23	23		4
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		68.4	68.4		68.4			83.4				
Effective Green, g (s)		68.4	68.4		68.4			83.4				
Actuated g/C Ratio		0.41	0.41		0.41			0.51				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		633	517		637			757				
v/s Ratio Prot												
v/s Ratio Perm		c0.22	0.07		0.18			0.24				
v/c Ratio		0.54	0.16		0.43			0.48				
Uniform Delay, d1		36.5	30.3		34.4			26.6				
Progression Factor		1.23	4.29		1.00			1.00				
Incremental Delay, d2		2.9	0.6		2.1			2.2				
Delay (s)		47.7	130.7		36.5			28.8				
Level of Service		D	F		D			C				
Approach Delay (s)		78.6			36.5			28.8			0.0	
Approach LOS		E			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	945	18	35	971	41	29	470	78	35	409	38
Future Volume (vph)	31	945	18	35	971	41	29	470	78	35	409	38
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.91			0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.99			0.98			0.99	
Flt Protected	0.95	1.00			1.00			1.00			1.00	
Satd. Flow (prot)	1386	3962			2740			1412			1427	
Flt Permitted	0.95	1.00			0.84			0.96			0.93	
Satd. Flow (perm)	1386	3962			2305			1359			1336	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	32	984	19	36	1011	43	30	392	81	36	341	40
RTOR Reduction (vph)	0	2	0	0	3	0	0	7	0	0	4	0
Lane Group Flow (vph)	32	1001	0	0	1087	0	0	496	0	0	413	0
Confl. Peds. (#/hr)	28		46	46		28	30		39	39		30
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	8.0	34.0			34.0			45.0			45.0	
Effective Green, g (s)	8.0	34.0			34.0			45.0			45.0	
Actuated g/C Ratio	0.08	0.34			0.34			0.45			0.45	
Clearance Time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	110	1347			783			611			601	
v/s Ratio Prot	c0.02	0.25										
v/s Ratio Perm					c0.47			c0.36			0.31	
v/c Ratio	0.29	0.74			1.39			0.81			0.69	
Uniform Delay, d1	43.3	29.1			33.0			23.8			21.9	
Progression Factor	1.57	0.40			0.60			1.00			0.61	
Incremental Delay, d2	4.6	2.6			182.5			11.2			5.9	
Delay (s)	72.8	14.2			202.3			35.0			19.3	
Level of Service	E	B			F			D			B	
Approach Delay (s)		16.0			202.3			35.0			19.3	
Approach LOS		B			F			D			B	

Intersection Summary			
HCM 2000 Control Delay	86.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Future Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0		4.0	4.0			5.0			5.0	
Lane Util. Factor		0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.98			0.99	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		3958		1386	2749			1411			1428	
Flt Permitted		0.88		0.95	1.00			0.96			0.93	
Satd. Flow (perm)		3475		1386	2749			1358			1328	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	31	918	18	36	1047	44	31	392	81	36	342	39
RTOR Reduction (vph)	0	2	0	0	3	0	0	7	0	0	4	0
Lane Group Flow (vph)	0	965	0	36	1088	0	0	497	0	0	413	0
Confl. Peds. (#/hr)	51		24	24		51	31		44	44		31
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		41.0		8.0	53.0			39.0			39.0	
Effective Green, g (s)		41.0		8.0	53.0			39.0			39.0	
Actuated g/C Ratio		0.41		0.08	0.53			0.39			0.39	
Clearance Time (s)		3.0		4.0				5.0			5.0	
Lane Grp Cap (vph)		1424		110	1456			529			517	
v/s Ratio Prot				0.03	c0.40							
v/s Ratio Perm		0.28						c0.37			0.31	
v/c Ratio		0.68		0.33	0.75			0.94			0.80	
Uniform Delay, d1		24.1		43.5	18.3			29.4			27.0	
Progression Factor		1.29		1.27	0.94			1.00			0.47	
Incremental Delay, d2		2.5		0.7	0.3			26.8			11.4	
Delay (s)		33.7		56.0	17.6			56.2			24.2	
Level of Service		C		E	B			E			C	
Approach Delay (s)		33.7			18.8			56.2			24.2	
Approach LOS		C			B			E			C	

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)	12.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Future Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.95	1.00					1.00			1.00	
Frt		1.00	0.85					0.98			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		2957	1250					1526			1433	
Flt Permitted		0.99	1.00					1.00			0.91	
Satd. Flow (perm)		2957	1250					1526			1317	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	88	720	52	0	0	0	0	471	105	57	594	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	808	52	0	0	0	0	568	0	0	651	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		30.0	30.0					62.0			62.0	
Effective Green, g (s)		31.0	31.0					62.0			61.0	
Actuated g/C Ratio		0.31	0.31					0.62			0.61	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		916	387					946			803	
v/s Ratio Prot			0.04					0.37				
v/s Ratio Perm		0.27									c0.49	
v/c Ratio		0.88	0.13					0.60			0.81	
Uniform Delay, d1		32.8	24.8					11.5			15.0	
Progression Factor		0.84	1.00					0.56			0.41	
Incremental Delay, d2		1.3	0.1					1.5			5.8	
Delay (s)		28.8	24.8					8.0			11.9	
Level of Service		C	C					A			B	
Approach Delay (s)		28.5			0.0			8.0			11.9	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Future Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.98			1.00			0.94	
Flpb, ped/bikes				0.51	0.98			0.99			1.00	
Frt				1.00	0.99			1.00			0.97	
Flt Protected				0.95	1.00			0.99			1.00	
Satd. Flow (prot)				655	3834			1544			1436	
Flt Permitted				0.95	1.00			0.75			1.00	
Satd. Flow (perm)				655	3834			1165			1436	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	136	585	44	67	505	0	0	534	124
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	116	641	0	0	572	0	0	658	0
Confl. Peds. (#/hr)	173		244	244		173	228		208	208		228
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				37.0	37.0			57.0			57.0	
Effective Green, g (s)				36.0	36.0			57.0			56.0	
Actuated g/C Ratio				0.36	0.36			0.57			0.56	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				235	1380			664			804	
v/s Ratio Prot											0.46	
v/s Ratio Perm				c0.18	0.17			c0.49				
v/c Ratio				0.49	0.46			0.86			0.82	
Uniform Delay, d1				24.9	24.6			18.2			17.9	
Progression Factor				0.47	0.48			0.76			1.04	
Incremental Delay, d2				5.8	0.9			11.1			7.1	
Delay (s)				17.4	12.7			24.8			25.7	
Level of Service				B	B			C			C	
Approach Delay (s)		0.0			13.4			24.8			25.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Future Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4500			1558			1517	
Flt Permitted				0.95	1.00			0.33			1.00	
Satd. Flow (perm)				2600	4500			519			1517	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	529	1761	47	51	519	0	0	586	173
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	476	1861	0	0	570	0	0	759	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			1 2			1 2	
Permitted Phases							1 2					
Actuated Green, G (s)				40.0	49.0			42.0			42.0	
Effective Green, g (s)				39.0	47.0			42.0			41.0	
Actuated g/C Ratio				0.39	0.47			0.42			0.41	
Clearance Time (s)				3.0								
Lane Grp Cap (vph)				1014	2295			217			621	
v/s Ratio Prot				0.18	c0.32						0.50	
v/s Ratio Perm					0.10			c1.10				
v/c Ratio				0.47	0.81			2.63			1.22	
Uniform Delay, d1				22.8	22.7			29.0			29.5	
Progression Factor				0.73	0.63			1.00			0.82	
Incremental Delay, d2				0.5	1.1			745.2			109.3	
Delay (s)				17.2	15.4			774.2			133.5	
Level of Service				B	B			F			F	
Approach Delay (s)		0.0			15.8			774.2			133.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	158.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL2	SWL
Lane Configurations										
Traffic Volume (vph)	47	81	22	539	115	23	155	50	71	528
Future Volume (vph)	47	81	22	539	115	23	155	50	71	528
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		5.0			4.0			4.0
Lane Util. Factor		0.95		1.00			1.00			*0.91
Frpb, ped/bikes		0.98		1.00			0.97			1.00
Flpb, ped/bikes		1.00		1.00			1.00			1.00
Frt		0.98		0.97			0.97			1.00
Flt Protected		0.99		1.00			0.99			1.00
Satd. Flow (prot)		2817		1520			1465			4800
Flt Permitted		0.99		1.00			0.32			1.00
Satd. Flow (perm)		2817		1520			473			4272
Peak-hour factor, PHF	1.00	0.92	0.92	1.00	1.00	0.94	0.94	1.00	0.94	0.94
Growth Factor (vph)	100%	100%	100%	80%	100%	100%	80%	100%	100%	80%
Adj. Flow (vph)	47	88	24	431	115	24	132	50	76	449
RTOR Reduction (vph)	0	0	0	71	0	0	0	0	0	0
Lane Group Flow (vph)	0	159	0	475	0	0	206	0	0	525
Confl. Peds. (#/hr)			25			32		25		
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0	0
Turn Type	Perm	NA		NA		Perm	NA		Perm	Prot
Protected Phases		4		3			3			2
Permitted Phases	4					3			2	
Actuated Green, G (s)		16.0		18.0			18.0			50.0
Effective Green, g (s)		18.0		18.0			19.0			51.0
Actuated g/C Ratio		0.18		0.18			0.19			0.51
Clearance Time (s)		6.0		5.0			5.0			5.0
Lane Grp Cap (vph)		507		273			89			2178
v/s Ratio Prot				0.31						
v/s Ratio Perm		0.06					c0.44			c0.12
v/c Ratio		0.31		1.74			2.31			0.24
Uniform Delay, d1		35.6		41.0			40.5			13.7
Progression Factor		0.99		0.77			1.21			0.48
Incremental Delay, d2		1.6		340.4			620.0			0.3
Delay (s)		37.0		372.0			669.0			6.8
Level of Service		D		F			F			A
Approach Delay (s)		37.0		372.0			669.0			6.8
Approach LOS		D		F			F			A

Intersection Summary			
HCM 2000 Control Delay	244.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Future Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1512			2938			1550			1510	
Flt Permitted		0.49			0.84			0.93			0.97	
Satd. Flow (perm)		756			2494			1444			1473	
Peak-hour factor, PHF	0.59	0.59	0.59	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.64	0.64
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	159	158	29	92	568	24	61	424	13	15	229	78
RTOR Reduction (vph)	0	3	0	0	2	0	0	1	0	0	12	0
Lane Group Flow (vph)	0	343	0	0	682	0	0	497	0	0	310	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		52.0			52.0			42.0			42.0	
Effective Green, g (s)		51.0			51.0			42.0			41.0	
Actuated g/C Ratio		0.51			0.51			0.42			0.41	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		385			1271			606			603	
v/s Ratio Prot												
v/s Ratio Perm		c0.45			0.27			c0.34			0.21	
v/c Ratio		0.89			0.54			0.82			0.51	
Uniform Delay, d1		22.0			16.5			25.7			22.1	
Progression Factor		0.91			1.03			1.06			1.98	
Incremental Delay, d2		25.1			1.3			1.2			0.3	
Delay (s)		45.2			18.3			28.4			44.0	
Level of Service		D			B			C			D	
Approach Delay (s)		45.2			18.3			28.4			44.0	
Approach LOS		D			B			C			D	

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)	8.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1191	75	0	0	0	0	419	321	48	502	0
Future Volume (vph)	105	1191	75	0	0	0	0	419	321	48	502	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.86						1.00			1.00	
Frpb, ped/bikes		0.99						0.98			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.93			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		5238						1433			1555	
Flt Permitted		1.00						1.00			0.87	
Satd. Flow (perm)		5238						1433			1359	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	108	1228	77	0	0	0	0	346	331	49	414	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	1413	0	0	0	0	0	675	0	0	463	0
Confl. Peds. (#/hr)	48		57	57		48	71		29	29		71
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		26.0						46.0			46.0	
Effective Green, g (s)		27.0						45.0			46.0	
Actuated g/C Ratio		0.34						0.56			0.58	
Clearance Time (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1767						806			781	
v/s Ratio Prot								c0.47				
v/s Ratio Perm		0.27									0.34	
v/c Ratio		0.80						0.84			0.59	
Uniform Delay, d1		24.0						14.5			11.0	
Progression Factor		1.25						1.00			0.37	
Incremental Delay, d2		0.4						10.1			3.0	
Delay (s)		30.5						24.6			7.0	
Level of Service		C						C			A	
Approach Delay (s)		30.5			0.0			24.6			7.0	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Future Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.97						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.97						0.98			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		3987						1531			1543	
Flt Permitted		1.00						1.00			0.82	
Satd. Flow (perm)		3987						1531			1281	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	60	609	202	0	0	0	0	407	61	90	289	0
RTOR Reduction (vph)	0	69	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	802	0	0	0	0	0	461	0	0	379	0
Confl. Peds. (#/hr)	34		45	45		34	55		16	16		55
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		25.0						49.0			49.0	
Effective Green, g (s)		24.0						48.0			49.0	
Actuated g/C Ratio		0.30						0.60			0.61	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1196						918			784	
v/s Ratio Prot								c0.30				
v/s Ratio Perm		0.20									0.30	
v/c Ratio		0.67						0.50			0.48	
Uniform Delay, d1		24.5						9.2			8.5	
Progression Factor		0.31						0.37			0.28	
Incremental Delay, d2		1.7						1.6			1.9	
Delay (s)		9.3						5.0			4.3	
Level of Service		A						A			A	
Approach Delay (s)		9.3			0.0			5.0			4.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Future Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.95	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3117			1642			1556	
Flt Permitted					1.00			0.93			1.00	
Satd. Flow (perm)					3117			1534			1556	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	38	664	11	52	419	0	0	205	104
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	18	0
Lane Group Flow (vph)	0	0	0	0	712	0	0	471	0	0	291	0
Confl. Peds. (#/hr)	17		15	17		15	21		12	12		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					42.4			46.4			46.4	
Effective Green, g (s)					42.4			46.4			46.4	
Actuated g/C Ratio					0.42			0.46			0.46	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1321			711			721	
v/s Ratio Prot											0.19	
v/s Ratio Perm					0.23			c0.31				
v/c Ratio					0.54			0.66			0.40	
Uniform Delay, d1					21.5			20.7			17.7	
Progression Factor					0.55			0.16			1.83	
Incremental Delay, d2					1.6			3.2			1.6	
Delay (s)					13.4			6.4			33.9	
Level of Service					B			A			C	
Approach Delay (s)		0.0			13.4			6.4			33.9	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.4	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)	11.2
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Future Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3123			3120			1611			1624	
Flt Permitted		0.94			0.70			0.97			0.95	
Satd. Flow (perm)		2946			2191			1568			1546	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	22	954	34	51	554	13	30	435	96	20	242	33
RTOR Reduction (vph)	0	3	0	0	2	0	0	8	0	0	5	0
Lane Group Flow (vph)	0	1007	0	0	616	0	0	553	0	0	290	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		34.8			22.4			48.9			48.9	
Effective Green, g (s)		34.8			22.4			48.9			48.9	
Actuated g/C Ratio		0.35			0.22			0.49			0.49	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1047			490			766			755	
v/s Ratio Prot		c0.12										
v/s Ratio Perm		0.22			c0.28			c0.35			0.19	
v/c Ratio		0.96			1.26			0.72			0.38	
Uniform Delay, d1		32.0			38.8			20.2			16.1	
Progression Factor		0.79			0.56			0.59			1.46	
Incremental Delay, d2		17.7			131.2			4.5			1.4	
Delay (s)		42.9			152.9			16.4			24.9	
Level of Service		D			F			B			C	
Approach Delay (s)		42.9			152.9			16.4			24.9	
Approach LOS		D			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	62.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Future Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			0.97			1.00			1.00	
Frt		0.99			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		3068			2994			1585			1595	
Flt Permitted		0.87			0.70			0.99			0.91	
Satd. Flow (perm)		2681			2105			1577			1461	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	34	457	20	126	490	31	8	337	112	31	178	44
RTOR Reduction (vph)	0	3	0	0	3	0	0	11	0	0	7	0
Lane Group Flow (vph)	0	508	0	0	644	0	0	446	0	0	246	0
Confl. Peds. (#/hr)	32		102	102		32	20		21	21		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		46.9			46.9			50.4			50.4	
Effective Green, g (s)		46.9			46.9			50.4			50.4	
Actuated g/C Ratio		0.43			0.43			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.6			6.6	
Lane Grp Cap (vph)		1143			897			722			669	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.31			c0.28			0.17	
v/c Ratio		0.44			0.72			0.62			0.37	
Uniform Delay, d1		22.3			26.1			22.5			19.4	
Progression Factor		0.76			1.46			1.00			0.43	
Incremental Delay, d2		1.2			0.5			3.9			1.5	
Delay (s)		18.2			38.4			26.5			9.8	
Level of Service		B			D			C			A	
Approach Delay (s)		18.2			38.4			26.5			9.8	
Approach LOS		B			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	EBR2	NBT	NBR	SBL2	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	80	942	41	40	393	346	83	312	225
Future Volume (vph)	80	942	41	40	393	346	83	312	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		5.0				4.0
Lane Util. Factor		0.86	0.86		1.00				*0.95
Frpb, ped/bikes		1.00	1.00		0.95				1.00
Flpb, ped/bikes		0.99	1.00		1.00				1.00
Frt		1.00	0.85		0.93				1.00
Flt Protected		1.00	1.00		1.00				1.00
Satd. Flow (prot)		3977	1144		1380				3200
Flt Permitted		1.00	1.00		1.00				0.13
Satd. Flow (perm)		3977	1144		1380				188
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor (vph)	100%	100%	100%	100%	80%	100%	100%	80%	80%
Adj. Flow (vph)	82	971	42	41	324	357	86	257	186
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1057	79	0	681	0	0	0	529
Confl. Peds. (#/hr)	72		46			90	90		
Turn Type	Perm	NA	Prot		NA		custom	Prot	NA
Protected Phases		4	4		3			2	2 3
Permitted Phases	4						2		
Actuated Green, G (s)		22.0	22.0		25.0				43.0
Effective Green, g (s)		23.0	23.0		25.0				45.0
Actuated g/C Ratio		0.29	0.29		0.31				0.56
Clearance Time (s)		5.0	5.0		5.0				
Lane Grp Cap (vph)		1143	328		431				821
v/s Ratio Prot			0.07		c0.49				c0.15
v/s Ratio Perm		0.27							0.21
v/c Ratio		0.92	0.24		1.58				0.64
Uniform Delay, d1		27.7	21.8		27.5				12.0
Progression Factor		1.21	1.20		1.00				0.80
Incremental Delay, d2		9.6	1.1		271.9				3.4
Delay (s)		42.9	27.2		299.4				13.0
Level of Service		D	C		F				B
Approach Delay (s)		41.8			299.4				13.0
Approach LOS		D			F				B

Intersection Summary			
HCM 2000 Control Delay	110.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	111.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Future Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		4152						1526			1526	
Flt Permitted		1.00						1.00			0.49	
Satd. Flow (perm)		4152						1526			769	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	61	604	47	0	0	0	0	425	63	256	434	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	0	0	0	481	0	0	690	0
Confl. Peds. (#/hr)	42		48	48		42	39		40	40		39
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1608						801			394	
v/s Ratio Prot								0.32				
v/s Ratio Perm		0.17									c0.90	
v/c Ratio		0.44						0.60			1.75	
Uniform Delay, d1		18.1						13.2			19.5	
Progression Factor		1.53						2.09			0.53	
Incremental Delay, d2		0.8						2.8			343.3	
Delay (s)		28.4						30.3			353.6	
Level of Service		C						C			F	
Approach Delay (s)		28.4			0.0			30.3			353.6	
Approach LOS		C			A			C			F	

Intersection Summary			
HCM 2000 Control Delay	147.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Future Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			6.6			6.6	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.46	1.00	0.99			0.92			0.98	
Flpb, ped/bikes	0.93	1.00	1.00	0.85	1.00			1.00			0.98	
Frt	1.00	1.00	0.85	1.00	0.99			0.97			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1459	3143	645	1329	1625			1468			1550	
Flt Permitted	0.52	1.00	1.00	0.51	1.00			0.99			0.91	
Satd. Flow (perm)	804	3143	645	715	1625			1461			1425	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	34	346	21	124	377	29	7	331	109	31	174	43
RTOR Reduction (vph)	0	0	15	0	3	0	0	11	0	0	7	0
Lane Group Flow (vph)	34	346	6	124	403	0	0	436	0	0	241	0
Confl. Peds. (#/hr)	71		372	372		71	87		403	403		87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Effective Green, g (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Actuated g/C Ratio	0.30	0.30	0.30	0.43	0.48			0.40			0.40	
Clearance Time (s)	6.6	6.6	6.6	4.6				6.6			6.6	
Lane Grp Cap (vph)	244	954	195	391	774			589			575	
v/s Ratio Prot		0.11		0.04	c0.25							
v/s Ratio Perm	0.04		0.01	0.10				c0.30			0.17	
v/c Ratio	0.14	0.36	0.03	0.32	0.52			0.74			0.42	
Uniform Delay, d1	27.8	30.0	26.9	19.4	20.1			27.9			23.5	
Progression Factor	1.13	1.10	1.00	0.47	0.35			1.00			1.00	
Incremental Delay, d2	1.1	1.0	0.3	1.5	1.8			8.2			2.2	
Delay (s)	32.6	33.9	27.2	10.7	8.8			36.1			25.8	
Level of Service	C	C	C	B	A			D			C	
Approach Delay (s)		33.5			9.2			36.1			25.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	82.6%	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)	0	0	0	36	734	9	49	497	0	0	245	100
Future Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.98	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.95	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3109			1641			1549	
Flt Permitted					1.00			0.92			1.00	
Satd. Flow (perm)					3109			1524			1549	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	40	825	10	55	447	0	0	220	112
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	18	0
Lane Group Flow (vph)	0	0	0	0	874	0	0	502	0	0	314	0
Confl. Peds. (#/hr)	54		41	41		54	28		3	3		28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			44.0			44.0	
Effective Green, g (s)					44.0			44.0			44.0	
Actuated g/C Ratio					0.44			0.44			0.44	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1367			670			681	
v/s Ratio Prot											0.20	
v/s Ratio Perm					0.28			c0.33				
v/c Ratio					0.64			0.75			0.46	
Uniform Delay, d1					21.8			23.4			19.7	
Progression Factor					0.41			0.79			0.53	
Incremental Delay, d2					2.0			4.6			2.1	
Delay (s)					11.1			23.0			12.6	
Level of Service					B			C			B	
Approach Delay (s)		0.0			11.1			23.0			12.6	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	14.9	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)	12.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Future Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.98			1.00			0.96	
Flpb, ped/bikes					0.92			0.99			1.00	
Frt					0.99			1.00			0.97	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					4212			1719			1634	
Flt Permitted					0.99			0.78			1.00	
Satd. Flow (perm)					4212			1350			1634	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	137	577	45	69	509	0	0	539	127
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	752	0	0	578	0	0	658	0
Confl. Peds. (#/hr)	131		247	247		131	146		249	249		146
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					30.0			62.0			62.0	
Effective Green, g (s)					31.0			61.0			62.0	
Actuated g/C Ratio					0.31			0.61			0.62	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1305			823			1013	
v/s Ratio Prot											0.40	
v/s Ratio Perm					0.18			c0.43				
v/c Ratio					0.58			0.70			0.65	
Uniform Delay, d1					29.0			13.3			12.1	
Progression Factor					1.33			0.71			0.41	
Incremental Delay, d2					0.5			4.9			2.8	
Delay (s)					39.1			14.3			7.7	
Level of Service					D			B			A	
Approach Delay (s)		0.0			39.1			14.3			7.7	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Future Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	0.92						0.93			1.00	
Flpb, ped/bikes	0.84	1.00						1.00			1.00	
Frt	1.00	0.95						0.97			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1245	2590						1414			1555	
Flt Permitted	0.95	1.00						1.00			0.97	
Satd. Flow (perm)	1245	2590						1414			1515	
Peak-hour factor, PHF	0.92	0.92	1.00	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	52	193	94	0	0	0	0	439	117	22	530	0
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	227	0	0	0	0	0	556	0	0	552	0
Confl. Peds. (#/hr)	104		154	154		104	157		306	306		157
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	34.0	34.0						60.0			60.0	
Effective Green, g (s)	33.0	33.0						59.0			60.0	
Actuated g/C Ratio	0.33	0.33						0.59			0.60	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	410	854						834			909	
v/s Ratio Prot		c0.09						c0.39				
v/s Ratio Perm	0.04										0.36	
v/c Ratio	0.13	0.27						0.67			0.61	
Uniform Delay, d1	23.4	24.6						13.9			12.6	
Progression Factor	0.61	0.45						0.40			0.38	
Incremental Delay, d2	0.3	0.4						3.0			1.4	
Delay (s)	14.7	11.6						8.6			6.2	
Level of Service	B	B						A			A	
Approach Delay (s)		12.1			0.0			8.6			6.2	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	721	49	0	0	0	0	571	102	54	721	0
Future Volume (vph)	85	721	49	0	0	0	0	571	102	54	721	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	1.00						1.00			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.99						0.98			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2939						4800			1558	
Flt Permitted	0.95	1.00						1.00			0.91	
Satd. Flow (perm)	1486	2939						1526			1428	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	92	784	53	0	0	0	0	497	111	59	627	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	837	0	0	0	0	0	608	0	0	686	0
Confl. Peds. (#/hr)			6	6								
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	32.0	32.0						62.0			62.0	
Effective Green, g (s)	31.0	31.0						61.0			62.0	
Actuated g/C Ratio	0.31	0.31						0.61			0.62	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	460	911						2928			885	
v/s Ratio Prot		c0.28						0.13				
v/s Ratio Perm	0.06										c0.48	
v/c Ratio	0.20	0.92						0.21			0.78	
Uniform Delay, d1	25.4	33.3						8.7			13.9	
Progression Factor	1.20	1.03						1.14			0.70	
Incremental Delay, d2	0.6	10.0						0.1			5.2	
Delay (s)	31.0	44.4						10.0			14.9	
Level of Service	C	D						A			B	
Approach Delay (s)		43.0			0.0			10.0			14.9	
Approach LOS		D			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
Future Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
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			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.98	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.99			0.99			1.00			0.96	
Flt Protected		0.97			0.99			0.99			1.00	
Satd. Flow (prot)		1471			2869			1540			1483	
Flt Permitted		0.56			0.87			0.85			0.99	
Satd. Flow (perm)		849			2509			1319			1464	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	99	58	19	73	361	19	65	442	15	16	497	182
RTOR Reduction (vph)	0	0	0	0	3	0	0	1	0	0	13	0
Lane Group Flow (vph)	0	176	0	0	450	0	0	521	0	0	682	0
Confl. Peds. (#/hr)	27		55	55		27	27		66	66		27
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)		38.0			28.0			53.0			53.0	
Effective Green, g (s)		36.0			27.0			52.0			53.0	
Actuated g/C Ratio		0.36			0.27			0.52			0.53	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		361			677			685			775	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.13			c0.18			0.40			c0.47	
v/c Ratio		0.49			0.66			0.76			0.88	
Uniform Delay, d1		24.8			32.5			19.1			20.7	
Progression Factor		1.19			0.71			0.54			1.11	
Incremental Delay, d2		4.6			4.9			6.7			11.6	
Delay (s)		34.2			27.8			17.0			34.5	
Level of Service		C			C			B			C	
Approach Delay (s)		34.2			27.8			17.0			34.5	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.9	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)	12.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Future Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					6259			1558			1511	
Flt Permitted					0.99			0.23			1.00	
Satd. Flow (perm)					6259			356			1511	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	0	0	0	569	2276	49	54	559	0	0	543	187
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	2894	0	0	613	0	0	727	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					57.0			37.0			37.0	
Effective Green, g (s)					56.0			36.0			37.0	
Actuated g/C Ratio					0.56			0.36			0.37	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3505			128			559	
v/s Ratio Prot											0.48	
v/s Ratio Perm					0.46			c1.72				
v/c Ratio					0.83			4.79			1.30	
Uniform Delay, d1					18.0			32.0			31.5	
Progression Factor					0.46			0.68			0.68	
Incremental Delay, d2					1.6			1711.8			145.2	
Delay (s)					9.9			1733.5			166.8	
Level of Service					A			F			F	
Approach Delay (s)		0.0			9.9			1733.5			166.8	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	286.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Future Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3110			3110			1602			1607	
Flt Permitted		0.93			0.81			0.97			0.95	
Satd. Flow (perm)		2903			2544			1558			1535	
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	80%	100%	100%	80%	100%
Adj. Flow (vph)	21	831	32	46	514	12	28	404	88	19	224	32
RTOR Reduction (vph)	0	3	0	0	1	0	0	7	0	0	4	0
Lane Group Flow (vph)	0	881	0	0	571	0	0	513	0	0	271	0
Confl. Peds. (#/hr)	31		25	25		31	55		11	11		55
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		51.9			51.9			35.9			35.9	
Effective Green, g (s)		51.9			51.9			35.9			35.9	
Actuated g/C Ratio		0.52			0.52			0.36			0.36	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1506			1320			559			551	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.22			c0.33			0.18	
v/c Ratio		0.59			0.43			0.92			0.49	
Uniform Delay, d1		16.6			14.9			30.6			24.9	
Progression Factor		0.94			0.26			1.31			1.01	
Incremental Delay, d2		1.1			0.1			18.5			3.0	
Delay (s)		16.7			3.9			58.5			28.1	
Level of Service		B			A			E			C	
Approach Delay (s)		16.7			3.9			58.5			28.1	
Approach LOS		B			A			E			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	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)	12.2
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
Future Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
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	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.98			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1524			2939						4162	
Flt Permitted		1.00			0.89						1.00	
Satd. Flow (perm)		1524			2623						4162	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	80%	100%
Adj. Flow (vph)	0	124	19	79	528	0	0	0	0	17	449	56
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	137	0	0	607	0	0	0	0	0	522	0
Confl. Peds. (#/hr)	51		40	40		51	6		88	88		6
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		32.0			32.0						62.0	
Effective Green, g (s)		31.0			31.0						61.0	
Actuated g/C Ratio		0.31			0.31						0.61	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		472			813						2538	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.23						0.13	
v/c Ratio		0.29			0.75						0.21	
Uniform Delay, d1		26.2			31.0						8.7	
Progression Factor		0.55			0.94						0.95	
Incremental Delay, d2		0.8			4.1						0.2	
Delay (s)		15.2			33.3						8.4	
Level of Service		B			C						A	
Approach Delay (s)		15.2			33.3			0.0			8.4	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Signal Timing Changes

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Future Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91		1.00			0.95	
Frpb, ped/bikes		1.00	0.91		0.99	0.97		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		0.99			1.00	
Frt		1.00	0.85		0.95	0.85		0.98			1.00	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.97	
Satd. Flow (prot)		3071	1258		2762	1221		1543			2979	
Flt Permitted		0.90	1.00		0.91	1.00		0.54			0.57	
Satd. Flow (perm)		2767	1258		2526	1221		850			1730	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	22	380	81	23	292	390	165	244	77	224	174	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	61	0	0	61	0
Lane Group Flow (vph)	0	402	81	0	479	226	0	425	0	0	348	0
Confl. Peds. (#/hr)	11		30	30		11	40		5	5		40
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Effective Green, g (s)		64.9	64.9		64.9	64.9		39.9			39.9	
Actuated g/C Ratio		0.39	0.39		0.39	0.39		0.24			0.24	
Clearance Time (s)		8.1	8.1		8.1	8.1		7.1			7.1	
Lane Grp Cap (vph)		1088	494		993	480		205			418	
v/s Ratio Prot												
v/s Ratio Perm		0.15	0.06		c0.19	0.19		c0.50			0.20	
v/c Ratio		0.37	0.16		0.48	0.47		2.07			1.09dl	
Uniform Delay, d1		35.5	32.5		37.5	37.3		62.5			59.4	
Progression Factor		0.46	0.49		0.91	0.91		1.00			1.00	
Incremental Delay, d2		0.9	0.7		1.4	2.8		498.4			17.3	
Delay (s)		17.4	16.4		35.6	36.7		561.0			76.7	
Level of Service		B	B		D	D		F			E	
Approach Delay (s)		17.2			36.0			561.0			76.7	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	158.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	128.7%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NER2	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	0	21	15	0	12	6
Future Volume (vph)	0	21	15	0	12	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1		
Lane Util. Factor		1.00	1.00	1.00		
Frpb, ped/bikes		1.00	1.00	0.92		
Flpb, ped/bikes		0.99	0.93	1.00		
Frt		1.00	1.00	0.85		
Flt Protected		0.95	0.95	1.00		
Satd. Flow (prot)		1530	1437	1270		
Flt Permitted		0.95	0.95	1.00		
Satd. Flow (perm)		1530	1437	1270		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	24	17	0	14	7
RTOR Reduction (vph)	0	0	0	16	0	0
Lane Group Flow (vph)	0	24	17	5	0	0
Confl. Peds. (#/hr)	30	5	30		40	11
Turn Type	Free	Perm	Perm	NA		
Protected Phases				4		
Permitted Phases	Free	4	4			
Actuated Green, G (s)		37.9	37.9	37.9		
Effective Green, g (s)		37.9	37.9	37.9		
Actuated g/C Ratio		0.23	0.23	0.23		
Clearance Time (s)		7.1	7.1	7.1		
Lane Grp Cap (vph)		351	330	291		
v/s Ratio Prot				0.00		
v/s Ratio Perm		c0.02	0.01			
v/c Ratio		0.07	0.05	0.02		
Uniform Delay, d1		49.7	49.5	49.1		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		0.4	0.3	0.1		
Delay (s)		50.1	49.8	49.2		
Level of Service		D	D	D		
Approach Delay (s)				49.7		
Approach LOS				D		

Intersection Summary

HCM Signalized Intersection Capacity Analysis
149: Calvert St & University Pkwy

12/3/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Future Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.91		0.99			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.98				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1611	1249		1593			1498				
Flt Permitted		0.95	1.00		0.95			0.96				
Satd. Flow (perm)		1537	1249		1526			1498				
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)	31	391	255	22	301	18	366	20	73	0	0	0
RTOR Reduction (vph)	0	0	138	0	1	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	422	117	0	340	0	0	455	0	0	0	0
Confl. Peds. (#/hr)	28		22	22		28	4		23	23		4
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		75.4	75.4		75.4			76.4				
Effective Green, g (s)		75.4	75.4		75.4			76.4				
Actuated g/C Ratio		0.46	0.46		0.46			0.46				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		702	570		697			693				
v/s Ratio Prot												
v/s Ratio Perm		c0.27	0.09		0.22			0.30				
v/c Ratio		0.60	0.20		0.49			0.66				
Uniform Delay, d1		33.5	26.8		31.3			34.2				
Progression Factor		1.04	5.16		1.00			1.00				
Incremental Delay, d2		3.3	0.7		2.4			4.8				
Delay (s)		38.3	139.2		33.7			39.0				
Level of Service		D	F		C			D				
Approach Delay (s)		76.3			33.7			39.0			0.0	
Approach LOS		E			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	82.8%	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)	31	945	18	35	971	41	29	470	78	35	409	38
Future Volume (vph)	31	945	18	35	971	41	29	470	78	35	409	38
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Util. Factor	1.00	0.91			0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.99			0.98			0.99	
Flt Protected	0.95	1.00			1.00			1.00			1.00	
Satd. Flow (prot)	1386	3962			2740			1420			1433	
Flt Permitted	0.95	1.00			0.84			0.96			0.94	
Satd. Flow (perm)	1386	3962			2305			1367			1346	
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)	32	984	19	36	1011	43	30	490	81	36	426	40
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	32	1001	0	0	1087	0	0	596	0	0	499	0
Confl. Peds. (#/hr)	28		46	46		28	30		39	39		30
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)	8.0	34.0			34.0			45.0			45.0	
Effective Green, g (s)	8.0	34.0			34.0			45.0			45.0	
Actuated g/C Ratio	0.08	0.34			0.34			0.45			0.45	
Clearance Time (s)	3.0	5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)	110	1347			783			615			605	
v/s Ratio Prot	c0.02	0.25										
v/s Ratio Perm					c0.47			c0.44			0.37	
v/c Ratio	0.29	0.74			1.39			0.97			0.82	
Uniform Delay, d1	43.3	29.1			33.0			26.8			24.0	
Progression Factor	1.59	0.39			0.60			1.00			0.69	
Incremental Delay, d2	4.5	2.6			182.5			29.3			11.5	
Delay (s)	73.3	14.0			202.3			56.1			28.0	
Level of Service	E	B			F			E			C	
Approach Delay (s)		15.8			202.3			56.1			28.0	
Approach LOS		B			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	88.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	121.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Future Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0		4.0	4.0			5.0			5.0	
Lane Util. Factor		0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.99			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.98			0.99	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		3958		1386	2749			1419			1433	
Flt Permitted		0.88		0.95	1.00			0.96			0.91	
Satd. Flow (perm)		3475		1386	2749			1365			1314	
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)	31	918	18	36	1047	44	31	490	81	36	427	39
RTOR Reduction (vph)	0	2	0	0	3	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	965	0	36	1088	0	0	597	0	0	499	0
Confl. Peds. (#/hr)	51		24	24		51	31		44	44		31
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		41.0		8.0	53.0			39.0			39.0	
Effective Green, g (s)		41.0		8.0	53.0			39.0			39.0	
Actuated g/C Ratio		0.41		0.08	0.53			0.39			0.39	
Clearance Time (s)		3.0		4.0				5.0			5.0	
Lane Grp Cap (vph)		1424		110	1456			532			512	
v/s Ratio Prot				0.03	c0.40							
v/s Ratio Perm		0.28						c0.44			0.38	
v/c Ratio		0.68		0.33	0.75			1.12			0.97	
Uniform Delay, d1		24.1		43.5	18.3			30.5			30.0	
Progression Factor		1.29		1.27	0.94			1.00			0.55	
Incremental Delay, d2		2.5		0.7	0.3			76.8			32.8	
Delay (s)		33.7		56.0	17.5			107.3			49.5	
Level of Service		C		E	B			F			D	
Approach Delay (s)		33.7			18.7			107.3			49.5	
Approach LOS		C			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Future Volume (vph)	85	698	50	0	0	0	0	571	102	55	720	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					3.0			4.0	
Lane Util. Factor		0.95	1.00					1.00			1.00	
Frt		1.00	0.85					0.98			1.00	
Flt Protected		0.99	1.00					1.00			1.00	
Satd. Flow (prot)		2957	1250					1533			1434	
Flt Permitted		0.99	1.00					1.00			0.84	
Satd. Flow (perm)		2957	1250					1533			1211	
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)	88	720	52	0	0	0	0	589	105	57	742	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	808	52	0	0	0	0	688	0	0	799	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type	Perm	NA	Prot					NA		Perm	NA	
Protected Phases		4	4					2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		30.0	30.0					62.0			62.0	
Effective Green, g (s)		31.0	31.0					62.0			61.0	
Actuated g/C Ratio		0.31	0.31					0.62			0.61	
Clearance Time (s)		5.0	5.0					3.0			3.0	
Lane Grp Cap (vph)		916	387					950			738	
v/s Ratio Prot			0.04					0.45				
v/s Ratio Perm		0.27									c0.66	
v/c Ratio		0.88	0.13					0.72			1.08	
Uniform Delay, d1		32.8	24.8					13.1			19.5	
Progression Factor		0.84	1.00					0.60			0.36	
Incremental Delay, d2		1.3	0.1					3.0			48.0	
Delay (s)		28.8	24.8					10.8			55.1	
Level of Service		C	C					B			E	
Approach Delay (s)		28.5			0.0			10.8			55.1	
Approach LOS		C			A			B			E	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Future Volume (vph)	0	0	0	128	550	41	63	593	0	0	627	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.86	0.86			1.00			1.00	
Frpb, ped/bikes				1.00	0.98			1.00			0.95	
Flpb, ped/bikes				0.51	0.98			1.00			1.00	
Frt				1.00	0.99			1.00			0.98	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				655	3834			1557			1458	
Flt Permitted				0.95	1.00			0.62			1.00	
Satd. Flow (perm)				655	3834			964			1458	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	136	585	44	67	631	0	0	667	124
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	116	641	0	0	698	0	0	791	0
Confl. Peds. (#/hr)	173		244	244		173	228		208	208		228
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				37.0	37.0			57.0			57.0	
Effective Green, g (s)				36.0	36.0			57.0			56.0	
Actuated g/C Ratio				0.36	0.36			0.57			0.56	
Clearance Time (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				235	1380			549			816	
v/s Ratio Prot											0.54	
v/s Ratio Perm				c0.18	0.17			c0.72				
v/c Ratio				0.49	0.46			1.27			0.97	
Uniform Delay, d1				24.9	24.6			21.5			21.2	
Progression Factor				0.44	0.45			0.70			1.03	
Incremental Delay, d2				5.5	0.9			131.7			18.5	
Delay (s)				16.6	12.0			146.8			40.3	
Level of Service				B	B			F			D	
Approach Delay (s)		0.0			12.7			146.8			40.3	
Approach LOS		A			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	63.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Future Volume (vph)	0	0	0	518	1726	46	50	636	0	0	718	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			3.0			4.0	
Lane Util. Factor				0.76	0.76			1.00			1.00	
Frt				1.00	1.00			1.00			0.97	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				2600	4500			1559			1524	
Flt Permitted				0.95	1.00			0.29			1.00	
Satd. Flow (perm)				2600	4500			456			1524	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	529	1761	47	51	649	0	0	733	173
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	476	1861	0	0	700	0	0	906	0
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				4	3 4			1 2			1 2	
Permitted Phases							1 2					
Actuated Green, G (s)				40.0	49.0			42.0			42.0	
Effective Green, g (s)				39.0	47.0			42.0			41.0	
Actuated g/C Ratio				0.39	0.47			0.42			0.41	
Clearance Time (s)				3.0								
Lane Grp Cap (vph)				1014	2295			191			624	
v/s Ratio Prot				0.18	c0.32						0.59	
v/s Ratio Perm					0.10			c1.53				
v/c Ratio				0.47	0.81			3.66			1.45	
Uniform Delay, d1				22.8	22.7			29.0			29.5	
Progression Factor				0.73	0.63			1.00			0.89	
Incremental Delay, d2				0.4	0.8			1212.0			209.1	
Delay (s)				17.1	15.1			1241.0			235.5	
Level of Service				B	B			F			F	
Approach Delay (s)		0.0			15.5			1241.0			235.5	
Approach LOS		A			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	283.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBT	EBR	NBT	NBR2	SBL	SBT	SBR	SWL2	SWL
Lane Configurations										
Traffic Volume (vph)	47	81	22	539	115	23	155	50	71	528
Future Volume (vph)	47	81	22	539	115	23	155	50	71	528
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		5.0			4.0			4.0
Lane Util. Factor		0.95		1.00			1.00			*0.91
Frpb, ped/bikes		0.98		1.00			0.98			1.00
Flpb, ped/bikes		1.00		1.00			1.00			1.00
Frt		0.98		0.98			0.97			1.00
Flt Protected		0.99		1.00			1.00			1.00
Satd. Flow (prot)		2817		1528			1479			4800
Flt Permitted		0.99		1.00			0.32			1.00
Satd. Flow (perm)		2817		1528			477			4272
Peak-hour factor, PHF	1.00	0.92	0.92	1.00	1.00	0.94	0.94	1.00	0.94	0.94
Adj. Flow (vph)	47	88	24	539	115	24	165	50	76	562
RTOR Reduction (vph)	0	0	0	71	0	0	0	0	0	0
Lane Group Flow (vph)	0	159	0	583	0	0	239	0	0	638
Confl. Peds. (#/hr)			25			32		25		
Bus Blockages (#/hr)	0	0	0	0	0	0	0	15	0	0
Turn Type	Perm	NA		NA		Perm	NA		Perm	Prot
Protected Phases		4		3			3			2
Permitted Phases	4					3			2	
Actuated Green, G (s)		16.0		18.0			18.0			50.0
Effective Green, g (s)		18.0		18.0			19.0			51.0
Actuated g/C Ratio		0.18		0.18			0.19			0.51
Clearance Time (s)		6.0		5.0			5.0			5.0
Lane Grp Cap (vph)		507		275			90			2178
v/s Ratio Prot				0.38						
v/s Ratio Perm		0.06					c0.50			c0.15
v/c Ratio		0.31		2.12			2.66			0.29
Uniform Delay, d1		35.6		41.0			40.5			14.1
Progression Factor		0.99		0.74			1.21			0.45
Incremental Delay, d2		1.6		504.6			769.4			0.3
Delay (s)		37.0		534.7			818.6			6.7
Level of Service		D		F			F			A
Approach Delay (s)		37.0		534.7			818.6			6.7
Approach LOS		D		F			F			A

Intersection Summary			
HCM 2000 Control Delay	328.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Future Volume (vph)	94	93	17	70	432	18	61	530	13	15	183	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.98			0.99			0.99			1.00	
Satd. Flow (prot)		1512			2938			1552			1518	
Flt Permitted		0.49			0.84			0.93			0.97	
Satd. Flow (perm)		756			2494			1451			1480	
Peak-hour factor, PHF	0.59	0.59	0.59	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.64	0.64
Adj. Flow (vph)	159	158	29	92	568	24	61	530	13	15	286	78
RTOR Reduction (vph)	0	3	0	0	2	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	343	0	0	682	0	0	603	0	0	370	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
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)		52.0			52.0			42.0			42.0	
Effective Green, g (s)		51.0			51.0			42.0			41.0	
Actuated g/C Ratio		0.51			0.51			0.42			0.41	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		385			1271			609			606	
v/s Ratio Prot												
v/s Ratio Perm		c0.45			0.27			c0.42			0.25	
v/c Ratio		0.89			0.54			0.99			0.61	
Uniform Delay, d1		22.0			16.5			28.8			23.2	
Progression Factor		0.91			1.03			1.08			1.81	
Incremental Delay, d2		25.1			1.3			9.0			0.4	
Delay (s)		45.2			18.2			40.1			42.4	
Level of Service		D			B			D			D	
Approach Delay (s)		45.2			18.2			40.1			42.4	
Approach LOS		D			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1191	75	0	0	0	0	419	321	48	502	0
Future Volume (vph)	105	1191	75	0	0	0	0	419	321	48	502	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.86						1.00			1.00	
Frpb, ped/bikes		0.99						0.98			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.94			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		5238						1447			1557	
Flt Permitted		1.00						1.00			0.79	
Satd. Flow (perm)		5238						1447			1234	
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)	108	1228	77	0	0	0	0	432	331	49	518	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	1413	0	0	0	0	0	761	0	0	567	0
Confl. Peds. (#/hr)	48		57	57		48	71		29	29		71
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		26.0						46.0			46.0	
Effective Green, g (s)		27.0						45.0			46.0	
Actuated g/C Ratio		0.34						0.56			0.58	
Clearance Time (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1767						813			709	
v/s Ratio Prot								c0.53				
v/s Ratio Perm		0.27									0.46	
v/c Ratio		0.80						0.94			0.80	
Uniform Delay, d1		24.0						16.2			13.4	
Progression Factor		1.25						1.00			0.40	
Incremental Delay, d2		0.4						19.4			8.4	
Delay (s)		30.5						35.6			13.7	
Level of Service		C						D			B	
Approach Delay (s)		30.5			0.0			35.6			13.7	
Approach LOS		C			A			D			B	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Future Volume (vph)	58	591	196	0	0	0	0	494	59	87	351	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.97						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.97						0.99			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		3987						1537			1547	
Flt Permitted		1.00						1.00			0.81	
Satd. Flow (perm)		3987						1537			1260	
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)	60	609	202	0	0	0	0	509	61	90	362	0
RTOR Reduction (vph)	0	69	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	802	0	0	0	0	0	565	0	0	452	0
Confl. Peds. (#/hr)	34		45	45		34	55		16	16		55
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		25.0						49.0			49.0	
Effective Green, g (s)		24.0						48.0			49.0	
Actuated g/C Ratio		0.30						0.60			0.61	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1196						922			771	
v/s Ratio Prot								c0.37				
v/s Ratio Perm		0.20									0.36	
v/c Ratio		0.67						0.61			0.59	
Uniform Delay, d1		24.5						10.1			9.4	
Progression Factor		0.30						0.36			0.29	
Incremental Delay, d2		0.3						2.5			2.9	
Delay (s)		7.8						6.2			5.6	
Level of Service		A						A			A	
Approach Delay (s)		7.8			0.0			6.2			5.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Future Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					3117			1644			1570	
Flt Permitted					1.00			0.94			1.00	
Satd. Flow (perm)					3117			1544			1570	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	38	664	11	52	523	0	0	257	104
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	0	712	0	0	575	0	0	347	0
Confl. Peds. (#/hr)	17		15	17		15	21		12	12		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					42.4			46.4			46.4	
Effective Green, g (s)					42.4			46.4			46.4	
Actuated g/C Ratio					0.42			0.46			0.46	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1321			716			728	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.23			c0.37				
v/c Ratio					0.54			0.80			0.48	
Uniform Delay, d1					21.5			22.9			18.4	
Progression Factor					0.55			0.18			1.68	
Incremental Delay, d2					1.6			6.6			2.2	
Delay (s)					13.4			10.7			33.1	
Level of Service					B			B			C	
Approach Delay (s)		0.0			13.4			10.7			33.1	
Approach LOS		A			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	16.8	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)	11.2
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Future Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3123			3120			1618			1629	
Flt Permitted		0.94			0.77			0.97			0.95	
Satd. Flow (perm)		2943			2410			1575			1554	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	954	34	51	554	13	30	544	96	20	302	33
RTOR Reduction (vph)	0	2	0	0	1	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	1008	0	0	617	0	0	664	0	0	352	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		40.8			28.4			42.9			42.9	
Effective Green, g (s)		40.8			28.4			42.9			42.9	
Actuated g/C Ratio		0.41			0.28			0.43			0.43	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1223			684			675			666	
v/s Ratio Prot		c0.10										
v/s Ratio Perm		0.23			c0.26			c0.42			0.23	
v/c Ratio		0.82			0.90			0.98			0.53	
Uniform Delay, d1		26.4			34.5			28.2			21.1	
Progression Factor		0.88			0.51			0.74			1.40	
Incremental Delay, d2		5.2			16.7			27.6			2.9	
Delay (s)		28.6			34.3			48.5			32.4	
Level of Service		C			C			D			C	
Approach Delay (s)		28.6			34.3			48.5			32.4	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Future Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.97			1.00			1.00	
Frt		0.99			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		3068			2994			1595			1604	
Flt Permitted		0.87			0.70			0.99			0.91	
Satd. Flow (perm)		2681			2105			1588			1470	
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)	34	457	20	126	490	31	8	422	112	31	223	44
RTOR Reduction (vph)	0	3	0	0	3	0	0	9	0	0	5	0
Lane Group Flow (vph)	0	508	0	0	644	0	0	533	0	0	293	0
Confl. Peds. (#/hr)	32		102	102		32	20		21	21		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		46.9			46.9			50.4			50.4	
Effective Green, g (s)		46.9			46.9			50.4			50.4	
Actuated g/C Ratio		0.43			0.43			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.6			6.6	
Lane Grp Cap (vph)		1143			897			727			673	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.31			c0.34			0.20	
v/c Ratio		0.44			0.72			0.73			0.43	
Uniform Delay, d1		22.3			26.1			24.3			20.2	
Progression Factor		0.75			1.46			1.00			0.47	
Incremental Delay, d2		1.1			0.5			6.5			2.0	
Delay (s)		17.8			38.4			30.8			11.5	
Level of Service		B			D			C			B	
Approach Delay (s)		17.8			38.4			30.8			11.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	NBT	NBR	SBL2	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	80	942	41	40	393	346	83	312	225
Future Volume (vph)	80	942	41	40	393	346	83	312	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		5.0				4.0
Lane Util. Factor		0.86	0.86		1.00				*0.95
Frpb, ped/bikes		1.00	1.00		0.95				1.00
Flpb, ped/bikes		0.99	1.00		1.00				1.00
Frt		1.00	0.85		0.94				1.00
Flt Protected		1.00	1.00		1.00				1.00
Satd. Flow (prot)		3977	1144		1399				3200
Flt Permitted		1.00	1.00		1.00				0.13
Satd. Flow (perm)		3977	1144		1399				187
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	82	971	42	41	405	357	86	322	232
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1057	79	0	762	0	0	0	640
Confl. Peds. (#/hr)	72		46			90	90		
Turn Type	Perm	NA	Prot		NA		custom	Prot	NA
Protected Phases		4	4		3			2	2 3
Permitted Phases	4						2		
Actuated Green, G (s)		22.0	22.0		25.0				43.0
Effective Green, g (s)		23.0	23.0		25.0				45.0
Actuated g/C Ratio		0.29	0.29		0.31				0.56
Clearance Time (s)		5.0	5.0		5.0				
Lane Grp Cap (vph)		1143	328		437				820
v/s Ratio Prot			0.07		c0.54				c0.19
v/s Ratio Perm		0.27							0.25
v/c Ratio		0.92	0.24		1.74				0.78
Uniform Delay, d1		27.7	21.8		27.5				13.6
Progression Factor		1.21	1.20		1.00				0.82
Incremental Delay, d2		9.6	1.1		344.1				6.4
Delay (s)		42.9	27.2		371.6				17.6
Level of Service		D	C		F				B
Approach Delay (s)		41.8			371.6				17.6
Approach LOS		D			F				B

Intersection Summary			
HCM 2000 Control Delay	134.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Future Volume (vph)	57	562	44	0	0	0	0	494	59	238	504	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.99			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		4152						1533			1534	
Flt Permitted		1.00						1.00			0.41	
Satd. Flow (perm)		4152						1533			646	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	61	604	47	0	0	0	0	531	63	256	542	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	0	0	0	589	0	0	798	0
Confl. Peds. (#/hr)	42		48	48		42	39		40	40		39
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1608						804			331	
v/s Ratio Prot								0.38				
v/s Ratio Perm		0.17									c1.24	
v/c Ratio		0.44						0.73			2.41	
Uniform Delay, d1		18.1						14.7			19.5	
Progression Factor		1.53						1.95			0.52	
Incremental Delay, d2		0.8						5.1			640.1	
Delay (s)		28.4						33.6			650.2	
Level of Service		C						C			F	
Approach Delay (s)		28.4			0.0			33.6			650.2	
Approach LOS		C			A			C			F	

Intersection Summary			
HCM 2000 Control Delay	265.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Future Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			6.6			6.6	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.46	1.00	0.99			0.93			0.98	
Flpb, ped/bikes	0.93	1.00	1.00	0.85	1.00			1.00			0.99	
Frt	1.00	1.00	0.85	1.00	0.99			0.97			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1459	3143	645	1329	1625			1496			1569	
Flt Permitted	0.52	1.00	1.00	0.51	1.00			1.00			0.91	
Satd. Flow (perm)	804	3143	645	715	1625			1490			1437	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	346	21	124	377	29	7	414	109	31	218	43
RTOR Reduction (vph)	0	0	15	0	3	0	0	8	0	0	5	0
Lane Group Flow (vph)	34	346	6	124	403	0	0	522	0	0	287	0
Confl. Peds. (#/hr)	71		372	372		71	87		403	403		87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Effective Green, g (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Actuated g/C Ratio	0.30	0.30	0.30	0.43	0.48			0.40			0.40	
Clearance Time (s)	6.6	6.6	6.6	4.6				6.6			6.6	
Lane Grp Cap (vph)	244	954	195	391	774			601			580	
v/s Ratio Prot		0.11		0.04	c0.25							
v/s Ratio Perm	0.04		0.01	0.10				c0.35			0.20	
v/c Ratio	0.14	0.36	0.03	0.32	0.52			0.87			0.49	
Uniform Delay, d1	27.8	30.0	26.9	19.4	20.1			30.1			24.4	
Progression Factor	1.13	1.10	1.00	0.47	0.35			1.00			1.00	
Incremental Delay, d2	1.1	1.0	0.3	1.5	1.8			15.6			3.0	
Delay (s)	32.6	33.9	27.2	10.7	8.8			45.7			27.4	
Level of Service	C	C	C	B	A			D			C	
Approach Delay (s)		33.5			9.2			45.7			27.4	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Future Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.98	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					3109			1644			1564	
Flt Permitted					1.00			0.91			1.00	
Satd. Flow (perm)					3109			1500			1564	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	40	825	10	55	558	0	0	275	112
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	0	0	0	874	0	0	613	0	0	372	0
Confl. Peds. (#/hr)	54		41	41		54	28		3	3		28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			44.0			44.0	
Effective Green, g (s)					44.0			44.0			44.0	
Actuated g/C Ratio					0.44			0.44			0.44	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1367			660			688	
v/s Ratio Prot											0.24	
v/s Ratio Perm					0.28			c0.41				
v/c Ratio					0.64			0.93			0.54	
Uniform Delay, d1					21.8			26.5			20.6	
Progression Factor					0.41			0.82			0.62	
Incremental Delay, d2					2.0			16.5			3.0	
Delay (s)					11.0			38.2			15.7	
Level of Service					B			D			B	
Approach Delay (s)		0.0			11.0			38.2			15.7	
Approach LOS		A			B			D			B	

Intersection Summary			
HCM 2000 Control Delay	20.8	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)	12.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Future Volume (vph)	0	0	0	127	537	42	64	592	0	0	627	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.98			1.00			0.97	
Flpb, ped/bikes					0.92			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					4212			1730			1652	
Flt Permitted					0.99			0.67			1.00	
Satd. Flow (perm)					4212			1164			1652	
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	0	0	137	577	45	69	637	0	0	674	127
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	752	0	0	706	0	0	794	0
Confl. Peds. (#/hr)	131		247	247		131	146		249	249		146
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					30.0			62.0			62.0	
Effective Green, g (s)					31.0			61.0			62.0	
Actuated g/C Ratio					0.31			0.61			0.62	
Clearance Time (s)					5.0			3.0			3.0	
Lane Grp Cap (vph)					1305			710			1024	
v/s Ratio Prot											0.48	
v/s Ratio Perm					0.18			c0.61				
v/c Ratio					0.58			0.99			0.78	
Uniform Delay, d1					29.0			19.3			13.9	
Progression Factor					1.33			0.72			0.40	
Incremental Delay, d2					0.5			32.1			4.4	
Delay (s)					39.1			46.1			9.9	
Level of Service					D			D			A	
Approach Delay (s)		0.0			39.1			46.1			9.9	
Approach LOS		A			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Future Volume (vph)	48	178	94	0	0	0	0	538	115	22	662	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	0.92						0.94			1.00	
Flpb, ped/bikes	0.84	1.00						1.00			1.00	
Frt	1.00	0.95						0.98			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1245	2590						1438			1559	
Flt Permitted	0.95	1.00						1.00			0.97	
Satd. Flow (perm)	1245	2590						1438			1519	
Peak-hour factor, PHF	0.92	0.92	1.00	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00
Adj. Flow (vph)	52	193	94	0	0	0	0	549	117	22	662	0
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	227	0	0	0	0	0	666	0	0	684	0
Confl. Peds. (#/hr)	104		154	154		104	157		306	306		157
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	34.0	34.0						60.0			60.0	
Effective Green, g (s)	33.0	33.0						59.0			60.0	
Actuated g/C Ratio	0.33	0.33						0.59			0.60	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	410	854						848			911	
v/s Ratio Prot		c0.09						c0.46				
v/s Ratio Perm	0.04										0.45	
v/c Ratio	0.13	0.27						0.79			0.75	
Uniform Delay, d1	23.4	24.6						15.7			14.6	
Progression Factor	0.61	0.45						0.38			0.33	
Incremental Delay, d2	0.2	0.2						2.3			0.5	
Delay (s)	14.4	11.2						8.1			5.3	
Level of Service	B	B						A			A	
Approach Delay (s)		11.7			0.0			8.1			5.3	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	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)	8.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	721	49	0	0	0	0	571	102	54	721	0
Future Volume (vph)	85	721	49	0	0	0	0	571	102	54	721	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0			3.0	
Lane Util. Factor	1.00	0.95						1.00			1.00	
Frpb, ped/bikes	1.00	1.00						1.00			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.99						0.98			1.00	
Flt Protected	0.95	1.00						1.00			1.00	
Satd. Flow (prot)	1486	2939						4800			1559	
Flt Permitted	0.95	1.00						1.00			0.82	
Satd. Flow (perm)	1486	2939						1533			1284	
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)	92	784	53	0	0	0	0	621	111	59	784	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	837	0	0	0	0	0	732	0	0	843	0
Confl. Peds. (#/hr)			6	6								
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)	32.0	32.0						62.0			62.0	
Effective Green, g (s)	31.0	31.0						61.0			62.0	
Actuated g/C Ratio	0.31	0.31						0.61			0.62	
Clearance Time (s)	3.0	3.0						3.0			3.0	
Lane Grp Cap (vph)	460	911						2928			796	
v/s Ratio Prot		c0.28						0.15				
v/s Ratio Perm	0.06										c0.66	
v/c Ratio	0.20	0.92						0.25			1.06	
Uniform Delay, d1	25.4	33.3						9.0			19.0	
Progression Factor	1.19	1.03						1.14			0.65	
Incremental Delay, d2	0.5	9.4						0.1			43.5	
Delay (s)	30.8	43.5						10.3			55.8	
Level of Service	C	D						B			E	
Approach Delay (s)		42.2			0.0			10.3			55.8	
Approach LOS		D			A			B			E	

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
Future Volume (vph)	95	56	18	70	347	18	62	530	14	15	596	175
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			3.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			1.00			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.99			0.99			1.00			0.97	
Flt Protected		0.97			0.99			0.99			1.00	
Satd. Flow (prot)		1471			2869			1544			1495	
Flt Permitted		0.56			0.87			0.84			0.99	
Satd. Flow (perm)		849			2509			1305			1476	
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)	99	58	19	73	361	19	65	552	15	16	621	182
RTOR Reduction (vph)	0	0	0	0	3	0	0	1	0	0	10	0
Lane Group Flow (vph)	0	176	0	0	450	0	0	631	0	0	809	0
Confl. Peds. (#/hr)	27		55	55		27	27		66	66		27
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)		38.0			28.0			53.0			53.0	
Effective Green, g (s)		36.0			27.0			52.0			53.0	
Actuated g/C Ratio		0.36			0.27			0.52			0.53	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)		361			677			678			782	
v/s Ratio Prot		c0.04										
v/s Ratio Perm		0.13			c0.18			0.48			c0.55	
v/c Ratio		0.49			0.66			0.93			1.03	
Uniform Delay, d1		24.8			32.5			22.3			23.5	
Progression Factor		1.19			0.71			0.60			1.10	
Incremental Delay, d2		4.6			4.9			17.3			38.7	
Delay (s)		34.2			27.8			30.7			64.7	
Level of Service		C			C			C			E	
Approach Delay (s)		34.2			27.8			30.7			64.7	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	43.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Future Volume (vph)	0	0	0	518	2071	45	49	636	0	0	618	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.81			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					6259			1559			1519	
Flt Permitted					0.99			0.23			1.00	
Satd. Flow (perm)					6259			356			1519	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	569	2276	49	54	699	0	0	679	187
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	2894	0	0	753	0	0	863	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					57.0			37.0			37.0	
Effective Green, g (s)					56.0			36.0			37.0	
Actuated g/C Ratio					0.56			0.36			0.37	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3505			128			562	
v/s Ratio Prot											0.57	
v/s Ratio Perm					0.46			c2.11				
v/c Ratio					0.83			5.88			1.54	
Uniform Delay, d1					18.0			32.0			31.5	
Progression Factor					0.46			0.68			0.69	
Incremental Delay, d2					1.6			2203.7			248.4	
Delay (s)					9.9			2225.4			270.1	
Level of Service					A			F			F	
Approach Delay (s)		0.0			9.9			2225.4			270.1	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	429.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Future Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3110			3110			1610			1615	
Flt Permitted		0.93			0.81			0.97			0.94	
Satd. Flow (perm)		2903			2544			1569			1529	
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)	21	831	32	46	514	12	28	505	88	19	281	32
RTOR Reduction (vph)	0	3	0	0	1	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	881	0	0	571	0	0	615	0	0	328	0
Confl. Peds. (#/hr)	31		25	25		31	55		11	11		55
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		51.9			51.9			35.9			35.9	
Effective Green, g (s)		51.9			51.9			35.9			35.9	
Actuated g/C Ratio		0.52			0.52			0.36			0.36	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1506			1320			563			548	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.22			c0.39			0.21	
v/c Ratio		0.59			0.43			1.09			0.60	
Uniform Delay, d1		16.6			14.9			32.0			26.2	
Progression Factor		0.94			0.19			1.28			0.97	
Incremental Delay, d2		1.1			0.5			61.7			4.7	
Delay (s)		16.7			3.3			102.8			30.1	
Level of Service		B			A			F			C	
Approach Delay (s)		16.7			3.3			102.8			30.1	
Approach LOS		B			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	37.6	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)	12.2
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
Future Volume (vph)	0	110	17	70	470	0	0	0	0	15	500	50
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	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						1.00	
Frt		0.98			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1524			2939						4182	
Flt Permitted		1.00			0.89						1.00	
Satd. Flow (perm)		1524			2623						4182	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	124	19	79	528	0	0	0	0	17	562	56
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	137	0	0	607	0	0	0	0	0	635	0
Confl. Peds. (#/hr)	51		40	40		51	6		88	88		6
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		32.0			32.0						62.0	
Effective Green, g (s)		31.0			31.0						61.0	
Actuated g/C Ratio		0.31			0.31						0.61	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		472			813						2551	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.23						0.15	
v/c Ratio		0.29			0.75						0.25	
Uniform Delay, d1		26.2			31.0						9.0	
Progression Factor		0.55			0.92						0.96	
Incremental Delay, d2		0.7			3.6						0.2	
Delay (s)		15.0			32.1						8.8	
Level of Service		B			C						A	
Approach Delay (s)		15.0			32.1			0.0			8.8	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.7	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)	8.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX G

DEDICATED TURN LANE/RUSH HOUR LANES HCM REPORTS

Dedicated Turn Lanes/Rush Hour Lanes – HCM Reports

AM Peak Hour

HCM Signalized Intersection Capacity Analysis
86: Greenway & St. Paul St #1 & University Pkwy

12/3/2015

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Future Volume (vph)	10	372	140	22	342	86	98	30	37	427	397	13
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1	7.1	7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91	1.00	1.00			0.95	
Frpb, ped/bikes		1.00	0.93		1.00	0.99	1.00	0.99			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00			1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.92			1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			0.98	
Satd. Flow (prot)		3077	1286		2927	1236	1539	1473			2990	
Flt Permitted		0.94	1.00		0.90	1.00	0.24	1.00			0.77	
Satd. Flow (perm)		2889	1286		2644	1236	391	1473			2370	
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)	10	384	144	23	353	89	101	31	38	440	409	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	45	0	0	50	0
Lane Group Flow (vph)	0	394	144	0	385	80	101	24	0	0	812	0
Confl. Peds. (#/hr)	2		21	21		2	29		7	7		29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		2			2		1	3		1	3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		46.9	46.9		46.9	46.9	62.8	57.9			62.8	
Effective Green, g (s)		46.9	46.9		46.9	46.9	62.8	57.9			62.8	
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.38	0.35			0.38	
Clearance Time (s)		8.1	8.1		8.1	8.1	7.1	7.1			7.1	
Lane Grp Cap (vph)		821	365		751	351	182	516			920	
v/s Ratio Prot							0.02	0.02			c0.03	
v/s Ratio Perm		0.14	0.11		c0.15	0.06	0.19				c0.31	
v/c Ratio		0.48	0.39		0.51	0.23	0.55	0.05			0.88	
Uniform Delay, d1		48.9	47.6		49.5	45.2	39.0	35.3			47.7	
Progression Factor		1.00	1.00		0.75	0.77	1.00	1.00			1.00	
Incremental Delay, d2		2.0	3.2		2.4	1.4	11.7	0.2			12.0	
Delay (s)		50.9	50.8		39.6	36.4	50.7	35.5			59.6	
Level of Service		D	D		D	D	D	D			E	
Approach Delay (s)		50.9			39.0			44.5			59.6	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	29.4
Intersection Capacity Utilization	143.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NER2	SWL2	SWL	SWT	SWR
Lane Configurations					
Traffic Volume (vph)	0	29	20	0	32
Future Volume (vph)	0	29	20	0	32
Ideal Flow (vphpl)	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1	
Lane Util. Factor		1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00	0.95	
Flpb, ped/bikes		0.99	0.95	1.00	
Frt		1.00	1.00	0.85	
Flt Protected		0.95	0.95	1.00	
Satd. Flow (prot)		1526	1468	1309	
Flt Permitted		0.95	0.95	1.00	
Satd. Flow (perm)		1526	1468	1309	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	30	21	0	33
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	30	21	33	0
Confl. Peds. (#/hr)	21	7	21		29
Turn Type	Free	Perm	Perm	NA	
Protected Phases				4	
Permitted Phases	Free	4	4		
Actuated Green, G (s)		25.9	25.9	25.9	
Effective Green, g (s)		25.9	25.9	25.9	
Actuated g/C Ratio		0.16	0.16	0.16	
Clearance Time (s)		7.1	7.1	7.1	
Lane Grp Cap (vph)		239	230	205	
v/s Ratio Prot				c0.03	
v/s Ratio Perm		0.02	0.01		
v/c Ratio		0.13	0.09	0.16	
Uniform Delay, d1		59.8	59.5	60.2	
Progression Factor		1.00	1.00	1.00	
Incremental Delay, d2		1.1	0.8	1.7	
Delay (s)		60.9	60.3	61.8	
Level of Service		E	E	E	
Approach Delay (s)				61.1	
Approach LOS				E	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Future Volume (vph)	14	283	536	22	292	4	122	5	33	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6	6.6	6.6			6.6				
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00				
Frpb, ped/bikes		1.00	0.88	1.00	1.00			0.99				
Flpb, ped/bikes		1.00	1.00	0.95	1.00			0.99				
Frt		1.00	0.85	1.00	1.00			0.97				
Flt Protected		1.00	1.00	0.95	1.00			0.96				
Satd. Flow (prot)		1614	1211	1460	1615			1479				
Flt Permitted		0.98	1.00	0.50	1.00			0.96				
Satd. Flow (perm)		1577	1211	774	1615			1479				
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	322	609	25	332	5	139	6	38	0	0	0
RTOR Reduction (vph)	0	0	253	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	338	356	25	337	0	0	177	0	0	0	0
Confl. Peds. (#/hr)	29		30	30		29	9		19	19		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		96.4	96.4	96.4	96.4			55.4				
Effective Green, g (s)		96.4	96.4	96.4	96.4			55.4				
Actuated g/C Ratio		0.58	0.58	0.58	0.58			0.34				
Clearance Time (s)		6.6	6.6	6.6	6.6			6.6				
Lane Grp Cap (vph)		921	707	452	943			496				
v/s Ratio Prot					0.21							
v/s Ratio Perm		0.21	c0.29	0.03				0.12				
v/c Ratio		0.37	0.50	0.06	0.36			0.36				
Uniform Delay, d1		18.2	20.2	14.7	18.0			41.4				
Progression Factor		0.85	2.94	1.00	1.00			1.00				
Incremental Delay, d2		0.9	2.0	0.2	1.1			2.0				
Delay (s)		16.4	61.4	15.0	19.1			43.4				
Level of Service		B	E	B	B			D				
Approach Delay (s)		45.3			18.8			43.4			0.0	
Approach LOS		D			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Future Volume (vph)	56	788	39	44	1049	27	32	182	26	35	561	89
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	5.0		3.0	5.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.91			1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	1.00
Frt	1.00	0.99		1.00	1.00			0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	1.00
Satd. Flow (prot)	1386	2735		1386	3959			1419		1354	1459	1188
Flt Permitted	0.95	1.00		0.95	1.00			0.75		0.56	1.00	1.00
Satd. Flow (perm)	1386	2735		1386	3959			1068		802	1459	1188
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)	58	812	40	45	1081	28	33	188	27	36	578	92
RTOR Reduction (vph)	0	3	0	0	3	0	0	4	0	0	0	28
Lane Group Flow (vph)	58	849	0	45	1106	0	0	244	0	36	578	64
Confl. Peds. (#/hr)	26		40	40		26	32		38	38		32
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	3	4		3	4			2			2	
Permitted Phases							2			2		2
Actuated Green, G (s)	13.0	35.0		13.0	35.0			49.0		49.0	49.0	49.0
Effective Green, g (s)	13.0	35.0		13.0	35.0			49.0		49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.32		0.12	0.32			0.45		0.45	0.45	0.45
Clearance Time (s)	3.0	5.0		3.0	5.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	163	870		163	1259			475		357	649	529
v/s Ratio Prot	c0.04	c0.31		0.03	0.28						c0.40	
v/s Ratio Perm								0.23		0.04		0.05
v/c Ratio	0.36	0.98		0.28	0.88			0.51		0.10	0.89	0.12
Uniform Delay, d1	44.6	37.1		44.2	35.5			21.9		17.7	28.0	17.9
Progression Factor	1.57	0.41		1.00	1.00			1.00		1.19	0.87	1.33
Incremental Delay, d2	2.8	15.8		4.2	8.9			3.9		0.4	11.9	0.3
Delay (s)	73.0	31.1		48.4	44.4			25.9		21.5	36.3	24.1
Level of Service	E	C		D	D			C		C	D	C
Approach Delay (s)		33.7			44.5			25.9			34.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Future Volume (vph)	55	803	40	45	1049	26	31	182	26	35	561	88
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	3.0	3.0	4.0	3.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91			1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.89	1.00	1.00			0.99		1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00			0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99		0.95	1.00	1.00
Satd. Flow (prot)	1386	2773	1105	1386	3956			1415		1340	1459	1150
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.79		0.57	1.00	1.00
Satd. Flow (perm)	1386	2773	1105	1386	3956			1132		802	1459	1150
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)	59	854	43	48	1116	28	33	194	28	37	597	94
RTOR Reduction (vph)	0	0	29	0	3	0	0	4	0	0	0	26
Lane Group Flow (vph)	59	854	14	48	1141	0	0	251	0	37	597	68
Confl. Peds. (#/hr)	46		33	33		46	64		55	55		64
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	3	4		3	4			2			2	
Permitted Phases			4				2			2		2
Actuated Green, G (s)	8.0	37.0	37.0	8.0	37.0			53.0		53.0	53.0	53.0
Effective Green, g (s)	8.0	37.0	37.0	8.0	37.0			53.0		53.0	53.0	53.0
Actuated g/C Ratio	0.07	0.34	0.34	0.07	0.34			0.48		0.48	0.48	0.48
Clearance Time (s)	4.0	3.0	3.0	4.0	3.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	100	932	371	100	1330			545		386	702	554
v/s Ratio Prot	c0.04	c0.31		0.03	0.29						c0.41	
v/s Ratio Perm			0.01					0.22		0.05		0.06
v/c Ratio	0.59	0.92	0.04	0.48	0.86			0.46		0.10	0.85	0.12
Uniform Delay, d1	49.4	35.0	24.5	49.0	34.1			19.0		15.5	25.0	15.7
Progression Factor	1.00	1.00	1.00	1.46	0.33			1.00		0.33	0.49	0.14
Incremental Delay, d2	23.0	15.1	0.2	8.8	4.2			2.8		0.4	9.9	0.4
Delay (s)	72.4	50.1	24.7	80.5	15.4			21.8		5.6	22.3	2.5
Level of Service	E	D	C	F	B			C		A	C	A
Approach Delay (s)		50.3			18.0			21.8			18.9	
Approach LOS		D			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	694	88	0	0	0	0	0	0	150	1708	0
Future Volume (vph)	0	694	88	0	0	0	0	0	0	150	1708	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0	4.0								4.0	
Lane Util. Factor		0.91	1.00								0.86	
Frt		1.00	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		4272	1250								6000	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		4272	1250								6000	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	708	90	0	0	0	0	0	0	153	1743	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	708	90	0	0	0	0	0	0	0	1896	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type		NA	Prot							Split	NA	
Protected Phases		4	4							2	2	
Permitted Phases												
Actuated Green, G (s)		35.0	35.0								67.0	
Effective Green, g (s)		36.0	36.0								66.0	
Actuated g/C Ratio		0.33	0.33								0.60	
Clearance Time (s)		5.0	5.0								3.0	
Lane Grp Cap (vph)		1398	409								3600	
v/s Ratio Prot		c0.17	0.07								c0.32	
v/s Ratio Perm												
v/c Ratio		0.51	0.22								0.53	
Uniform Delay, d1		29.8	26.8								12.9	
Progression Factor		1.00	1.00								0.53	
Incremental Delay, d2		1.3	1.2								0.5	
Delay (s)		31.1	28.1								7.2	
Level of Service		C	C								A	
Approach Delay (s)		30.8			0.0			0.0			7.2	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
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												
Traffic Volume (vph)	0	0	0	264	561	0	0	0	0	0	1694	247
Future Volume (vph)	0	0	0	264	561	0	0	0	0	0	1694	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0						4.0	
Lane Util. Factor				0.86	0.86						0.86	
Frpb, ped/bikes				1.00	1.00						0.97	
Flpb, ped/bikes				0.71	0.95						1.00	
Frt				1.00	1.00						0.98	
Flt Protected				0.95	0.99						1.00	
Satd. Flow (prot)				902	3818						6000	
Flt Permitted				0.95	0.99						1.00	
Satd. Flow (perm)				902	3818						6000	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	272	578	0	0	0	0	0	1746	255
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	163	687	0	0	0	0	0	2001	0
Confl. Peds. (#/hr)	134		223	223		134	166		119	119		166
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA						NA	
Protected Phases					4						2	
Permitted Phases				4								
Actuated Green, G (s)				42.0	42.0						62.0	
Effective Green, g (s)				41.0	41.0						61.0	
Actuated g/C Ratio				0.37	0.37						0.55	
Clearance Time (s)				3.0	3.0						3.0	
Lane Grp Cap (vph)				336	1423						3327	
v/s Ratio Prot											c0.33	
v/s Ratio Perm				c0.18	0.18							
v/c Ratio				0.49	0.48						0.60	
Uniform Delay, d1				26.4	26.4						16.4	
Progression Factor				0.36	0.37						0.30	
Incremental Delay, d2				4.2	1.0						0.2	
Delay (s)				13.8	10.9						5.0	
Level of Service				B	B						A	
Approach Delay (s)		0.0			11.4			0.0			5.0	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
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												
Traffic Volume (vph)	0	0	0	901	1343	0	0	0	0	0	1362	350
Future Volume (vph)	0	0	0	901	1343	0	0	0	0	0	1362	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0						4.0	4.0
Lane Util. Factor				0.76	0.76						0.81	0.81
Frt				1.00	1.00						0.99	0.85
Flt Protected				0.95	0.99						1.00	1.00
Satd. Flow (prot)				2600	4685						5015	1013
Flt Permitted				0.95	0.99						1.00	1.00
Satd. Flow (perm)				2600	4685						5015	1013
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	948	1414	0	0	0	0	0	1434	368
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	787	1575	0	0	0	0	0	1544	258
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA						NA	custom
Protected Phases				4	3 4						1 2	2
Permitted Phases												
Actuated Green, G (s)				41.0	51.0						50.0	37.0
Effective Green, g (s)				40.0	49.0						49.0	36.0
Actuated g/C Ratio				0.36	0.45						0.45	0.33
Clearance Time (s)				3.0								3.0
Lane Grp Cap (vph)				945	2257						2233	331
v/s Ratio Prot				c0.30	c0.25						c0.31	c0.25
v/s Ratio Perm					0.08							
v/c Ratio				0.83	0.70						0.69	0.78
Uniform Delay, d1				31.9	24.5						24.4	33.4
Progression Factor				0.21	0.20						0.77	0.81
Incremental Delay, d2				5.7	1.2						1.4	13.6
Delay (s)				12.4	6.2						20.2	40.7
Level of Service				B	A						C	D
Approach Delay (s)		0.0			8.2			0.0			23.1	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	SBL	SBT	SBR	SWL
Lane Configurations						
Traffic Volume (vph)	29	50	150	260	42	1828
Future Volume (vph)	29	50	150	260	42	1828
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10
Total Lost time (s)	4.0			4.0		4.0
Lane Util. Factor	0.95			0.95		*0.91
Frt	0.91			0.99		0.99
Flt Protected	1.00			0.98		1.00
Satd. Flow (prot)	2693			2883		4500
Flt Permitted	1.00			0.98		1.00
Satd. Flow (perm)	2693			2883		4500
Peak-hour factor, PHF	0.92	0.92	0.94	0.94	0.94	0.82
Adj. Flow (vph)	32	54	160	277	45	2229
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	86	0	0	482	0	2229
Bus Blockages (#/hr)	0	0	0	0	15	0
Turn Type	NA		Perm	NA		Prot
Protected Phases	4			3		2
Permitted Phases			3			
Actuated Green, G (s)	25.0			19.0		51.0
Effective Green, g (s)	24.0			21.0		53.0
Actuated g/C Ratio	0.22			0.19		0.48
Clearance Time (s)	3.0			6.0		6.0
Lane Grp Cap (vph)	587			550		2168
v/s Ratio Prot	c0.03					c0.50
v/s Ratio Perm				0.17		
v/c Ratio	0.15			0.88		1.03
Uniform Delay, d1	34.7			43.2		28.5
Progression Factor	1.00			0.43		0.52
Incremental Delay, d2	0.5			16.3		24.1
Delay (s)	35.3			34.7		38.9
Level of Service	D			C		D
Approach Delay (s)	35.3			34.7		38.9
Approach LOS	D			C		D

Intersection Summary			
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	195	25	29	242	0	0	0	0	0	500	30
Future Volume (vph)	0	195	25	29	242	0	0	0	0	0	500	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			0.95						0.95	
Frt		0.98			1.00						0.99	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		1541			2957						2948	
Flt Permitted		1.00			0.90						1.00	
Satd. Flow (perm)		1541			2669						2948	
Peak-hour factor, PHF	1.00	0.84	0.84	0.79	0.79	0.79	1.00	1.00	1.00	0.91	0.91	0.91
Adj. Flow (vph)	0	232	30	37	306	0	0	0	0	0	549	33
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	262	0	0	343	0	0	0	0	0	582	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type		NA		Perm	NA						NA	
Protected Phases		4			4						2	
Permitted Phases				4								
Actuated Green, G (s)		57.0			57.0						47.0	
Effective Green, g (s)		56.0			56.0						46.0	
Actuated g/C Ratio		0.51			0.51						0.42	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		784			1358						1232	
v/s Ratio Prot		c0.17									c0.20	
v/s Ratio Perm					0.13							
v/c Ratio		0.33			0.25						0.47	
Uniform Delay, d1		16.0			15.2						23.2	
Progression Factor		1.00			0.45						0.52	
Incremental Delay, d2		1.1			0.3						1.1	
Delay (s)		17.1			7.3						13.1	
Level of Service		B			A						B	
Approach Delay (s)		17.1			7.3			0.0			13.1	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	115	21	0	0	0	0	316	26	55	361	0
Future Volume (vph)	12	115	21	0	0	0	0	316	26	55	361	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frt		0.98						0.99			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2898						1549			1554	
Flt Permitted		1.00						1.00			0.92	
Satd. Flow (perm)		2898						1549			1443	
Peak-hour factor, PHF	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. Flow (vph)	12	115	21	0	0	0	0	316	26	55	361	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	134	0	0	0	0	0	338	0	0	416	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						46.0			47.0	
Actuated g/C Ratio		0.32						0.58			0.59	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		941						890			847	
v/s Ratio Prot								0.22				
v/s Ratio Perm		0.05									c0.29	
v/c Ratio		0.14						0.38			0.49	
Uniform Delay, d1		19.1						9.2			9.6	
Progression Factor		0.99						0.20			1.61	
Incremental Delay, d2		0.3						1.2			1.8	
Delay (s)		19.3						3.1			17.2	
Level of Service		B						A			B	
Approach Delay (s)		19.3			0.0			3.1			17.2	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	42	15	35	131	11	41	238	21	19	381	78
Future Volume (vph)	9	42	15	35	131	11	41	238	21	19	381	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1506			1536			3500			1527	
Flt Permitted		0.97			0.94			0.91			0.98	
Satd. Flow (perm)		1467			1464			3500			1507	
Peak-hour factor, PHF	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. Flow (vph)	9	42	15	35	131	11	41	238	21	19	381	78
RTOR Reduction (vph)	0	0	0	0	0	0	0	3	0	0	9	0
Lane Group Flow (vph)	0	66	0	0	177	0	0	297	0	0	469	0
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)		27.0			27.0			47.0			47.0	
Effective Green, g (s)		26.0			26.0			46.0			47.0	
Actuated g/C Ratio		0.32			0.32			0.58			0.59	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		476			475			2012			885	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.12			0.08			c0.31	
v/c Ratio		0.14			0.37			0.15			0.53	
Uniform Delay, d1		19.1			20.7			7.9			9.9	
Progression Factor		0.66			1.00			0.15			0.05	
Incremental Delay, d2		0.6			2.2			0.1			1.0	
Delay (s)		13.3			23.0			1.3			1.5	
Level of Service		B			C			A			A	
Approach Delay (s)		13.3			23.0			1.3			1.5	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	514	36	136	983	0	0	0	0
Future Volume (vph)	0	0	0	0	514	36	136	983	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0				
Lane Util. Factor					0.95			0.91				
Frt					0.99			1.00				
Flt Protected					1.00			0.99				
Satd. Flow (prot)					2944			3200				
Flt Permitted					1.00			0.99				
Satd. Flow (perm)					2944			3200				
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	0	514	36	136	983	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	550	0	0	1119	0	0	0	0
Turn Type					NA		Split	NA				
Protected Phases					4		2	2				
Permitted Phases												
Actuated Green, G (s)					39.0			65.0				
Effective Green, g (s)					38.0			64.0				
Actuated g/C Ratio					0.35			0.58				
Clearance Time (s)					3.0			3.0				
Lane Grp Cap (vph)					1017			1861				
v/s Ratio Prot					c0.19			c0.35				
v/s Ratio Perm												
v/c Ratio					0.54			0.60				
Uniform Delay, d1					29.0			14.8				
Progression Factor					1.00			0.35				
Incremental Delay, d2					2.1			1.3				
Delay (s)					31.0			6.4				
Level of Service					C			A				
Approach Delay (s)		0.0			31.0			6.4			0.0	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.6%	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)	65	618	0	0	0	0	0	522	444	520	0	0
Future Volume (vph)	65	618	0	0	0	0	0	522	444	520	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0	4.0	3.0		
Lane Util. Factor	1.00	0.91						1.00	1.00	0.97		
Frpb, ped/bikes	1.00	1.00						1.00	0.94	1.00		
Flpb, ped/bikes	0.91	1.00						1.00	1.00	1.00		
Frt	1.00	1.00						1.00	0.85	1.00		
Flt Protected	0.95	1.00						1.00	1.00	0.95		
Satd. Flow (prot)	1355	4272						3500	1244	2884		
Flt Permitted	0.95	1.00						1.00	1.00	0.95		
Satd. Flow (perm)	1355	4272						3500	1244	2884		
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	644	0	0	0	0	0	544	462	542	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	68	644	0	0	0	0	0	544	463	542	0	0
Confl. Peds. (#/hr)	42		57	57		42	31		54	54		31
Turn Type	Perm	NA						NA	Perm	Prot		
Protected Phases		4						2		3		
Permitted Phases	4								2			
Actuated Green, G (s)	19.0	19.0						33.0	33.0	17.0		
Effective Green, g (s)	20.0	20.0						32.0	32.0	17.0		
Actuated g/C Ratio	0.25	0.25						0.40	0.40	0.21		
Clearance Time (s)	5.0	5.0						3.0	3.0	3.0		
Lane Grp Cap (vph)	338	1068						1400	497	612		
v/s Ratio Prot		c0.15						0.16		c0.19		
v/s Ratio Perm	0.05								c0.37			
v/c Ratio	0.20	0.60						0.39	0.93	0.89		
Uniform Delay, d1	23.7	26.5						17.1	23.0	30.6		
Progression Factor	1.06	1.09						1.00	1.00	1.48		
Incremental Delay, d2	1.2	2.3						0.8	26.5	15.6		
Delay (s)	26.4	31.2						17.9	49.5	60.9		
Level of Service	C	C						B	D	E		
Approach Delay (s)		30.8			0.0			32.4			60.9	
Approach LOS		C			A			C			E	

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	449	4	285	349	0	0	371	26
Future Volume (vph)	0	0	0	95	449	4	285	349	0	0	371	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0		4.0	4.0			5.0	
Lane Util. Factor					0.91		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					0.97		0.98	1.00			1.00	
Frt					1.00		1.00	1.00			0.99	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					4101		1455	1565			1545	
Flt Permitted					0.99		0.46	1.00			1.00	
Satd. Flow (perm)					4101		700	1565			1545	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	98	463	4	294	360	0	0	382	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	565	0	294	360	0	0	406	0
Confl. Peds. (#/hr)	23		87	87		23	38		48	48		38
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					26.0		44.0	44.0			44.0	
Effective Green, g (s)					27.0		45.0	45.0			44.0	
Actuated g/C Ratio					0.34		0.56	0.56			0.55	
Clearance Time (s)					5.0		5.0	5.0			5.0	
Lane Grp Cap (vph)					1384		393	880			849	
v/s Ratio Prot								0.23			0.26	
v/s Ratio Perm					0.14		c0.42					
v/c Ratio					0.41		0.75	0.41			0.48	
Uniform Delay, d1					20.4		13.2	9.9			11.0	
Progression Factor					1.00		0.69	0.29			1.32	
Incremental Delay, d2					0.9		11.7	1.3			1.8	
Delay (s)					21.3		20.8	4.2			16.4	
Level of Service					C		C	A			B	
Approach Delay (s)		0.0			21.3			11.7			16.4	
Approach LOS		A			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	16	47	17	23	650	39	0	471	5
Future Volume (vph)	0	0	0	16	47	17	23	650	39	0	471	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.97			0.99			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					1505			3500			1562	
Flt Permitted					0.99			0.98			1.00	
Satd. Flow (perm)					1505			3500			1562	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	16	47	17	23	650	39	0	471	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	80	0	0	712	0	0	476	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					29.0			45.0			45.0	
Effective Green, g (s)					28.0			44.0			45.0	
Actuated g/C Ratio					0.35			0.55			0.56	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					526			1925			878	
v/s Ratio Prot											c0.30	
v/s Ratio Perm					0.05			0.20				
v/c Ratio					0.15			0.37			0.54	
Uniform Delay, d1					17.9			10.2			11.0	
Progression Factor					1.00			2.45			0.63	
Incremental Delay, d2					0.6			0.5			2.2	
Delay (s)					18.5			25.5			9.1	
Level of Service					B			C			A	
Approach Delay (s)		0.0			18.5			25.5			9.1	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
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 (vph)	25	408	23	0	0	0	0	205	27	91	451	0
Future Volume (vph)	25	408	23	0	0	0	0	205	27	91	451	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2929						1536			1549	
Flt Permitted		1.00						1.00			0.90	
Satd. Flow (perm)		2929						1536			1409	
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	443	25	0	0	0	0	223	29	99	490	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	495	0	0	0	0	0	252	0	0	589	0
Confl. Peds. (#/hr)	19		16	16		19	42		13	13		42
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		37.0						37.0			37.0	
Effective Green, g (s)		36.0						36.0			37.0	
Actuated g/C Ratio		0.45						0.45			0.46	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1318						691			651	
v/s Ratio Prot								0.16				
v/s Ratio Perm		0.17									c0.42	
v/c Ratio		0.38						0.36			0.90	
Uniform Delay, d1		14.6						14.5			19.9	
Progression Factor		0.62						0.51			0.68	
Incremental Delay, d2		0.8						1.5			14.9	
Delay (s)		9.8						8.9			28.4	
Level of Service		A						A			C	
Approach Delay (s)		9.8			0.0			8.9			28.4	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	22	45	0	0	0	0	198	5	24	543	0
Future Volume (vph)	6	22	45	0	0	0	0	198	5	24	543	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frt		0.91						1.00			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		2687						3500			1561	
Flt Permitted		1.00						1.00			0.99	
Satd. Flow (perm)		2687						3500			1542	
Peak-hour factor, PHF	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. Flow (vph)	6	22	45	0	0	0	0	198	5	24	543	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	73	0	0	0	0	0	202	0	0	567	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						46.0			47.0	
Actuated g/C Ratio		0.32						0.58			0.59	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		873						2012			905	
v/s Ratio Prot								0.06				
v/s Ratio Perm		0.03									c0.37	
v/c Ratio		0.08						0.10			0.63	
Uniform Delay, d1		18.7						7.7			10.8	
Progression Factor		0.73						0.30			0.50	
Incremental Delay, d2		0.2						0.1			2.3	
Delay (s)		13.8						2.4			7.7	
Level of Service		B						A			A	
Approach Delay (s)		13.8			0.0			2.4			7.7	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	101	20	41	215	0	0	686	6
Future Volume (vph)	0	0	0	25	101	20	41	215	0	0	686	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.98			1.00			1.00	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					3006			1641			1652	
Flt Permitted					0.99			0.73			1.00	
Satd. Flow (perm)					3006			1207			1652	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	25	101	20	41	215	0	0	686	6
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	134	0	0	256	0	0	692	0
Confl. Peds. (#/hr)	7		17	17		7	12		46	46		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					38.4			60.4			60.4	
Effective Green, g (s)					38.4			60.4			60.4	
Actuated g/C Ratio					0.35			0.55			0.55	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1049			662			907	
v/s Ratio Prot											c0.42	
v/s Ratio Perm					0.04			0.21				
v/c Ratio					0.13			0.39			0.76	
Uniform Delay, d1					24.4			14.2			19.2	
Progression Factor					1.00			0.34			0.81	
Incremental Delay, d2					0.3			1.5			4.6	
Delay (s)					24.6			6.3			20.2	
Level of Service					C			A			C	
Approach Delay (s)		0.0			24.6			6.3			20.2	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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	0	0	63	483	13	19	200	0	0	468	38
Future Volume (vph)	0	0	0	63	483	13	19	200	0	0	468	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0	4.0		4.0			3.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.93		1.00			1.00	
Flpb, ped/bikes					0.99	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					0.99	1.00		1.00			1.00	
Satd. Flow (prot)					2937	1230		3500			1543	
Flt Permitted					0.99	1.00		0.95			1.00	
Satd. Flow (perm)					2937	1230		3500			1543	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	65	498	13	20	206	0	0	482	39
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	563	13	0	226	0	0	517	0
Confl. Peds. (#/hr)	28		27	27		28	33		20	20		33
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4		4	2					
Actuated Green, G (s)					37.0	37.0		37.0			37.0	
Effective Green, g (s)					36.0	36.0		36.0			37.0	
Actuated g/C Ratio					0.45	0.45		0.45			0.46	
Clearance Time (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1321	553		1575			713	
v/s Ratio Prot											c0.34	
v/s Ratio Perm					0.19	0.01		0.06				
v/c Ratio					0.43	0.02		0.14			0.73	
Uniform Delay, d1					15.0	12.2		12.9			17.4	
Progression Factor					1.00	1.00		0.41			0.72	
Incremental Delay, d2					1.0	0.1		0.2			4.2	
Delay (s)					16.0	12.3		5.5			16.8	
Level of Service					B	B		A			B	
Approach Delay (s)		0.0			15.9			5.5			16.8	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.0%	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)	2	13	0	0	96	6	10	161	13	0	702	0
Future Volume (vph)	2	13	0	0	96	6	10	161	13	0	702	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		1.00			0.99			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1631			3100			1628			1654	
Flt Permitted		0.98			1.00			0.96			1.00	
Satd. Flow (perm)		1609			3100			1571			1654	
Peak-hour factor, PHF	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. Flow (vph)	2	13	0	0	96	6	10	161	13	0	702	0
RTOR Reduction (vph)	0	0	0	0	4	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	15	0	0	98	0	0	182	0	0	702	0
Confl. Peds. (#/hr)	20		17	17		20	7		12	12		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA			NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		33.4			33.4			65.4			65.4	
Effective Green, g (s)		33.4			33.4			65.4			65.4	
Actuated g/C Ratio		0.30			0.30			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		488			941			934			983	
v/s Ratio Prot					c0.03						c0.42	
v/s Ratio Perm		0.01						0.12				
v/c Ratio		0.03			0.10			0.19			0.71	
Uniform Delay, d1		26.9			27.5			10.2			15.7	
Progression Factor		1.00			1.00			0.41			1.90	
Incremental Delay, d2		0.1			0.2			0.5			3.5	
Delay (s)		27.0			27.8			4.7			33.3	
Level of Service		C			C			A			C	
Approach Delay (s)		27.0			27.8			4.7			33.3	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	66.8%	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)	29	218	32	0	377	20	40	171	4	73	456	0
Future Volume (vph)	29	218	32	0	377	20	40	171	4	73	456	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0			4.0			4.0			6.0	
Lane Util. Factor	1.00	0.95			0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99			1.00			1.00			1.00	
Flpb, ped/bikes	0.98	1.00			1.00			1.00			1.00	
Frt	1.00	0.98			0.99			1.00			1.00	
Flt Protected	0.95	1.00			1.00			0.99			0.99	
Satd. Flow (prot)	1461	2888			2944			1542			1551	
Flt Permitted	0.48	1.00			1.00			0.86			0.92	
Satd. Flow (perm)	735	2888			2944			1338			1440	
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)	30	222	33	0	385	20	41	174	4	74	465	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	30	240	0	0	405	0	0	219	0	0	539	0
Confl. Peds. (#/hr)	18		30	30		18	37		28	28		37
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	32.0	32.0			32.0			37.0			37.0	
Effective Green, g (s)	33.0	33.0			33.0			39.0			37.0	
Actuated g/C Ratio	0.41	0.41			0.41			0.49			0.46	
Clearance Time (s)	5.0	5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)	303	1191			1214			652			666	
v/s Ratio Prot		0.08			c0.14							
v/s Ratio Perm	0.04							0.16			c0.37	
v/c Ratio	0.10	0.20			0.33			0.34			0.81	
Uniform Delay, d1	14.4	15.1			16.0			12.6			18.5	
Progression Factor	0.62	0.60			1.00			0.13			0.60	
Incremental Delay, d2	0.6	0.4			0.7			1.4			8.5	
Delay (s)	9.6	9.4			16.7			3.0			19.5	
Level of Service	A	A			B			A			B	
Approach Delay (s)		9.4			16.7			3.0			19.5	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	9	6	19	23	4	20	142	1	6	651	23
Future Volume (vph)	4	9	6	19	23	4	20	142	1	6	651	23
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.97			1.00			1.00	
Frt		0.96			0.99			1.00			1.00	
Flt Protected		0.99			0.98			0.99			1.00	
Satd. Flow (prot)		1352			1384			1477			1479	
Flt Permitted		0.97			0.91			0.90			1.00	
Satd. Flow (perm)		1325			1292			1339			1477	
Peak-hour factor, PHF	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. Flow (vph)	4	9	6	19	23	4	20	142	1	6	651	23
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	15	0	0	43	0	0	163	0	0	679	0
Confl. Peds. (#/hr)	15		26	26		15	5		7	7		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		39.4			39.4			59.4			59.4	
Effective Green, g (s)		39.4			39.4			59.4			59.4	
Actuated g/C Ratio		0.36			0.36			0.54			0.54	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		474			462			723			797	
v/s Ratio Prot												
v/s Ratio Perm		0.01			c0.03			0.12			c0.46	
v/c Ratio		0.03			0.09			0.23			0.85	
Uniform Delay, d1		22.9			23.4			13.3			21.6	
Progression Factor		0.67			1.00			0.55			0.36	
Incremental Delay, d2		0.1			0.4			0.7			7.8	
Delay (s)		15.6			23.8			7.9			15.6	
Level of Service		B			C			A			B	
Approach Delay (s)		15.6			23.8			7.9			15.6	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Future Volume (vph)	0	0	0	79	1115	7	36	180	0	0	526	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3124			1640			1582	
Flt Permitted					1.00			0.41			1.00	
Satd. Flow (perm)					3124			685			1582	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	82	1161	7	38	188	0	0	548	179
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	1249	0	0	226	0	0	717	0
Confl. Peds. (#/hr)	14		7	7		14	19		9	9		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					52.4			46.4			46.4	
Effective Green, g (s)					52.4			46.4			46.4	
Actuated g/C Ratio					0.48			0.42			0.42	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1488			288			667	
v/s Ratio Prot											c0.45	
v/s Ratio Perm					0.40			0.33				
v/c Ratio					0.84			0.78			1.07	
Uniform Delay, d1					25.1			27.5			31.8	
Progression Factor					0.59			0.75			1.59	
Incremental Delay, d2					5.5			18.5			50.6	
Delay (s)					20.3			39.2			101.1	
Level of Service					C			D			F	
Approach Delay (s)		0.0			20.3			39.2			101.1	
Approach LOS		A			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	48.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Future Volume (vph)	20	540	22	25	681	35	17	121	28	28	594	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3120			3115			1608			1635	
Flt Permitted		0.93			0.91			0.91			0.98	
Satd. Flow (perm)		2896			2854			1473			1609	
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)	21	568	23	26	717	37	18	127	29	29	625	43
RTOR Reduction (vph)	0	3	0	0	3	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	609	0	0	777	0	0	167	0	0	695	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		49.8			36.4			43.9			43.9	
Effective Green, g (s)		49.8			36.4			43.9			43.9	
Actuated g/C Ratio		0.45			0.33			0.40			0.40	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1338			944			587			642	
v/s Ratio Prot		c0.06										
v/s Ratio Perm		0.15			c0.27			0.11			c0.43	
v/c Ratio		0.46			0.82			0.29			1.08	
Uniform Delay, d1		20.8			33.8			22.4			33.0	
Progression Factor		0.26			1.00			0.38			0.62	
Incremental Delay, d2		0.9			8.0			1.2			52.0	
Delay (s)		6.2			41.9			9.8			72.3	
Level of Service		A			D			A			E	
Approach Delay (s)		6.2			41.9			9.8			72.3	
Approach LOS		A			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	58	9	4	51	10	9	184	16	14	684	9
Future Volume (vph)	10	58	9	4	51	10	9	184	16	14	684	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.98			0.98			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1587			1593			1616			1645	
Flt Permitted		0.97			0.99			0.97			0.99	
Satd. Flow (perm)		1545			1577			1573			1636	
Peak-hour factor, PHF	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. Flow (vph)	10	58	9	4	51	10	9	184	16	14	684	9
RTOR Reduction (vph)	0	5	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	72	0	0	59	0	0	206	0	0	707	0
Confl. Peds. (#/hr)	9		36	36		9	16		37	37		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		26.9			26.9			71.4			71.4	
Effective Green, g (s)		26.9			26.9			71.4			71.4	
Actuated g/C Ratio		0.24			0.24			0.65			0.65	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		377			385			1021			1061	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.04			0.13			c0.43	
v/c Ratio		0.19			0.15			0.20			0.67	
Uniform Delay, d1		32.9			32.6			7.8			11.9	
Progression Factor		1.04			1.00			0.04			0.17	
Incremental Delay, d2		1.1			0.8			0.4			2.3	
Delay (s)		35.5			33.5			0.8			4.4	
Level of Service		D			C			A			A	
Approach Delay (s)		35.5			33.5			0.8			4.4	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	71.6%	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)	15	13	12	19	15	12	7	166	5	8	717	7
Future Volume (vph)	15	13	12	19	15	12	7	166	5	8	717	7
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.97			1.00			1.00	
Flpb, ped/bikes		0.96			0.96			1.00			1.00	
Frt		0.96			0.96			1.00			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1444			1450			1639			1649	
Flt Permitted		0.92			0.91			0.97			1.00	
Satd. Flow (perm)		1351			1340			1601			1645	
Peak-hour factor, PHF	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. Flow (vph)	15	13	12	19	15	12	7	166	5	8	717	7
RTOR Reduction (vph)	0	8	0	0	8	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	32	0	0	38	0	0	177	0	0	732	0
Confl. Peds. (#/hr)	36		37	37		36	17		31	31		17
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		34.4			34.4			64.4			64.4	
Effective Green, g (s)		34.4			34.4			64.4			64.4	
Actuated g/C Ratio		0.31			0.31			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		422			419			937			963	
v/s Ratio Prot												
v/s Ratio Perm		0.02			c0.03			0.11			c0.44	
v/c Ratio		0.08			0.09			0.19			0.76	
Uniform Delay, d1		26.6			26.7			10.6			17.0	
Progression Factor		1.05			1.00			0.06			0.22	
Incremental Delay, d2		0.3			0.4			0.3			3.1	
Delay (s)		28.2			27.2			0.9			6.8	
Level of Service		C			C			A			A	
Approach Delay (s)		28.2			27.2			0.9			6.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Future Volume (vph)	23	237	0	131	579	69	8	141	45	10	591	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6			6.6		6.1	6.1			6.1	6.1
Lane Util. Factor		0.95			0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99			1.00	0.97
Flpb, ped/bikes		1.00			0.98		1.00	1.00			1.00	1.00
Frt		1.00			0.99		1.00	0.96			1.00	0.85
Flt Protected		1.00			0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)		3125			3004		1571	1581			1652	1371
Flt Permitted		0.84			0.81		0.10	1.00			0.99	1.00
Satd. Flow (perm)		2651			2468		170	1581			1644	1371
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)	25	258	0	142	629	75	9	153	49	11	642	87
RTOR Reduction (vph)	0	0	0	0	7	0	0	10	0	0	0	23
Lane Group Flow (vph)	0	283	0	0	839	0	9	192	0	0	653	64
Confl. Peds. (#/hr)	36		47	47		36	13		21	21		13
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)		58.4			58.4		38.9	38.9			38.9	38.9
Effective Green, g (s)		58.4			58.4		38.9	38.9			38.9	38.9
Actuated g/C Ratio		0.53			0.53		0.35	0.35			0.35	0.35
Clearance Time (s)		6.6			6.6		6.1	6.1			6.1	6.1
Lane Grp Cap (vph)		1407			1310		60	559			581	484
v/s Ratio Prot								0.12				
v/s Ratio Perm		0.11			c0.34		0.05				c0.40	0.05
v/c Ratio		0.20			0.64		0.15	0.34			1.12	0.13
Uniform Delay, d1		13.5			18.3		24.3	26.1			35.5	24.1
Progression Factor		0.68			1.00		1.47	1.51			0.54	0.18
Incremental Delay, d2		0.3			2.4		5.2	1.7			73.2	0.5
Delay (s)		9.5			20.8		40.9	41.0			92.3	4.9
Level of Service		A			C		D	D			F	A
Approach Delay (s)		9.5			20.8			41.0			82.1	
Approach LOS		A			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	SBL2	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	65	685	119	48	708	416
Future Volume (vph)	65	685	119	48	708	416
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0	4.0
Lane Util. Factor		0.86			0.95	0.95
Frpb, ped/bikes		0.99			1.00	1.00
Flpb, ped/bikes		0.99			0.89	1.00
Frt		0.98			1.00	1.00
Flt Protected		1.00			0.95	0.99
Satd. Flow (prot)		5130			3000	3000
Flt Permitted		1.00			0.95	0.99
Satd. Flow (perm)		5130			3000	3000
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	721	125	51	745	438
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	914	0	0	699	535
Confl. Peds. (#/hr)	97		59	115		
Turn Type	Perm	NA		Perm	Split	NA
Protected Phases		4			2	2
Permitted Phases	4			2		
Actuated Green, G (s)		32.0			38.0	38.0
Effective Green, g (s)		33.0			39.0	39.0
Actuated g/C Ratio		0.41			0.49	0.49
Clearance Time (s)		5.0			5.0	5.0
Lane Grp Cap (vph)		2116			1462	1462
v/s Ratio Prot						0.18
v/s Ratio Perm		0.18			0.23	
v/c Ratio		0.43			0.48	0.37
Uniform Delay, d1		16.8			13.7	12.8
Progression Factor		1.00			0.43	0.45
Incremental Delay, d2		0.6			0.9	0.6
Delay (s)		17.4			6.8	6.3
Level of Service		B			A	A
Approach Delay (s)		17.4				6.6
Approach LOS		B				A

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	59	22	0	0	0	0	316	25	55	1014	0
Future Volume (vph)	12	59	22	0	0	0	0	316	25	55	1014	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			0.95	
Frt		0.96						0.99			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		2849						1549			6400	
Flt Permitted		0.99						1.00			0.92	
Satd. Flow (perm)		2849						1549			6400	
Peak-hour factor, PHF	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. Flow (vph)	12	59	22	0	0	0	0	316	25	55	1014	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	93	0	0	0	0	0	337	0	0	1069	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						47.0			46.0	
Actuated g/C Ratio		0.32						0.59			0.58	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		925						910			3680	
v/s Ratio Prot								c0.22				
v/s Ratio Perm		0.03									0.17	
v/c Ratio		0.10						0.37			0.29	
Uniform Delay, d1		18.8						8.7			8.7	
Progression Factor		1.00						0.15			0.12	
Incremental Delay, d2		0.2						1.1			0.2	
Delay (s)		19.1						2.4			1.3	
Level of Service		B						A			A	
Approach Delay (s)		19.1			0.0			2.4			1.3	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	2.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	26	13	19	3	17	6	165	5	8	717	6
Future Volume (vph)	13	26	13	19	3	17	6	165	5	8	717	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			6.6			6.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			1.00			1.00	
Flpb, ped/bikes		0.98			0.98			1.00			1.00	
Frt		0.97			0.94			1.00			1.00	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1527			1430			1637			1648	
Flt Permitted		0.94			0.88			0.98			1.00	
Satd. Flow (perm)		1458			1291			1605			1645	
Peak-hour factor, PHF	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. Flow (vph)	13	26	13	19	3	17	6	165	5	8	717	6
RTOR Reduction (vph)	0	10	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	42	0	0	26	0	0	175	0	0	731	0
Confl. Peds. (#/hr)	30		23	23		30	20		41	41		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.4			28.4			69.4			69.4	
Effective Green, g (s)		28.4			28.4			69.4			69.4	
Actuated g/C Ratio		0.26			0.26			0.63			0.63	
Clearance Time (s)		5.6			5.6			6.6			6.6	
Lane Grp Cap (vph)		376			333			1012			1037	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.02			0.11			c0.44	
v/c Ratio		0.11			0.08			0.17			0.70	
Uniform Delay, d1		31.2			30.9			8.4			13.5	
Progression Factor		1.00			1.14			1.36			0.05	
Incremental Delay, d2		0.6			0.5			0.3			2.9	
Delay (s)		31.8			35.8			11.8			3.5	
Level of Service		C			D			B			A	
Approach Delay (s)		31.8			35.8			11.8			3.5	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
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)	2	83	29	0	0	0	0	190	0	8	675	0
Future Volume (vph)	2	83	29	0	0	0	0	190	0	8	675	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		1.00						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.97						1.00			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		1565						1654			1652	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		1565						1654			1648	
Peak-hour factor, PHF	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. Flow (vph)	2	83	29	0	0	0	0	190	0	8	675	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	103	0	0	0	0	0	190	0	0	683	0
Confl. Peds. (#/hr)	4		20	20		4	8		15	15		8
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		29.4						69.4			69.4	
Effective Green, g (s)		29.4						69.4			69.4	
Actuated g/C Ratio		0.27						0.63			0.63	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		418						1043			1039	
v/s Ratio Prot								0.11				
v/s Ratio Perm		0.07									c0.41	
v/c Ratio		0.25						0.18			0.66	
Uniform Delay, d1		31.6						8.5			12.8	
Progression Factor		1.00						1.50			0.10	
Incremental Delay, d2		1.4						0.4			2.6	
Delay (s)		33.0						13.1			3.9	
Level of Service		C						B			A	
Approach Delay (s)		33.0			0.0			13.1			3.9	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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 (vph)	5	66	45	0	0	0	0	198	4	25	544	25
Future Volume (vph)	5	66	45	0	0	0	0	198	4	25	544	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		1.00						1.00			1.00	
Frt		0.95						1.00			0.99	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		1480						1561			4500	
Flt Permitted		1.00						1.00			0.98	
Satd. Flow (perm)		1480						1561			1532	
Peak-hour factor, PHF	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. Flow (vph)	5	66	45	0	0	0	0	198	4	25	544	25
RTOR Reduction (vph)	0	28	0	0	0	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	88	0	0	0	0	0	201	0	0	592	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						47.0			46.0	
Actuated g/C Ratio		0.32						0.59			0.58	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		481						917			880	
v/s Ratio Prot								0.13				
v/s Ratio Perm		0.06									c0.39	
v/c Ratio		0.18						0.22			0.67	
Uniform Delay, d1		19.4						7.8			11.8	
Progression Factor		1.00						1.25			0.55	
Incremental Delay, d2		0.8						0.5			4.0	
Delay (s)		20.2						10.3			10.5	
Level of Service		C						B			B	
Approach Delay (s)		20.2			0.0			10.3			10.5	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.1%	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)	9	57	9	4	40	9	9	184	16	13	683	9
Future Volume (vph)	9	57	9	4	40	9	9	184	16	13	683	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1595			1590			1625			1648	
Flt Permitted		0.97			0.99			0.97			0.99	
Satd. Flow (perm)		1561			1572			1582			1639	
Peak-hour factor, PHF	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. Flow (vph)	9	57	9	4	40	9	9	184	16	13	683	9
RTOR Reduction (vph)	0	4	0	0	7	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	71	0	0	46	0	0	206	0	0	705	0
Confl. Peds. (#/hr)	9		23	23		9	10		15	15		10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.9			28.9			69.4			69.4	
Effective Green, g (s)		28.9			28.9			69.4			69.4	
Actuated g/C Ratio		0.26			0.26			0.63			0.63	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		410			413			998			1034	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			0.13			c0.43	
v/c Ratio		0.17			0.11			0.21			0.68	
Uniform Delay, d1		31.3			30.8			8.6			13.1	
Progression Factor		1.00			1.42			0.50			0.10	
Incremental Delay, d2		0.9			0.5			0.5			2.8	
Delay (s)		32.2			44.3			4.8			4.1	
Level of Service		C			D			A			A	
Approach Delay (s)		32.2			44.3			4.8			4.1	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBT	WBR	NBL	NBT	SBT	SBR2	NER2
Lane Configurations								
Traffic Volume (vph)	16	42	17	23	128	1123	5	95
Future Volume (vph)	16	42	17	23	128	1123	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0			5.0	4.0		4.0
Lane Util. Factor	1.00	1.00			1.00	0.95		1.00
Frt	1.00	0.96			1.00	1.00		0.86
Flt Protected	0.95	1.00			0.99	1.00		1.00
Satd. Flow (prot)	1486	1499			1553	4500		1353
Flt Permitted	0.95	1.00			0.80	1.00		1.00
Satd. Flow (perm)	1486	1499			1254	4500		1353
Peak-hour factor, PHF	0.83	0.83	0.83	1.00	1.00	0.94	0.94	0.75
Adj. Flow (vph)	19	51	20	23	128	1195	5	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	19	71	0	0	151	1200	0	127
Turn Type	Split	NA		Perm	NA	NA		Prot
Protected Phases	4	4			2	2		3
Permitted Phases				2				3
Actuated Green, G (s)	19.0	19.0			45.0	45.0		5.0
Effective Green, g (s)	18.0	18.0			45.0	46.0		4.0
Actuated g/C Ratio	0.22	0.22			0.56	0.58		0.05
Clearance Time (s)	3.0	3.0			5.0	5.0		3.0
Lane Grp Cap (vph)	334	337			705	2587		67
v/s Ratio Prot	0.01	c0.05				c0.27		c0.09
v/s Ratio Perm					0.12			
v/c Ratio	0.06	0.21			0.21	0.46		1.90
Uniform Delay, d1	24.3	25.2			8.7	9.9		38.0
Progression Factor	0.78	0.75			1.29	0.37		1.00
Incremental Delay, d2	0.3	1.4			0.7	0.6		453.5
Delay (s)	19.2	20.4			12.0	4.2		491.5
Level of Service	B	C			B	A		F
Approach Delay (s)		20.2			12.0	4.2		
Approach LOS		C			B	A		

Intersection Summary			
HCM 2000 Control Delay	45.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	62	430	12	18	200	0	0	1139	38
Future Volume (vph)	0	0	0	62	430	12	18	200	0	0	1139	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			3.0			4.0	
Lane Util. Factor					0.95			1.00			0.95	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					1.00			1.00			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2919			1558			6000	
Flt Permitted					0.99			0.89			1.00	
Satd. Flow (perm)					2919			1397			2954	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	63	439	12	18	204	0	0	1162	39
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	512	0	0	222	0	0	1198	0
Confl. Peds. (#/hr)	47		43	43		47	31		70	70		31
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					32.0			42.0			42.0	
Effective Green, g (s)					31.0			42.0			41.0	
Actuated g/C Ratio					0.39			0.52			0.51	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					1131			733			3075	
v/s Ratio Prot											c0.20	
v/s Ratio Perm					0.18			0.16				
v/c Ratio					0.45			0.30			0.39	
Uniform Delay, d1					18.2			10.7			11.9	
Progression Factor					0.35			0.76			0.10	
Incremental Delay, d2					1.2			1.0			0.2	
Delay (s)					7.6			9.1			1.4	
Level of Service					A			A			A	
Approach Delay (s)		0.0			7.6			9.1			1.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.1%	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)	10	32	15	35	197	10	41	237	21	19	1034	77
Future Volume (vph)	10	32	15	35	197	10	41	237	21	19	1034	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.96			0.99			0.99			0.99	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1496			1545			1539			6400	
Flt Permitted		0.95			0.96			0.80			0.95	
Satd. Flow (perm)		1437			1493			1239			6400	
Peak-hour factor, PHF	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. Flow (vph)	10	32	15	35	197	10	41	237	21	19	1034	77
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	57	0	0	242	0	0	296	0	0	1130	0
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)		29.0			29.0			45.0			45.0	
Effective Green, g (s)		28.0			28.0			45.0			44.0	
Actuated g/C Ratio		0.35			0.35			0.56			0.55	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		502			522			696			3520	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.16			c0.24			0.18	
v/c Ratio		0.11			0.46			0.42			0.32	
Uniform Delay, d1		17.6			20.2			10.1			9.8	
Progression Factor		1.00			0.85			1.10			0.11	
Incremental Delay, d2		0.5			2.8			1.8			0.2	
Delay (s)		18.1			20.0			12.8			1.3	
Level of Service		B			B			B			A	
Approach Delay (s)		18.1			20.0			12.8			1.3	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	43	14	15	80	13	16	340	17	7	1014	27
Future Volume (vph)	12	43	14	15	80	13	16	340	17	7	1014	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			0.95	
Frt		0.97			0.98			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1509			1529			1552			2961	
Flt Permitted		0.96			0.97			0.94			0.95	
Satd. Flow (perm)		1464			1493			1469			2822	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Adj. Flow (vph)	12	43	14	15	80	13	16	340	17	8	1102	29
RTOR Reduction (vph)	0	0	0	0	6	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	69	0	0	102	0	0	371	0	0	1139	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
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)		27.0			27.0			47.0			47.0	
Effective Green, g (s)		26.0			26.0			47.0			46.0	
Actuated g/C Ratio		0.32			0.32			0.59			0.58	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		475			485			863			1622	
v/s Ratio Prot												
v/s Ratio Perm		0.05			c0.07			0.25			c0.40	
v/c Ratio		0.15			0.21			0.43			0.70	
Uniform Delay, d1		19.1			19.6			9.1			12.1	
Progression Factor		1.00			1.45			0.97			0.45	
Incremental Delay, d2		0.6			1.0			1.3			2.5	
Delay (s)		19.8			29.3			10.1			8.0	
Level of Service		B			C			B			A	
Approach Delay (s)		19.8			29.3			10.1			8.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	95	399	265	24	88	0	0	1023	27
Future Volume (vph)	0	0	0	95	399	265	24	88	0	0	1023	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)				4.0	4.0			5.0			4.0	
Lane Util. Factor				1.00	0.95			1.00			0.95	
Frpb, ped/bikes				1.00	0.92			1.00			1.00	
Flpb, ped/bikes				0.94	1.00			1.00			1.00	
Frt				1.00	0.94			1.00			1.00	
Flt Protected				0.95	1.00			0.99			1.00	
Satd. Flow (prot)				1404	2580			1546			6000	
Flt Permitted				0.95	1.00			0.76			1.00	
Satd. Flow (perm)				1404	2580			1193			6000	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	98	411	273	25	91	0	0	1055	28
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	98	684	0	0	116	0	0	1083	0
Confl. Peds. (#/hr)	88		46	46		88	37		89	89		37
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)				32.0	32.0			40.0			40.0	
Effective Green, g (s)				31.0	31.0			40.0			41.0	
Actuated g/C Ratio				0.39	0.39			0.50			0.51	
Clearance Time (s)				3.0	3.0			5.0			5.0	
Lane Grp Cap (vph)				544	999			596			3075	
v/s Ratio Prot					c0.27						c0.18	
v/s Ratio Perm				0.07				0.10				
v/c Ratio				0.18	0.68			0.19			0.35	
Uniform Delay, d1				16.1	20.4			11.1			11.6	
Progression Factor				0.63	0.65			0.34			0.11	
Incremental Delay, d2				0.6	3.3			0.7			0.2	
Delay (s)				10.7	16.5			4.4			1.6	
Level of Service				B	B			A			A	
Approach Delay (s)		0.0			15.8			4.4			1.6	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.1%	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)	25	339	30	0	0	0	0	205	26	91	1102	0
Future Volume (vph)	25	339	30	0	0	0	0	205	26	91	1102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		0.95						1.00			0.95	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		2907						1534			2957	
Flt Permitted		1.00						1.00			0.90	
Satd. Flow (perm)		2907						1534			6000	
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)	26	353	31	0	0	0	0	214	27	95	1148	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	403	0	0	0	0	0	235	0	0	1243	0
Confl. Peds. (#/hr)	28		40	40		28	40		25	25		40
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0			42.0	
Effective Green, g (s)		31.0						42.0			41.0	
Actuated g/C Ratio		0.39						0.52			0.51	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1126						805			3075	
v/s Ratio Prot								0.15				
v/s Ratio Perm		0.14									c0.21	
v/c Ratio		0.36						0.29			0.40	
Uniform Delay, d1		17.4						10.7			12.0	
Progression Factor		1.00						1.51			0.15	
Incremental Delay, d2		0.9						0.9			0.4	
Delay (s)		18.3						16.9			2.1	
Level of Service		B						B			A	
Approach Delay (s)		18.3			0.0			16.9			2.1	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SER
Lane Configurations											
Traffic Volume (vph)	30	194	33	363	20	40	171	3	72	456	650
Future Volume (vph)	30	194	33	363	20	40	171	3	72	456	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0			3.0			4.0	4.0
Lane Util. Factor		0.95	1.00	0.95			1.00			1.00	1.00
Frt		1.00	0.85	0.99			1.00			1.00	0.86
Flt Protected		0.99	1.00	1.00			0.99			0.99	1.00
Satd. Flow (prot)		2953	1330	2949			1547			4800	1353
Flt Permitted		0.88	1.00	1.00			0.87			0.93	1.00
Satd. Flow (perm)		2610	1330	2949			1356			1453	1353
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
Adj. Flow (vph)	31	202	34	378	21	42	178	3	75	475	677
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	233	11	399	0	0	223	0	0	550	677
Turn Type	Perm	NA	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4		4			2			2	
Permitted Phases	4		4			2			2		2
Actuated Green, G (s)		28.0	28.0	28.0			46.0			46.0	46.0
Effective Green, g (s)		27.0	27.0	27.0			46.0			45.0	45.0
Actuated g/C Ratio		0.34	0.34	0.34			0.58			0.56	0.56
Clearance Time (s)		3.0	3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		880	448	995			779			817	761
v/s Ratio Prot				c0.14							
v/s Ratio Perm		0.09	0.01				0.16			0.38	c0.50
v/c Ratio		0.26	0.03	0.40			0.29			0.67	0.89
Uniform Delay, d1		19.3	17.7	20.3			8.6			12.3	15.3
Progression Factor		1.00	1.00	0.76			0.45			0.37	1.00
Incremental Delay, d2		0.7	0.1	1.2			0.9			3.5	14.7
Delay (s)		20.0	17.8	16.6			4.8			8.0	30.0
Level of Service		C	B	B			A			A	C
Approach Delay (s)		19.7		16.6			4.8			8.0	
Approach LOS		B		B			A			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Future Volume (vph)	27	151	24	131	475	75	8	140	59	10	592	80
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			7.1			7.1	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.79	1.00	0.99			0.95			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.90	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.98			0.96			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1550	3143	1106	1415	1611			1513			1612	
Flt Permitted	0.35	1.00	1.00	0.65	1.00			0.97			0.99	
Satd. Flow (perm)	578	3143	1106	968	1611			1466			1604	
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)	29	161	26	139	505	80	9	149	63	11	630	85
RTOR Reduction (vph)	0	0	20	0	5	0	0	13	0	0	4	0
Lane Group Flow (vph)	29	161	6	139	580	0	0	208	0	0	722	0
Confl. Peds. (#/hr)	19		111	111		19	20		112	112		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Effective Green, g (s)	27.4	27.4	27.4	42.8	47.4			48.9			48.9	
Actuated g/C Ratio	0.25	0.25	0.25	0.39	0.43			0.44			0.44	
Clearance Time (s)	6.6	6.6	6.6	4.6				7.1			7.1	
Lane Grp Cap (vph)	143	782	275	439	694			651			713	
v/s Ratio Prot		0.05		0.04	c0.36							
v/s Ratio Perm	0.05		0.01	0.08				0.14			c0.45	
v/c Ratio	0.20	0.21	0.02	0.32	0.84			0.32			1.01	
Uniform Delay, d1	32.7	32.7	31.2	22.8	27.8			19.8			30.6	
Progression Factor	1.00	1.00	1.00	0.76	0.59			0.79			1.00	
Incremental Delay, d2	3.2	0.6	0.2	1.6	9.6			1.3			36.7	
Delay (s)	35.8	33.3	31.4	18.8	25.9			16.9			67.3	
Level of Service	D	C	C	B	C			B			E	
Approach Delay (s)		33.4			24.5			16.9			67.3	
Approach LOS		C			C			B			E	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	13	15	52	34	28	180	0	0	604	18
Future Volume (vph)	0	0	13	15	52	34	28	180	0	0	604	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)			4.0	4.0	4.0			3.0			4.0	
Lane Util. Factor			1.00	1.00	1.00			1.00			1.00	
Frt			0.85	1.00	0.94			1.00			1.00	
Flt Protected			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)			1330	1486	1472			1554			4800	
Flt Permitted			1.00	0.95	1.00			0.91			1.00	
Satd. Flow (perm)			1330	1486	1472			1417			4800	
Peak-hour factor, PHF	0.85	0.85	0.85	0.69	0.69	0.69	1.00	1.00	1.00	0.97	1.00	1.00
Adj. Flow (vph)	0	0	15	22	75	49	28	180	0	0	604	18
RTOR Reduction (vph)	0	0	0	0	30	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	15	22	94	0	0	208	0	0	622	0
Turn Type	D.Pm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases	4		4	4			2					
Actuated Green, G (s)			27.0	27.0	27.0			47.0			47.0	
Effective Green, g (s)			26.0	26.0	26.0			47.0			46.0	
Actuated g/C Ratio			0.32	0.32	0.32			0.59			0.58	
Clearance Time (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			432	482	478			832			2760	
v/s Ratio Prot					c0.06						0.13	
v/s Ratio Perm			0.01	0.01				c0.15				
v/c Ratio			0.03	0.05	0.20			0.25			0.23	
Uniform Delay, d1			18.4	18.5	19.5			8.0			8.3	
Progression Factor			1.00	0.72	0.58			0.61			1.00	
Incremental Delay, d2			0.1	0.2	0.9			0.7			0.2	
Delay (s)			18.6	13.5	12.2			5.6			8.5	
Level of Service			B	B	B			A			A	
Approach Delay (s)		18.6			12.4			5.6			8.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Future Volume (vph)	0	0	0	78	1237	6	36	179	0	0	527	172
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.97	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					3101			1640			1554	
Flt Permitted					1.00			0.60			1.00	
Satd. Flow (perm)					3101			1000			1554	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	80	1275	6	37	185	0	0	543	177
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	1361	0	0	222	0	0	715	0
Confl. Peds. (#/hr)	56		53	53		56	61		42	42		61
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0			54.0			54.0	
Effective Green, g (s)					44.0			54.0			54.0	
Actuated g/C Ratio					0.40			0.49			0.49	
Clearance Time (s)					6.0			6.0			6.0	
Lane Grp Cap (vph)					1240			490			762	
v/s Ratio Prot											c0.46	
v/s Ratio Perm					0.44			0.22				
v/c Ratio					1.10			0.45			0.94	
Uniform Delay, d1					33.0			18.3			26.4	
Progression Factor					0.50			0.61			0.40	
Incremental Delay, d2					50.6			2.9			16.4	
Delay (s)					66.9			14.1			27.0	
Level of Service					E			B			C	
Approach Delay (s)		0.0			66.9			14.1			27.0	
Approach LOS		A			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	832	150	111	1100	0	0	0	0
Future Volume (vph)	0	0	0	0	832	150	111	1100	0	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	4.0				
Lane Util. Factor					0.91		1.00	0.91				
Frpb, ped/bikes					0.96		1.00	1.00				
Flpb, ped/bikes					1.00		0.75	1.00				
Frt					0.98		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4142		1162	4800				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4142		1162	4800				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	867	156	116	1146	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1023	0	116	1146	0	0	0	0
Confl. Peds. (#/hr)	219		297	297		219	186		264	264		186
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Actuated Green, G (s)					45.0		57.0	57.0				
Effective Green, g (s)					46.0		56.0	56.0				
Actuated g/C Ratio					0.42		0.51	0.51				
Clearance Time (s)					5.0		3.0	3.0				
Lane Grp Cap (vph)					1732		591	2443				
v/s Ratio Prot					c0.25			c0.24				
v/s Ratio Perm							0.10					
v/c Ratio					0.59		0.20	0.47				
Uniform Delay, d1					24.7		14.7	17.4				
Progression Factor					1.00		0.65	0.60				
Incremental Delay, d2					1.5		0.6	0.6				
Delay (s)					26.2		10.2	11.0				
Level of Service					C		B	B				
Approach Delay (s)		0.0			26.2			10.9			0.0	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
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												
Traffic Volume (vph)	0	0	0	171	1630	0	0	0	0	0	212	366
Future Volume (vph)	0	0	0	171	1630	0	0	0	0	0	212	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0						4.0	
Lane Util. Factor					0.91						0.91	
Frpb, ped/bikes					1.00						1.00	
Flpb, ped/bikes					1.00						1.00	
Frt					1.00						0.91	
Flt Protected					1.00						1.00	
Satd. Flow (prot)					4252						3866	
Flt Permitted					1.00						1.00	
Satd. Flow (perm)					4252						3866	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	174	1663	0	0	0	0	0	216	373
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1837	0	0	0	0	0	589	0
Confl. Peds. (#/hr)	6					6						
Turn Type				Perm	NA						NA	
Protected Phases					2						4	
Permitted Phases				2								
Actuated Green, G (s)					61.0						23.0	
Effective Green, g (s)					60.0						22.0	
Actuated g/C Ratio					0.55						0.20	
Clearance Time (s)					3.0						3.0	
Lane Grp Cap (vph)					2319						773	
v/s Ratio Prot											c0.15	
v/s Ratio Perm					0.43							
v/c Ratio					0.79						1.38dr	
Uniform Delay, d1					20.0						41.5	
Progression Factor					1.00						1.00	
Incremental Delay, d2					2.9						7.0	
Delay (s)					22.9						48.5	
Level of Service					C						D	
Approach Delay (s)		0.0			22.9			0.0			48.5	
Approach LOS		A			C			A			D	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	14	7	19	49	3	20	142	2	7	651	23
Future Volume (vph)	3	14	7	19	49	3	20	142	2	7	651	23
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.96			0.99			1.00			1.00	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1421			1461			1477			1481	
Flt Permitted		0.98			0.94			0.90			1.00	
Satd. Flow (perm)		1400			1385			1343			1478	
Peak-hour factor, PHF	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. Flow (vph)	3	14	7	19	49	3	20	142	2	7	651	23
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	19	0	0	70	0	0	164	0	0	680	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			69.4			69.4	
Effective Green, g (s)		29.4			29.4			69.4			69.4	
Actuated g/C Ratio		0.27			0.27			0.63			0.63	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		374			370			847			932	
v/s Ratio Prot												
v/s Ratio Perm		0.01			c0.05			0.12			c0.46	
v/c Ratio		0.05			0.19			0.19			0.73	
Uniform Delay, d1		29.9			31.1			8.5			13.9	
Progression Factor		1.00			0.96			0.84			0.22	
Incremental Delay, d2		0.3			1.1			0.5			3.4	
Delay (s)		30.2			30.9			7.6			6.4	
Level of Service		C			C			A			A	
Approach Delay (s)		30.2			30.9			7.6			6.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	52	32	120	1337	0	0	0	0
Future Volume (vph)	0	0	0	0	52	32	120	1337	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0				
Lane Util. Factor					0.95			0.95				
Frt					0.94			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					2802			2961				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					2802			6400				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.73	0.73	0.90	0.90	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	71	44	133	1486	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	115	0	0	1619	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Actuated Green, G (s)					27.0			77.0				
Effective Green, g (s)					26.0			76.0				
Actuated g/C Ratio					0.24			0.69				
Clearance Time (s)					3.0			3.0				
Lane Grp Cap (vph)					662			4421				
v/s Ratio Prot					c0.04							
v/s Ratio Perm								c0.25				
v/c Ratio					0.17			0.37				
Uniform Delay, d1					33.4			7.0				
Progression Factor					1.00			0.25				
Incremental Delay, d2					0.6			0.2				
Delay (s)					34.0			1.9				
Level of Service					C			A				
Approach Delay (s)		0.0			34.0			1.9			0.0	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	75	0	0	0	0	0	1228	70	0	0	0
Future Volume (vph)	59	75	0	0	0	0	0	1228	70	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0				
Lane Util. Factor	1.00	0.95						0.91				
Frt	1.00	1.00						0.99				
Flt Protected	0.95	1.00						1.00				
Satd. Flow (prot)	1486	2973						4800				
Flt Permitted	0.95	1.00						1.00				
Satd. Flow (perm)	1486	2973						4800				
Peak-hour factor, PHF	0.91	0.91	0.91	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	82	0	0	0	0	0	1228	70	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	65	82	0	0	0	0	0	1298	0	0	0	0
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)	35.0	35.0						69.0				
Effective Green, g (s)	34.0	34.0						68.0				
Actuated g/C Ratio	0.31	0.31						0.62				
Clearance Time (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	459	918						2967				
v/s Ratio Prot		0.03						c0.27				
v/s Ratio Perm	c0.04											
v/c Ratio	0.14	0.09						0.44				
Uniform Delay, d1	27.5	27.0						11.0				
Progression Factor	0.07	0.07						0.32				
Incremental Delay, d2	0.4	0.1						0.4				
Delay (s)	2.2	2.0						4.0				
Level of Service	A	A						A				
Approach Delay (s)		2.1			0.0			4.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	34	37	135	0	0	0	0	0	1775	82
Future Volume (vph)	0	0	34	37	135	0	0	0	0	0	1775	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)			4.0		4.0						4.0	
Lane Util. Factor			1.00		0.95						0.86	
Frt			0.86		1.00						0.99	
Flt Protected			1.00		0.99						1.00	
Satd. Flow (prot)			1353		2941						5347	
Flt Permitted			1.00		0.99						1.00	
Satd. Flow (perm)			1353		2941						5347	
Peak-hour factor, PHF	1.00	1.00	0.75	0.71	0.71	1.00	1.00	1.00	1.00	1.00	0.87	0.87
Adj. Flow (vph)	0	0	45	52	190	0	0	0	0	0	2040	94
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	45	0	232	0	0	0	0	0	2134	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type			Prot	Perm	NA						NA	
Protected Phases			4		4						2	
Permitted Phases				4								
Actuated Green, G (s)			29.0		29.0						72.0	
Effective Green, g (s)			31.0		31.0						71.0	
Actuated g/C Ratio			0.28		0.28						0.65	
Clearance Time (s)			6.0		6.0						3.0	
Lane Grp Cap (vph)			381		828						3451	
v/s Ratio Prot			0.03								c0.40	
v/s Ratio Perm					0.08							
v/c Ratio			0.12		0.28						0.62	
Uniform Delay, d1			29.3		30.8						11.5	
Progression Factor			1.00		0.98						0.21	
Incremental Delay, d2			0.6		0.8						0.8	
Delay (s)			30.0		31.0						3.2	
Level of Service			C		C						A	
Approach Delay (s)		30.0			31.0			0.0			3.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	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)	243	658	0	0	0	0	0	1016	320	0	0	0
Future Volume (vph)	243	658	0	0	0	0	0	1016	320	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	4.0	4.0						4.0				
Lane Util. Factor	1.00	0.91						0.95				
Frt	1.00	1.00						0.96				
Flt Protected	0.95	1.00						1.00				
Satd. Flow (prot)	1486	4272						4800				
Flt Permitted	0.95	1.00						1.00				
Satd. Flow (perm)	1486	4272						4800				
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)	256	693	0	0	0	0	0	1069	337	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	256	693	0	0	0	0	0	1406	0	0	0	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)	42.0	42.0						62.0				
Effective Green, g (s)	41.0	41.0						61.0				
Actuated g/C Ratio	0.37	0.37						0.55				
Clearance Time (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	553	1592						2661				
v/s Ratio Prot		0.16						c0.29				
v/s Ratio Perm	c0.17											
v/c Ratio	0.46	0.44						0.53				
Uniform Delay, d1	26.2	25.8						15.4				
Progression Factor	0.34	0.35						0.22				
Incremental Delay, d2	2.5	0.8						0.7				
Delay (s)	11.4	9.7						4.1				
Level of Service	B	A						A				
Approach Delay (s)		10.2			0.0			4.1			0.0	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
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												
Traffic Volume (vph)	141	78	0	0	425	36	73	887	27	0	0	0
Future Volume (vph)	141	78	0	0	425	36	73	887	27	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0				
Lane Util. Factor		1.00			0.95			0.91				
Frpb, ped/bikes		1.00			0.99			0.99				
Flpb, ped/bikes		0.99			1.00			0.99				
Frt		1.00			0.99			1.00				
Flt Protected		0.97			1.00			1.00				
Satd. Flow (prot)		1507			2920			4190				
Flt Permitted		0.39			1.00			1.00				
Satd. Flow (perm)		604			2920			4190				
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)	147	81	0	0	443	38	76	924	28	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	228	0	0	481	0	0	1028	0	0	0	0
Confl. Peds. (#/hr)	39		97	97		39	42		57	57		42
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	3	3 4			4			2				
Permitted Phases	3 4						2					
Actuated Green, G (s)		44.0			29.0			57.0				
Effective Green, g (s)		42.0			28.0			56.0				
Actuated g/C Ratio		0.38			0.25			0.51				
Clearance Time (s)					3.0			3.0				
Lane Grp Cap (vph)		345			743			2133				
v/s Ratio Prot		c0.08			0.16							
v/s Ratio Perm		c0.17						0.25				
v/c Ratio		0.66			0.65			0.48				
Uniform Delay, d1		28.1			36.6			17.6				
Progression Factor		0.79			1.00			0.31				
Incremental Delay, d2		8.4			4.3			0.7				
Delay (s)		30.5			40.9			6.2				
Level of Service		C			D			A				
Approach Delay (s)		30.5			40.9			6.2			0.0	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	26	2	19	41	215	0	0	686	6
Future Volume (vph)	0	0	0	26	2	19	41	215	0	0	686	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.94			1.00			1.00	
Flt Protected					0.97			0.99			1.00	
Satd. Flow (prot)					2802			1641			1651	
Flt Permitted					0.97			0.84			1.00	
Satd. Flow (perm)					2802			1394			1651	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	26	2	19	41	215	0	0	686	6
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	33	0	0	256	0	0	692	0
Confl. Peds. (#/hr)	4		7	7		4	24		17	17		24
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			69.4			69.4	
Effective Green, g (s)					29.4			69.4			69.4	
Actuated g/C Ratio					0.27			0.63			0.63	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					748			879			1041	
v/s Ratio Prot											c0.42	
v/s Ratio Perm					0.01			0.18				
v/c Ratio					0.04			0.29			0.66	
Uniform Delay, d1					29.9			9.2			12.9	
Progression Factor					1.96			0.92			0.03	
Incremental Delay, d2					0.1			0.7			2.5	
Delay (s)					58.7			9.1			2.9	
Level of Service					E			A			A	
Approach Delay (s)		0.0			58.7			9.1			2.9	
Approach LOS		A			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	77.5%	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	0	0	0	2239	62	98	1183	0	0	0	0
Future Volume (vph)	0	0	0	0	2239	62	98	1183	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0		4.0	4.0				
Lane Util. Factor					0.81		1.00	0.95				
Frt					1.00		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					7500		1486	2973				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					7500		1486	2973				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	2357	65	103	1245	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2422	0	103	1245	0	0	0	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Actuated Green, G (s)					47.0		57.0	57.0				
Effective Green, g (s)					46.0		56.0	56.0				
Actuated g/C Ratio					0.42		0.51	0.51				
Clearance Time (s)					3.0		3.0	3.0				
Lane Grp Cap (vph)					3136		756	1513				
v/s Ratio Prot					c0.32			c0.42				
v/s Ratio Perm							0.07					
v/c Ratio					0.77		0.14	0.82				
Uniform Delay, d1					27.5		14.2	22.8				
Progression Factor					1.00		0.46	0.36				
Incremental Delay, d2					1.9		0.2	3.1				
Delay (s)					29.4		6.7	11.3				
Level of Service					C		A	B				
Approach Delay (s)		0.0			29.4			10.9			0.0	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	14	80	35	28	180	0	0	604	18
Future Volume (vph)	0	0	0	14	80	35	28	180	0	0	604	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.88			1.00			0.99	
Flpb, ped/bikes					0.94			0.99			1.00	
Frt					0.96			1.00			1.00	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					2350			5250			1548	
Flt Permitted					0.99			0.90			1.00	
Satd. Flow (perm)					2350			5250			1548	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	15	83	36	29	188	0	0	629	19
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	134	0	0	217	0	0	647	0
Confl. Peds. (#/hr)	219		297	297		219	186		264	264		186
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					27.0			47.0			47.0	
Effective Green, g (s)					26.0			46.0			47.0	
Actuated g/C Ratio					0.32			0.58			0.59	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					763			3018			909	
v/s Ratio Prot											c0.42	
v/s Ratio Perm					0.06			0.04				
v/c Ratio					0.18			0.07			0.71	
Uniform Delay, d1					19.3			7.5			11.7	
Progression Factor					1.00			0.22			1.00	
Incremental Delay, d2					0.5			0.0			4.7	
Delay (s)					19.8			1.7			16.4	
Level of Service					B			A			B	
Approach Delay (s)		0.0			19.8			1.7			16.4	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	51	3	13	175	0	0	650	16
Future Volume (vph)	0	0	0	25	51	3	13	175	0	0	650	16
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			1.00			1.00	
Flt Protected					0.98			1.00			1.00	
Satd. Flow (prot)					1620			1648			1649	
Flt Permitted					0.98			0.95			1.00	
Satd. Flow (perm)					1620			1573			1649	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	25	51	3	13	175	0	0	650	16
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	78	0	0	188	0	0	665	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			69.4			69.4	
Effective Green, g (s)					29.4			69.4			69.4	
Actuated g/C Ratio					0.27			0.63			0.63	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					432			992			1040	
v/s Ratio Prot											c0.40	
v/s Ratio Perm					0.05			0.12				
v/c Ratio					0.18			0.19			0.64	
Uniform Delay, d1					31.0			8.5			12.6	
Progression Factor					0.99			0.34			0.11	
Incremental Delay, d2					0.9			0.4			1.4	
Delay (s)					31.6			3.3			2.8	
Level of Service					C			A			A	
Approach Delay (s)		0.0			31.6			3.3			2.8	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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)	20	577	22	26	639	35	16	122	28	27	593	41
Future Volume (vph)	20	577	22	26	639	35	16	122	28	27	593	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3111			3097			1597			1631	
Flt Permitted		0.91			0.91			0.92			0.98	
Satd. Flow (perm)		2836			2809			1474			1606	
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	620	24	28	687	38	17	131	30	29	638	44
RTOR Reduction (vph)	0	2	0	0	4	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	664	0	0	749	0	0	171	0	0	709	0
Confl. Peds. (#/hr)	26		16	16		26	27		19	19		27
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		43.9			43.9			53.9			53.9	
Effective Green, g (s)		43.9			43.9			53.9			53.9	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
Clearance Time (s)		6.1			6.1			6.1			6.1	
Lane Grp Cap (vph)		1131			1121			722			786	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.27			0.12			c0.44	
v/c Ratio		0.59			0.67			0.24			0.90	
Uniform Delay, d1		25.9			27.1			16.2			25.6	
Progression Factor		1.00			0.53			0.92			0.39	
Incremental Delay, d2		2.2			1.7			0.8			12.1	
Delay (s)		28.2			16.2			15.7			22.1	
Level of Service		C			B			B			C	
Approach Delay (s)		28.2			16.2			15.7			22.1	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	99.5%	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)	0	1595	191	0	0	0	0	0	0	46	366	0
Future Volume (vph)	0	1595	191	0	0	0	0	0	0	46	366	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0								4.0	4.0	
Lane Util. Factor		0.91								1.00	0.95	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.98								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		4191								1486	2973	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		4191								1486	2973	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1792	215	0	0	0	0	0	0	52	411	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2007	0	0	0	0	0	0	0	52	411	0
Confl. Peds. (#/hr)			8				39					39
Turn Type		NA								Prot	NA	
Protected Phases		2								1	4	
Permitted Phases												
Actuated Green, G (s)		70.0								19.0	34.0	
Effective Green, g (s)		69.0								18.0	33.0	
Actuated g/C Ratio		0.63								0.16	0.30	
Clearance Time (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		2628								243	891	
v/s Ratio Prot		c0.48								0.03	c0.14	
v/s Ratio Perm												
v/c Ratio		0.76								0.21	0.46	
Uniform Delay, d1		14.7								39.9	31.3	
Progression Factor		1.00								0.76	0.78	
Incremental Delay, d2		2.2								1.5	1.3	
Delay (s)		16.8								31.8	25.7	
Level of Service		B								C	C	
Approach Delay (s)		16.8			0.0			0.0			26.4	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	10	0	0	0	66	0	997	37	0	0	0
Future Volume (vph)	5	10	0	0	0	66	0	997	37	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0				4.0		4.0				
Lane Util. Factor		1.00				1.00		0.91				
Frt		1.00				0.86		0.99				
Flt Protected		0.98				1.00		1.00				
Satd. Flow (prot)		1539				1353		4249				
Flt Permitted		0.98				1.00		1.00				
Satd. Flow (perm)		1539				1353		4249				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	1.00	1.00	1.00
Adj. Flow (vph)	5	10	0	0	0	66	0	1246	46	0	0	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	11	0	0	0	66	0	1292	0	0	0	0
Turn Type	Perm	NA				Perm		NA				
Protected Phases		4						2				
Permitted Phases	4					4						
Actuated Green, G (s)		27.0				27.0		77.0				
Effective Green, g (s)		26.0				26.0		76.0				
Actuated g/C Ratio		0.24				0.24		0.69				
Clearance Time (s)		3.0				3.0		3.0				
Lane Grp Cap (vph)		363				319		2935				
v/s Ratio Prot								c0.30				
v/s Ratio Perm		0.01				c0.05						
v/c Ratio		0.03				0.21		0.44				
Uniform Delay, d1		32.3				33.7		7.6				
Progression Factor		1.00				1.00		0.29				
Incremental Delay, d2		0.2				1.5		0.4				
Delay (s)		32.5				35.2		2.6				
Level of Service		C				D		A				
Approach Delay (s)		32.5			35.2			2.6			0.0	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.0%	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)	61	630	50	0	0	0	0	156	15	9	610	0
Future Volume (vph)	61	630	50	0	0	0	0	156	15	9	610	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3084						1630			1652	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		3084						1630			1647	
Peak-hour factor, PHF	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. Flow (vph)	61	630	50	0	0	0	0	156	15	9	610	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	736	0	0	0	0	0	168	0	0	619	0
Confl. Peds. (#/hr)	9		6	6		9	9		12	12		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		44.4						54.4			54.4	
Effective Green, g (s)		44.4						54.4			54.4	
Actuated g/C Ratio		0.40						0.49			0.49	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1244						806			814	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.24									c0.38	
v/c Ratio		0.59						0.21			0.76	
Uniform Delay, d1		25.7						15.7			22.5	
Progression Factor		0.17						1.31			0.47	
Incremental Delay, d2		1.7						0.6			0.6	
Delay (s)		6.1						21.1			11.2	
Level of Service		A						C			B	
Approach Delay (s)		6.1			0.0			21.1			11.2	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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 (vph)	61	668	50	0	0	0	0	155	15	10	611	0
Future Volume (vph)	61	668	50	0	0	0	0	155	15	10	611	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3086						1628			1652	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		3086						1628			1646	
Peak-hour factor, PHF	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. Flow (vph)	61	668	50	0	0	0	0	155	15	10	611	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	774	0	0	0	0	0	167	0	0	621	0
Confl. Peds. (#/hr)	8		8	8		8	28		16	16		28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		44.4						54.4			54.4	
Effective Green, g (s)		44.4						54.4			54.4	
Actuated g/C Ratio		0.40						0.49			0.49	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1245						805			814	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.25									c0.38	
v/c Ratio		0.62						0.21			0.76	
Uniform Delay, d1		26.1						15.7			22.6	
Progression Factor		1.00						0.91			0.24	
Incremental Delay, d2		2.3						0.6			2.1	
Delay (s)		28.5						14.8			7.5	
Level of Service		C						B			A	
Approach Delay (s)		28.5			0.0			14.8			7.5	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	650	0	0	0	0	1119
Future Volume (vph)	650	0	0	0	0	1119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10
Total Lost time (s)	4.0					4.0
Lane Util. Factor	0.97					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	2884					4272
Flt Permitted	0.95					1.00
Satd. Flow (perm)	2884					4272
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	0.90
Adj. Flow (vph)	650	0	0	0	0	1243
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	650	0	0	0	0	1243
Turn Type	Prot					NA
Protected Phases	4					2
Permitted Phases						
Actuated Green, G (s)	42.0					62.0
Effective Green, g (s)	41.0					61.0
Actuated g/C Ratio	0.37					0.55
Clearance Time (s)	3.0					3.0
Lane Grp Cap (vph)	1074					2369
v/s Ratio Prot	c0.23					c0.29
v/s Ratio Perm						
v/c Ratio	0.61					0.52
Uniform Delay, d1	27.9					15.4
Progression Factor	0.52					1.00
Incremental Delay, d2	2.1					0.8
Delay (s)	16.8					16.2
Level of Service	B					B
Approach Delay (s)	16.8		0.0			16.2
Approach LOS	B		A			B

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	164	64	181	275	0	0	0	0	60	1610	116
Future Volume (vph)	0	164	64	181	275	0	0	0	0	60	1610	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.98			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.96			1.00						0.99	
Flt Protected		1.00			0.98						1.00	
Satd. Flow (prot)		1478			2876						4500	
Flt Permitted		1.00			0.69						1.00	
Satd. Flow (perm)		1478			2034						4189	
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	169	66	187	284	0	0	0	0	62	1660	120
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	235	0	0	471	0	0	0	0	0	1842	0
Confl. Peds. (#/hr)	38		39	39		38	3		90	90		3
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		45.0			45.0						59.0	
Effective Green, g (s)		44.0			44.0						58.0	
Actuated g/C Ratio		0.40			0.40						0.53	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		591			813						2208	
v/s Ratio Prot		0.16										
v/s Ratio Perm					c0.23						c0.44	
v/c Ratio		0.40			0.58						0.83	
Uniform Delay, d1		23.5			25.8						21.9	
Progression Factor		0.54			0.41						0.69	
Incremental Delay, d2		1.9			2.4						3.3	
Delay (s)		14.6			13.0						18.4	
Level of Service		B			B						B	
Approach Delay (s)		14.6			13.0			0.0			18.4	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	22	4	13	175	4	0	649	17
Future Volume (vph)	0	0	0	25	22	4	13	175	4	0	649	17
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.99			1.00			1.00	
Flt Protected					0.98			1.00			1.00	
Satd. Flow (prot)					1569			1643			1647	
Flt Permitted					0.98			0.95			1.00	
Satd. Flow (perm)					1569			1569			1647	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	25	22	4	13	175	4	0	649	17
RTOR Reduction (vph)	0	0	0	0	3	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	48	0	0	191	0	0	665	0
Confl. Peds. (#/hr)	12		9	9		12	5		3	3		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					33.4			65.4			65.4	
Effective Green, g (s)					33.4			65.4			65.4	
Actuated g/C Ratio					0.30			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					476			932			979	
v/s Ratio Prot											c0.40	
v/s Ratio Perm					0.03			0.12				
v/c Ratio					0.10			0.21			0.68	
Uniform Delay, d1					27.5			10.3			15.2	
Progression Factor					1.00			0.30			0.56	
Incremental Delay, d2					0.4			0.5			0.3	
Delay (s)					27.9			3.6			8.8	
Level of Service					C			A			A	
Approach Delay (s)		0.0			27.9			3.6			8.8	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	64.8%	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)	13	32	14	14	70	14	16	341	17	6	361	26
Future Volume (vph)	13	32	14	14	70	14	16	341	17	6	361	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		4.0			4.0			4.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.98			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1498			1524			3500			1550	
Flt Permitted		0.95			0.97			0.98			1.00	
Satd. Flow (perm)		1440			1488			3500			1544	
Peak-hour factor, PHF	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. Flow (vph)	13	32	14	14	70	14	16	341	17	6	361	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	59	0	0	98	0	0	372	0	0	390	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)		23.0			23.0			51.0			51.0	
Effective Green, g (s)		22.0			22.0			50.0			51.0	
Actuated g/C Ratio		0.28			0.28			0.62			0.64	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		396			409			2187			984	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.07			0.11			c0.25	
v/c Ratio		0.15			0.24			0.17			0.40	
Uniform Delay, d1		21.9			22.5			6.3			7.0	
Progression Factor		0.92			1.00			0.05			0.89	
Incremental Delay, d2		0.8			1.4			0.2			1.1	
Delay (s)		21.0			23.9			0.4			7.3	
Level of Service		C			C			A			A	
Approach Delay (s)		21.0			23.9			0.4			7.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	22	5	7	16	19	7	162	11	8	741	8
Future Volume (vph)	15	22	5	7	16	19	7	162	11	8	741	8
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			4.6			4.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.97			1.00			1.00	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.98			0.94			0.99			1.00	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1559			1480			1633			1649	
Flt Permitted		0.93			0.97			0.97			1.00	
Satd. Flow (perm)		1468			1449			1595			1646	
Peak-hour factor, PHF	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. Flow (vph)	15	22	5	7	16	19	7	162	11	8	741	8
RTOR Reduction (vph)	0	3	0	0	12	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	39	0	0	30	0	0	178	0	0	757	0
Confl. Peds. (#/hr)	19		13	13		19	16		7	7		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		39.4			39.4			60.4			60.4	
Effective Green, g (s)		39.4			39.4			60.4			60.4	
Actuated g/C Ratio		0.36			0.36			0.55			0.55	
Clearance Time (s)		5.6			5.6			4.6			4.6	
Lane Grp Cap (vph)		525			519			875			903	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.02			0.11			c0.46	
v/c Ratio		0.07			0.06			0.20			0.84	
Uniform Delay, d1		23.3			23.1			12.6			20.7	
Progression Factor		1.03			1.00			0.29			1.32	
Incremental Delay, d2		0.3			0.2			0.5			0.9	
Delay (s)		24.3			23.3			4.1			28.2	
Level of Service		C			C			A			C	
Approach Delay (s)		24.3			23.3			4.1			28.2	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.2
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

Description: As provided 1651 - Intersection Timing Sheets use 1702 split 6

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	0	211	115	624	0
Future Volume (vph)	64	0	211	115	624	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)	5.6		5.6	5.6	5.6	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	1.00	
Flt Protected	0.95		0.95	1.00	1.00	
Satd. Flow (prot)	1571		1571	1654	1654	
Flt Permitted	0.95		0.27	1.00	1.00	
Satd. Flow (perm)	1571		455	1654	1654	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	0	211	115	624	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	64	0	211	115	624	0
Confl. Peds. (#/hr)	13	9	9			9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	39.4		59.4	59.4	59.4	
Effective Green, g (s)	39.4		59.4	59.4	59.4	
Actuated g/C Ratio	0.36		0.54	0.54	0.54	
Clearance Time (s)	5.6		5.6	5.6	5.6	
Lane Grp Cap (vph)	562		245	893	893	
v/s Ratio Prot	c0.04			0.07	0.38	
v/s Ratio Perm			c0.46			
v/c Ratio	0.11		0.86	0.13	0.70	
Uniform Delay, d1	23.6		21.8	12.5	18.7	
Progression Factor	1.17		0.68	0.68	1.00	
Incremental Delay, d2	0.4		29.7	0.3	4.5	
Delay (s)	28.0		44.5	8.8	23.2	
Level of Service	C		D	A	C	
Approach Delay (s)	28.0			31.9	23.2	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
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 (vph)	5	23	5	8	18	5	12	162	12	7	742	7
Future Volume (vph)	5	23	5	8	18	5	12	162	12	7	742	7
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1576			1566			1602			1619	
Flt Permitted		0.97			0.95			0.95			1.00	
Satd. Flow (perm)		1545			1505			1528			1616	
Peak-hour factor, PHF	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. Flow (vph)	5	23	5	8	18	5	12	162	12	7	742	7
RTOR Reduction (vph)	0	4	0	0	4	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	29	0	0	27	0	0	184	0	0	756	0
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)		25.4			25.4			73.4			73.4	
Effective Green, g (s)		25.4			25.4			73.4			73.4	
Actuated g/C Ratio		0.23			0.23			0.67			0.67	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		356			347			1019			1078	
v/s Ratio Prot												
v/s Ratio Perm		c0.02			0.02			0.12			c0.47	
v/c Ratio		0.08			0.08			0.18			0.70	
Uniform Delay, d1		33.2			33.1			6.9			11.4	
Progression Factor		1.00			1.04			1.11			0.26	
Incremental Delay, d2		0.5			0.4			0.4			1.9	
Delay (s)		33.6			34.9			8.1			4.8	
Level of Service		C			C			A			A	
Approach Delay (s)		33.6			34.9			8.1			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Dedicated Turn Lanes/Rush Hour Lanes – HCM Reports

PM Peak Hour

HCM Signalized Intersection Capacity Analysis
41: St. Paul (Upper) #1 & Franklin St

12/3/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	113	1805	0	0	0	0	0	225	249
Future Volume (vph)	0	0	0	113	1805	0	0	0	0	0	225	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0						4.0	
Lane Util. Factor					0.91						0.91	
Frpb, ped/bikes					1.00						1.00	
Flpb, ped/bikes					1.00						1.00	
Frt					1.00						0.92	
Flt Protected					1.00						1.00	
Satd. Flow (prot)					4259						3935	
Flt Permitted					1.00						1.00	
Satd. Flow (perm)					4259						3935	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	0	0	114	1823	0	0	0	0	0	227	252
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	201	0
Lane Group Flow (vph)	0	0	0	0	1923	0	0	0	0	0	278	0
Confl. Peds. (#/hr)	5					5			1	1		
Turn Type				Perm	NA						NA	
Protected Phases					2						4	
Permitted Phases				2								
Actuated Green, G (s)					59.0						15.0	
Effective Green, g (s)					58.0						14.0	
Actuated g/C Ratio					0.58						0.14	
Clearance Time (s)					3.0						3.0	
Lane Grp Cap (vph)					2470						550	
v/s Ratio Prot											c0.07	
v/s Ratio Perm					0.45							
v/c Ratio					0.78						0.51	
Uniform Delay, d1					16.1						39.8	
Progression Factor					1.00						1.00	
Incremental Delay, d2					2.5						3.3	
Delay (s)					18.6						43.1	
Level of Service					B						D	
Approach Delay (s)		0.0			18.6			0.0			43.1	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR2
Lane Configurations												
Traffic Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Future Volume (vph)	19	334	71	20	257	343	145	215	68	197	153	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.1	8.1		8.1	8.1	7.1	7.1			7.1	
Lane Util. Factor		0.95	1.00		0.91	0.91	1.00	1.00			0.95	
Frpb, ped/bikes		1.00	0.91		0.99	0.97	1.00	1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	0.98	1.00			1.00	
Frt		1.00	0.85		0.95	0.85	1.00	0.96			1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			0.97	
Satd. Flow (prot)		3071	1258		2763	1221	1513	1557			2979	
Flt Permitted		0.89	1.00		0.91	1.00	0.45	1.00			0.59	
Satd. Flow (perm)		2729	1258		2518	1221	714	1557			1818	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	22	380	81	23	292	390	165	244	77	224	174	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	52	0	0	52	0
Lane Group Flow (vph)	0	402	81	0	479	226	165	269	0	0	357	0
Confl. Peds. (#/hr)	11		30	30		11	40		5	5		40
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			3			3	
Permitted Phases	2		2	2		2	3			3		
Actuated Green, G (s)		46.9	46.9		46.9	46.9	58.9	58.9			58.9	
Effective Green, g (s)		46.9	46.9		46.9	46.9	58.9	58.9			58.9	
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.36	0.36			0.36	
Clearance Time (s)		8.1	8.1		8.1	8.1	7.1	7.1			7.1	
Lane Grp Cap (vph)		775	357		715	347	254	555			648	
v/s Ratio Prot								0.17				
v/s Ratio Perm		0.15	0.06		c0.19	0.19	c0.23				0.20	
v/c Ratio		0.52	0.23		0.67	0.65	0.65	0.48			0.55	
Uniform Delay, d1		49.6	45.2		52.2	51.9	44.4	41.2			42.5	
Progression Factor		1.00	1.00		0.94	0.94	1.00	1.00			1.00	
Incremental Delay, d2		2.5	1.5		4.2	7.8	12.2	3.0			3.4	
Delay (s)		52.0	46.7		53.4	56.5	56.6	44.3			45.8	
Level of Service		D	D		D	E	E	D			D	
Approach Delay (s)		51.1			54.4			48.4			45.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	128.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NER2	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	0	21	15	0	12	6
Future Volume (vph)	0	21	15	0	12	6
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)		7.1	7.1	7.1		
Lane Util. Factor		1.00	1.00	1.00		
Frpb, ped/bikes		1.00	1.00	0.92		
Flpb, ped/bikes		0.99	0.93	1.00		
Frt		1.00	1.00	0.85		
Flt Protected		0.95	0.95	1.00		
Satd. Flow (prot)		1530	1437	1270		
Flt Permitted		0.95	0.95	1.00		
Satd. Flow (perm)		1530	1437	1270		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	24	17	0	14	7
RTOR Reduction (vph)	0	0	0	16	0	0
Lane Group Flow (vph)	0	24	17	5	0	0
Confl. Peds. (#/hr)	30	5	30		40	11
Turn Type	Free	Perm	Perm	NA		
Protected Phases				4		
Permitted Phases	Free	4	4			
Actuated Green, G (s)		36.9	36.9	36.9		
Effective Green, g (s)		36.9	36.9	36.9		
Actuated g/C Ratio		0.22	0.22	0.22		
Clearance Time (s)		7.1	7.1	7.1		
Lane Grp Cap (vph)		342	321	284		
v/s Ratio Prot				0.00		
v/s Ratio Perm		c0.02	0.01			
v/c Ratio		0.07	0.05	0.02		
Uniform Delay, d1		50.5	50.3	49.9		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		0.4	0.3	0.1		
Delay (s)		50.9	50.6	50.0		
Level of Service		D	D	D		
Approach Delay (s)				50.5		
Approach LOS				D		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Future Volume (vph)	29	364	237	20	280	17	340	19	68	0	0	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6	6.6		6.6			6.6				
Lane Util. Factor		1.00	1.00		1.00			1.00				
Frpb, ped/bikes		1.00	0.91		0.99			0.99				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.98				
Flt Protected		1.00	1.00		1.00			0.96				
Satd. Flow (prot)		1611	1249		1593			1498				
Flt Permitted		0.95	1.00		0.95			0.96				
Satd. Flow (perm)		1537	1249		1526			1498				
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)	31	391	255	22	301	18	366	20	73	0	0	0
RTOR Reduction (vph)	0	0	138	0	1	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	422	117	0	340	0	0	455	0	0	0	0
Confl. Peds. (#/hr)	28		22	22		28	4		23	23		4
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2		2	2			4					
Actuated Green, G (s)		75.4	75.4		75.4			76.4				
Effective Green, g (s)		75.4	75.4		75.4			76.4				
Actuated g/C Ratio		0.46	0.46		0.46			0.46				
Clearance Time (s)		6.6	6.6		6.6			6.6				
Lane Grp Cap (vph)		702	570		697			693				
v/s Ratio Prot												
v/s Ratio Perm		c0.27	0.09		0.22			0.30				
v/c Ratio		0.60	0.20		0.49			0.66				
Uniform Delay, d1		33.5	26.8		31.3			34.2				
Progression Factor		1.04	5.07		1.00			1.00				
Incremental Delay, d2		3.3	0.7		2.4			4.8				
Delay (s)		38.1	136.7		33.7			39.0				
Level of Service		D	F		C			D				
Approach Delay (s)		75.2			33.7			39.0			0.0	
Approach LOS		E			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	82.8%	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)	31	945	18	35	971	41	29	470	78	35	409	38
Future Volume (vph)	31	945	18	35	971	41	29	470	78	35	409	38
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	3.0	5.0		3.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1386	3962		1386	2745		1370	1459	1184	1368	1459	1193
Flt Permitted	0.95	1.00		0.95	1.00		0.38	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)	1386	3962		1386	2745		543	1459	1184	456	1459	1193
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)	32	984	19	36	1011	43	30	490	81	36	426	40
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	30	0	0	22
Lane Group Flow (vph)	32	1001	0	36	1051	0	30	490	51	36	426	18
Confl. Peds. (#/hr)	28		46	46		28	30		39	39		30
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	3	4		3	4			2			2	
Permitted Phases							2		2	2		2
Actuated Green, G (s)	8.0	34.0		8.0	34.0		45.0	45.0	45.0	45.0	45.0	45.0
Effective Green, g (s)	8.0	34.0		8.0	34.0		45.0	45.0	45.0	45.0	45.0	45.0
Actuated g/C Ratio	0.08	0.34		0.08	0.34		0.45	0.45	0.45	0.45	0.45	0.45
Clearance Time (s)	3.0	5.0		3.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	110	1347		110	933		244	656	532	205	656	536
v/s Ratio Prot	0.02	0.25		c0.03	c0.38			c0.34			0.29	
v/s Ratio Perm							0.06		0.04	0.08		0.02
v/c Ratio	0.29	0.74		0.33	1.13		0.12	0.75	0.10	0.18	0.65	0.03
Uniform Delay, d1	43.3	29.1		43.5	33.0		16.0	22.8	15.8	16.4	21.4	15.4
Progression Factor	1.60	0.32		1.00	1.00		1.00	1.00	1.00	0.48	0.63	0.60
Incremental Delay, d2	5.2	2.9		7.8	70.6		1.0	7.6	0.4	1.8	4.7	0.1
Delay (s)	74.6	12.4		51.2	103.6		17.0	30.4	16.2	9.6	18.2	9.3
Level of Service	E	B		D	F		B	C	B	A	B	A
Approach Delay (s)		14.3			101.9			27.8			16.9	
Approach LOS		B			F			C			B	

Intersection Summary			
HCM 2000 Control Delay	46.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
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)	30	881	17	35	1005	42	30	470	78	35	410	37
Future Volume (vph)	30	881	17	35	1005	42	30	470	78	35	410	37
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		3.0		4.0	4.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	0.95	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00	
Frt		1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3958		1386	2749		1371	1459	1178	1366	1436	
Flt Permitted		0.88		0.95	1.00		0.29	1.00	1.00	0.26	1.00	
Satd. Flow (perm)		3475		1386	2749		416	1459	1178	379	1436	
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)	31	918	18	36	1047	44	31	490	81	36	427	39
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	30	0	3	0
Lane Group Flow (vph)	0	965	0	36	1088	0	31	490	51	36	463	0
Confl. Peds. (#/hr)	51		24	24		51	31		44	44		31
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4						2		2	2		
Actuated Green, G (s)		41.0		8.0	53.0		39.0	39.0	39.0	39.0	39.0	
Effective Green, g (s)		41.0		8.0	53.0		39.0	39.0	39.0	39.0	39.0	
Actuated g/C Ratio		0.41		0.08	0.53		0.39	0.39	0.39	0.39	0.39	
Clearance Time (s)		3.0		4.0			5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		1424		110	1456		162	569	459	147	560	
v/s Ratio Prot				0.03	c0.40			c0.34			0.32	
v/s Ratio Perm		0.28					0.07		0.04	0.10		
v/c Ratio		0.68		0.33	0.75		0.19	0.86	0.11	0.24	0.83	
Uniform Delay, d1		24.1		43.5	18.3		20.1	28.0	19.4	20.6	27.5	
Progression Factor		1.00		1.29	0.90		1.00	1.00	1.00	0.48	0.53	
Incremental Delay, d2		2.6		0.7	0.3		2.6	15.7	0.5	3.7	12.5	
Delay (s)		26.7		56.6	16.9		22.7	43.7	19.9	13.7	27.0	
Level of Service		C		E	B		C	D	B	B	C	
Approach Delay (s)		26.7			18.1			39.4			26.1	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	734	99	0	0	0	0	0	0	109	1441	0
Future Volume (vph)	0	734	99	0	0	0	0	0	0	109	1441	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0								4.0	
Lane Util. Factor		0.95	1.00								0.86	
Frt		1.00	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		2973	1250								5257	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		2973	1250								5257	
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	757	102	0	0	0	0	0	0	112	1486	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	757	102	0	0	0	0	0	0	0	1598	0
Bus Blockages (#/hr)	0	0	15	0	0	0	0	0	0	0	20	0
Turn Type		NA	Prot							Split	NA	
Protected Phases		4	4							2	2	
Permitted Phases												
Actuated Green, G (s)		30.0	30.0								62.0	
Effective Green, g (s)		31.0	31.0								61.0	
Actuated g/C Ratio		0.31	0.31								0.61	
Clearance Time (s)		5.0	5.0								3.0	
Lane Grp Cap (vph)		921	387								3206	
v/s Ratio Prot		c0.25	0.08								c0.30	
v/s Ratio Perm												
v/c Ratio		0.82	0.26								0.50	
Uniform Delay, d1		31.9	25.9								10.9	
Progression Factor		1.00	1.00								0.29	
Incremental Delay, d2		8.2	1.7								0.5	
Delay (s)		40.1	27.6								3.6	
Level of Service		D	C								A	
Approach Delay (s)		38.6			0.0			0.0			3.6	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.9	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)	8.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	495	0	0	0	0	0	1254	235
Future Volume (vph)	0	0	0	255	495	0	0	0	0	0	1254	235
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	
Lane Util. Factor				0.86	0.86						0.86	
Frpb, ped/bikes				1.00	1.00						0.95	
Flpb, ped/bikes				0.71	0.98						1.00	
Frt				1.00	1.00						0.98	
Flt Protected				0.95	1.00						1.00	
Satd. Flow (prot)				904	3937						5000	
Flt Permitted				0.95	1.00						1.00	
Satd. Flow (perm)				904	3937						5000	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	271	527	0	0	0	0	0	1334	250
RTOR Reduction (vph)	0	0	0	10	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	220	560	0	0	0	0	0	1584	0
Confl. Peds. (#/hr)	173		244	244		173	228		208	208		228
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type				Perm	NA						NA	
Protected Phases					4						2	
Permitted Phases				4								
Actuated Green, G (s)				37.0	37.0						57.0	
Effective Green, g (s)				36.0	36.0						56.0	
Actuated g/C Ratio				0.36	0.36						0.56	
Clearance Time (s)				3.0	3.0						3.0	
Lane Grp Cap (vph)				325	1417						2800	
v/s Ratio Prot											c0.32	
v/s Ratio Perm				c0.24	0.14							
v/c Ratio				0.68	0.39						0.57	
Uniform Delay, d1				27.1	23.9						14.2	
Progression Factor				0.36	0.30						0.47	
Incremental Delay, d2				9.7	0.7						0.7	
Delay (s)				19.4	8.0						7.3	
Level of Service				B	A						A	
Approach Delay (s)		0.0			11.3			0.0			7.3	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1036	1606	0	0	0	0	0	1336	340
Future Volume (vph)	0	0	0	1036	1606	0	0	0	0	0	1336	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0						4.0	4.0
Lane Util. Factor				0.76	0.76						0.81	0.81
Frt				1.00	1.00						0.99	0.85
Flt Protected				0.95	1.00						1.00	1.00
Satd. Flow (prot)				2600	4500						5004	1013
Flt Permitted				0.95	1.00						1.00	1.00
Satd. Flow (perm)				2600	4500						5004	1013
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	1057	1639	0	0	0	0	0	1363	347
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	951	1745	0	0	0	0	0	1491	219
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	15
Turn Type				Prot	NA						NA	custom
Protected Phases				4	3 4						1 2	2
Permitted Phases												
Actuated Green, G (s)				40.0	49.0						42.0	30.0
Effective Green, g (s)				39.0	47.0						41.0	29.0
Actuated g/C Ratio				0.39	0.47						0.41	0.29
Clearance Time (s)				3.0								3.0
Lane Grp Cap (vph)				1014	2295						2051	293
v/s Ratio Prot				c0.37	c0.30						c0.30	0.22
v/s Ratio Perm					0.09							
v/c Ratio				0.94	0.76						0.73	0.75
Uniform Delay, d1				29.3	21.9						24.8	32.2
Progression Factor				0.63	0.61						0.48	0.58
Incremental Delay, d2				10.6	1.3						2.1	14.5
Delay (s)				29.1	14.6						13.9	33.2
Level of Service				C	B						B	C
Approach Delay (s)		0.0			19.7			0.0			16.3	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	SBL	SBT	SBR	SWL
Lane Configurations						
Traffic Volume (vph)	105	45	45	165	50	1250
Future Volume (vph)	105	45	45	165	50	1250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		4.0
Lane Util. Factor	0.95			0.91		*0.91
Frpb, ped/bikes	0.98			0.98		1.00
Flpb, ped/bikes	1.00			0.99		1.00
Frt	0.95			0.97		1.00
Flt Protected	1.00			0.99		1.00
Satd. Flow (prot)	2784			3989		4800
Flt Permitted	1.00			0.99		1.00
Satd. Flow (perm)	2784			3989		4272
Peak-hour factor, PHF	0.92	0.92	0.94	0.94	1.00	0.94
Adj. Flow (vph)	114	49	48	176	50	1330
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	163	0	0	274	0	1330
Confl. Peds. (#/hr)		25	32		25	
Bus Blockages (#/hr)	0	0	0	0	15	0
Turn Type	NA		Perm	NA		Prot
Protected Phases	4			3		2
Permitted Phases			3			
Actuated Green, G (s)	16.0			18.0		50.0
Effective Green, g (s)	18.0			19.0		51.0
Actuated g/C Ratio	0.18			0.19		0.51
Clearance Time (s)	6.0			5.0		5.0
Lane Grp Cap (vph)	501			757		2448
v/s Ratio Prot	c0.06					c0.28
v/s Ratio Perm				0.07		
v/c Ratio	0.33			0.36		0.54
Uniform Delay, d1	35.7			35.2		16.6
Progression Factor	1.00			1.20		0.44
Incremental Delay, d2	1.7			1.3		0.7
Delay (s)	37.4			43.4		8.1
Level of Service	D			D		A
Approach Delay (s)	37.4			43.4		8.1
Approach LOS	D			D		A

Intersection Summary			
HCM 2000 Control Delay	16.3	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)	12.0
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												
Traffic Volume (vph)	0	180	25	22	371	0	0	0	0	0	255	50
Future Volume (vph)	0	180	25	22	371	0	0	0	0	0	255	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	3.0		4.0						4.0	
Lane Util. Factor		0.95	0.95		0.95						0.95	
Frt		0.99	0.85		1.00						0.98	
Flt Protected		1.00	1.00		1.00						1.00	
Satd. Flow (prot)		1472	1263		2965						2900	
Flt Permitted		1.00	1.00		0.92						1.00	
Satd. Flow (perm)		1472	1263		2742						2900	
Peak-hour factor, PHF	0.59	0.59	0.59	0.76	0.76	0.76	1.00	1.00	1.00	1.00	0.64	0.64
Adj. Flow (vph)	0	305	42	29	488	0	0	0	0	0	398	78
RTOR Reduction (vph)	0	2	10	0	0	0	0	0	0	0	17	0
Lane Group Flow (vph)	0	324	11	0	517	0	0	0	0	0	459	0
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type		NA	Perm	Perm	NA						NA	
Protected Phases		4			4						2	
Permitted Phases			4	4								
Actuated Green, G (s)		52.0	52.0		52.0						42.0	
Effective Green, g (s)		51.0	52.0		51.0						41.0	
Actuated g/C Ratio		0.51	0.52		0.51						0.41	
Clearance Time (s)		3.0	3.0		3.0						3.0	
Lane Grp Cap (vph)		750	656		1398						1189	
v/s Ratio Prot		c0.22									c0.16	
v/s Ratio Perm			0.01		0.19							
v/c Ratio		0.43	0.02		0.37						0.39	
Uniform Delay, d1		15.4	11.6		14.8						20.7	
Progression Factor		1.00	1.00		1.24						1.32	
Incremental Delay, d2		1.8	0.0		0.6						0.9	
Delay (s)		17.2	11.7		19.0						28.3	
Level of Service		B	B		B						C	
Approach Delay (s)		16.9			19.0			0.0			28.3	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	21.7	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)	8.0
Intersection Capacity Utilization	42.8%	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)	59	122	25	0	0	0	0	507	10	78	331	0
Future Volume (vph)	59	122	25	0	0	0	0	507	10	78	331	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.98						1.00			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		2821						1560			1547	
Flt Permitted		0.99						1.00			0.85	
Satd. Flow (perm)		2821						1560			1320	
Peak-hour factor, PHF	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. Flow (vph)	59	122	25	0	0	0	0	507	10	78	331	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	193	0	0	0	0	0	516	0	0	409	0
Confl. Peds. (#/hr)	25		12	12		25	36		21	21		36
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		22.0						52.0			52.0	
Effective Green, g (s)		21.0						51.0			52.0	
Actuated g/C Ratio		0.26						0.64			0.65	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		740						994			858	
v/s Ratio Prot								c0.33				
v/s Ratio Perm		0.07									0.31	
v/c Ratio		0.26						0.52			0.48	
Uniform Delay, d1		23.4						7.9			7.1	
Progression Factor		1.15						0.57			0.81	
Incremental Delay, d2		0.8						1.7			1.8	
Delay (s)		27.7						6.2			7.5	
Level of Service		C						A			A	
Approach Delay (s)		27.7			0.0			6.2			7.5	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.2%	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)	22	72	33	28	119	20	37	511	18	5	348	65
Future Volume (vph)	22	72	33	28	119	20	37	511	18	5	348	65
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			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.98			1.00			0.98	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1464			1504			1548			1520	
Flt Permitted		0.94			0.94			0.96			1.00	
Satd. Flow (perm)		1391			1432			1489			1514	
Peak-hour factor, PHF	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. Flow (vph)	22	72	33	28	119	20	37	511	18	5	348	65
RTOR Reduction (vph)	0	15	0	0	6	0	0	1	0	0	8	0
Lane Group Flow (vph)	0	112	0	0	161	0	0	565	0	0	410	0
Confl. Peds. (#/hr)	36		16	16		36	13		28	28		13
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)		22.0			22.0			52.0			52.0	
Effective Green, g (s)		21.0			21.0			51.0			52.0	
Actuated g/C Ratio		0.26			0.26			0.64			0.65	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		365			375			949			984	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.11			c0.38			0.27	
v/c Ratio		0.31			0.43			0.59			0.42	
Uniform Delay, d1		23.7			24.5			8.5			6.7	
Progression Factor		1.54			1.00			0.42			0.19	
Incremental Delay, d2		2.1			3.6			2.4			1.1	
Delay (s)		38.4			28.1			6.0			2.4	
Level of Service		D			C			A			A	
Approach Delay (s)		38.4			28.1			6.0			2.4	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	350	75	0	1258	0	0	0	0
Future Volume (vph)	0	0	0	0	350	75	0	1258	0	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				
Lane Util. Factor					0.95			0.95				
Frpb, ped/bikes					0.98			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.97			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					2823			2973				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					2823			2973				
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	0	350	75	0	1258	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	407	0	0	1258	0	0	0	0
Confl. Peds. (#/hr)	87		39	39		87	40		75	75		40
Turn Type					NA			NA				
Protected Phases					4			2				
Permitted Phases							2					
Actuated Green, G (s)					25.0			69.0				
Effective Green, g (s)					24.0			68.0				
Actuated g/C Ratio					0.24			0.68				
Clearance Time (s)					3.0			3.0				
Lane Grp Cap (vph)					677			2021				
v/s Ratio Prot					c0.14			c0.42				
v/s Ratio Perm												
v/c Ratio					0.60			0.62				
Uniform Delay, d1					33.7			8.9				
Progression Factor					1.00			0.49				
Incremental Delay, d2					3.9			1.1				
Delay (s)					37.7			5.5				
Level of Service					D			A				
Approach Delay (s)		0.0			37.7			5.5			0.0	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.6	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)	8.0
Intersection Capacity Utilization	62.0%	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)	105	1191	0	0	0	0	0	837	642	398	0	0
Future Volume (vph)	105	1191	0	0	0	0	0	837	642	398	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0	3.0		
Lane Util. Factor		0.86						0.95	1.00	0.97		
Frpb, ped/bikes		1.00						1.00	0.96	1.00		
Flpb, ped/bikes		1.00						1.00	1.00	1.00		
Frt		1.00						1.00	0.85	1.00		
Flt Protected		1.00						1.00	1.00	0.95		
Satd. Flow (prot)		5335						2973	1276	2879		
Flt Permitted		1.00						1.00	1.00	0.26		
Satd. Flow (perm)		5335						2973	1276	791		
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)	108	1228	0	0	0	0	0	863	662	410	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	32	0	0	0
Lane Group Flow (vph)	0	1336	0	0	0	0	0	863	630	410	0	0
Confl. Peds. (#/hr)	48		57	57		48	71		29	29		71
Turn Type	Perm	NA						NA	Perm	pm+pt		
Protected Phases		4						2		3		
Permitted Phases	4								2	2		
Actuated Green, G (s)		19.0						43.0	43.0	50.0		
Effective Green, g (s)		20.0						42.0	42.0	50.0		
Actuated g/C Ratio		0.25						0.52	0.52	0.62		
Clearance Time (s)		5.0						3.0	3.0	3.0		
Lane Grp Cap (vph)		1333						1560	669	677		
v/s Ratio Prot								0.29		c0.05		
v/s Ratio Perm		0.25							c0.49	0.33		
v/c Ratio		1.00						0.55	0.94	0.61		
Uniform Delay, d1		30.0						12.7	17.8	16.0		
Progression Factor		0.54						1.00	1.00	1.43		
Incremental Delay, d2		21.5						1.4	23.0	3.8		
Delay (s)		37.6						14.1	40.9	26.8		
Level of Service		D						B	D	C		
Approach Delay (s)		37.6			0.0			25.7			26.8	
Approach LOS		D			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	50	383	35	440	496	0	0	295	34
Future Volume (vph)	0	0	0	50	383	35	440	496	0	0	295	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			5.0	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frpb, ped/bikes					0.99		1.00	1.00			0.99	
Flpb, ped/bikes					0.99		0.95	1.00			1.00	
Frt					0.99		1.00	1.00			0.99	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					2863		1419	1565			1528	
Flt Permitted					0.99		0.50	1.00			1.00	
Satd. Flow (perm)					2863		752	3500			1528	
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)	0	0	0	54	416	38	478	539	0	0	321	37
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	0	501	0	478	539	0	0	353	0
Confl. Peds. (#/hr)	45		61	61		45	72		36	36		72
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					25.0		45.0	45.0			45.0	
Effective Green, g (s)					26.0		46.0	46.0			45.0	
Actuated g/C Ratio					0.32		0.58	0.58			0.56	
Clearance Time (s)					5.0		5.0	5.0			5.0	
Lane Grp Cap (vph)					930		432	899			859	
v/s Ratio Prot								0.34			0.23	
v/s Ratio Perm					0.17		c0.64					
v/c Ratio					0.54		1.11	0.60			0.41	
Uniform Delay, d1					22.1		17.0	11.0			10.0	
Progression Factor					1.00		0.88	0.42			1.01	
Incremental Delay, d2					2.2		72.6	2.6			1.4	
Delay (s)					24.3		87.6	7.1			11.4	
Level of Service					C		F	A			B	
Approach Delay (s)		0.0			24.3			45.0			11.4	
Approach LOS		A			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	58	15	22	25	889	50	0	340	12
Future Volume (vph)	0	0	0	58	15	22	25	889	50	0	340	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					1.00			0.95			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.97			0.99			1.00	
Flt Protected					0.97			1.00			1.00	
Satd. Flow (prot)					1440			2939			1556	
Flt Permitted					0.97			0.94			1.00	
Satd. Flow (perm)					1440			2770			1556	
Peak-hour factor, PHF	1.00	1.00	1.00	0.87	0.87	0.87	0.96	0.96	0.96	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	67	17	25	26	926	52	0	340	12
RTOR Reduction (vph)	0	0	0	0	13	0	0	5	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	96	0	0	999	0	0	350	0
Confl. Peds. (#/hr)	17		19	19		17	8		12	12		8
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					22.0			52.0			52.0	
Effective Green, g (s)					21.0			51.0			52.0	
Actuated g/C Ratio					0.26			0.64			0.65	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					378			1765			1011	
v/s Ratio Prot											0.23	
v/s Ratio Perm					0.07			c0.36				
v/c Ratio					0.25			0.57			0.35	
Uniform Delay, d1					23.3			8.2			6.3	
Progression Factor					1.00			1.12			1.03	
Incremental Delay, d2					1.6			1.1			0.9	
Delay (s)					24.9			10.3			7.4	
Level of Service					C			B			A	
Approach Delay (s)		0.0			24.9			10.3			7.4	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.6%	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)	58	591	44	0	0	0	0	494	59	87	351	0
Future Volume (vph)	58	591	44	0	0	0	0	494	59	87	351	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.99			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		4161						1537			1547	
Flt Permitted		1.00						1.00			0.81	
Satd. Flow (perm)		4161						1537			1260	
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)	60	609	45	0	0	0	0	509	61	90	362	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	705	0	0	0	0	0	565	0	0	452	0
Confl. Peds. (#/hr)	34		45	45		34	55		16	16		55
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		25.0						49.0			49.0	
Effective Green, g (s)		24.0						48.0			49.0	
Actuated g/C Ratio		0.30						0.60			0.61	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1248						922			771	
v/s Ratio Prot								c0.37				
v/s Ratio Perm		0.17									0.36	
v/c Ratio		0.56						0.61			0.59	
Uniform Delay, d1		23.6						10.1			9.4	
Progression Factor		0.50						0.40			0.31	
Incremental Delay, d2		1.7						2.5			2.9	
Delay (s)		13.4						6.6			5.8	
Level of Service		B						A			A	
Approach Delay (s)		13.4			0.0			6.6			5.8	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	27	45	0	0	0	0	562	5	13	446	0
Future Volume (vph)	18	27	45	0	0	0	0	562	5	13	446	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		0.98						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.93						1.00			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		2669						1563			1562	
Flt Permitted		0.99						1.00			0.98	
Satd. Flow (perm)		2669						1563			1541	
Peak-hour factor, PHF	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. Flow (vph)	18	27	45	0	0	0	0	562	5	13	446	0
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	55	0	0	0	0	0	567	0	0	459	0
Confl. Peds. (#/hr)	1		8	8		1	1		7	7		1
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		19.0						55.0			55.0	
Effective Green, g (s)		18.0						54.0			55.0	
Actuated g/C Ratio		0.22						0.68			0.69	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		600						1055			1059	
v/s Ratio Prot								c0.36				
v/s Ratio Perm		0.02									0.30	
v/c Ratio		0.09						0.54			0.43	
Uniform Delay, d1		24.5						6.6			5.6	
Progression Factor		1.38						0.71			0.58	
Incremental Delay, d2		0.3						1.6			1.2	
Delay (s)		34.1						6.3			4.4	
Level of Service		C						A			A	
Approach Delay (s)		34.1			0.0			6.3			4.4	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	39	73	38	14	528	0	0	418	10
Future Volume (vph)	0	0	0	39	73	38	14	528	0	0	418	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.98			1.00			1.00	
Flpb, ped/bikes					0.97			1.00			1.00	
Frt					0.96			1.00			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2838			1652			1648	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					2838			1632			1648	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	39	73	38	14	528	0	0	418	10
RTOR Reduction (vph)	0	0	0	0	27	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	123	0	0	542	0	0	427	0
Confl. Peds. (#/hr)	14		45	45		14	4		20	20		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					834			969			978	
v/s Ratio Prot											0.26	
v/s Ratio Perm					0.04			c0.33				
v/c Ratio					0.15			0.56			0.44	
Uniform Delay, d1					26.1			12.3			11.1	
Progression Factor					1.00			0.72			0.97	
Incremental Delay, d2					0.4			1.5			1.3	
Delay (s)					26.4			10.4			12.1	
Level of Service					C			B			B	
Approach Delay (s)		0.0			26.4			10.4			12.1	
Approach LOS		A			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.2	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)	11.2
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	46	337	21	63	489	0	0	392	62
Future Volume (vph)	0	0	0	46	337	21	63	489	0	0	392	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.99	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.99			1.00			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					2891			1552			1522	
Flt Permitted					0.99			0.91			1.00	
Satd. Flow (perm)					2891			1418			1522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	48	355	22	66	515	0	0	413	65
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	420	0	0	581	0	0	471	0
Confl. Peds. (#/hr)	44		40	40		44	45		40	40		45
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					22.0			52.0			52.0	
Effective Green, g (s)					21.0			51.0			52.0	
Actuated g/C Ratio					0.26			0.64			0.65	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					758			903			989	
v/s Ratio Prot											0.31	
v/s Ratio Perm					0.15			c0.41				
v/c Ratio					0.55			0.64			0.48	
Uniform Delay, d1					25.5			8.9			7.1	
Progression Factor					1.00			0.34			0.80	
Incremental Delay, d2					2.9			2.8			1.3	
Delay (s)					28.4			5.8			7.0	
Level of Service					C			A			A	
Approach Delay (s)		0.0			28.4			5.8			7.0	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.7%	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)	3	11	0	0	47	9	38	553	49	0	365	0
Future Volume (vph)	3	11	0	0	47	9	38	553	49	0	365	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.98			0.99			1.00	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1636			1618			1632			1654	
Flt Permitted		0.97			1.00			0.96			1.00	
Satd. Flow (perm)		1601			1618			1574			1654	
Peak-hour factor, PHF	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. Flow (vph)	3	11	0	0	47	9	38	553	49	0	365	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	14	0	0	50	0	0	637	0	0	365	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA			NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		29.4			29.4			59.4			59.4	
Effective Green, g (s)		29.4			29.4			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		470			475			934			982	
v/s Ratio Prot					c0.03						0.22	
v/s Ratio Perm		0.01						c0.40				
v/c Ratio		0.03			0.10			0.68			0.37	
Uniform Delay, d1		25.1			25.7			13.9			10.6	
Progression Factor		1.00			1.00			0.42			1.06	
Incremental Delay, d2		0.1			0.4			3.4			1.0	
Delay (s)		25.3			26.2			9.2			12.3	
Level of Service		C			C			A			B	
Approach Delay (s)		25.3			26.2			9.2			12.3	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	157	52	4	588	94	63	435	12	45	398	3
Future Volume (vph)	36	157	52	4	588	94	63	435	12	45	398	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0			6.0	
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.98			0.99		1.00	1.00			1.00	
Flpb, ped/bikes	0.98	1.00			1.00		0.99	1.00			1.00	
Frt	1.00	0.96			0.98		1.00	1.00			1.00	
Flt Protected	0.95	1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1459	2819			2876		1473	1557			1554	
Flt Permitted	0.22	1.00			0.95		0.46	1.00			0.92	
Satd. Flow (perm)	334	2819			2743		707	1557			1431	
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)	40	173	57	4	646	103	69	478	13	49	437	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	40	230	0	0	753	0	69	491	0	0	489	0
Confl. Peds. (#/hr)	40		24	24		40	25		24	24		25
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)	26.0	26.0			26.0		43.0	43.0			43.0	
Effective Green, g (s)	27.0	27.0			27.0		45.0	45.0			43.0	
Actuated g/C Ratio	0.34	0.34			0.34		0.56	0.56			0.54	
Clearance Time (s)	5.0	5.0			5.0		6.0	6.0			6.0	
Lane Grp Cap (vph)	112	951			925		397	875			769	
v/s Ratio Prot		0.08						0.32				
v/s Ratio Perm	0.12				c0.27		0.10				c0.34	
v/c Ratio	0.36	0.24			0.81		0.17	0.56			0.64	
Uniform Delay, d1	20.0	19.1			24.2		8.5	11.2			13.0	
Progression Factor	0.67	0.69			1.00		1.43	1.31			1.14	
Incremental Delay, d2	8.6	0.6			7.8		0.8	2.1			3.7	
Delay (s)	22.0	13.8			32.0		12.8	16.7			18.5	
Level of Service	C	B			C		B	B			B	
Approach Delay (s)		15.0			32.0			16.2			18.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	55	13	10	27	5	17	530	5	6	282	10
Future Volume (vph)	10	55	13	10	27	5	17	530	5	6	282	10
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.98			0.98			1.00			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1580			1580			1648			1641	
Flt Permitted		0.97			0.95			0.99			0.99	
Satd. Flow (perm)		1549			1517			1628			1627	
Peak-hour factor, PHF	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. Flow (vph)	10	55	13	10	27	5	17	530	5	6	282	10
RTOR Reduction (vph)	0	7	0	0	3	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	71	0	0	39	0	0	552	0	0	297	0
Confl. Peds. (#/hr)	14		17	17		14	16		6	6		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		34.4			34.4			54.4			54.4	
Effective Green, g (s)		34.4			34.4			54.4			54.4	
Actuated g/C Ratio		0.34			0.34			0.54			0.54	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		532			521			885			885	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			c0.34			0.18	
v/c Ratio		0.13			0.07			0.62			0.34	
Uniform Delay, d1		22.5			22.1			15.7			12.7	
Progression Factor		1.66			1.00			0.14			0.70	
Incremental Delay, d2		0.5			0.3			0.9			0.9	
Delay (s)		37.9			22.4			3.0			9.9	
Level of Service		D			C			A			A	
Approach Delay (s)		37.9			22.4			3.0			9.9	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Future Volume (vph)	0	0	0	36	631	10	49	497	0	0	244	99
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.96	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					3117			1644			1570	
Flt Permitted					1.00			0.94			1.00	
Satd. Flow (perm)					3117			1544			1570	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	38	664	11	52	523	0	0	257	104
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	0	712	0	0	575	0	0	347	0
Confl. Peds. (#/hr)	17		15	17		15	21		12	12		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					42.4			46.4			46.4	
Effective Green, g (s)					42.4			46.4			46.4	
Actuated g/C Ratio					0.42			0.46			0.46	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					1321			716			728	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.23			c0.37				
v/c Ratio					0.54			0.80			0.48	
Uniform Delay, d1					21.5			22.9			18.4	
Progression Factor					1.00			0.18			1.68	
Incremental Delay, d2					1.6			6.6			2.2	
Delay (s)					23.1			10.7			33.1	
Level of Service					C			B			C	
Approach Delay (s)		0.0			23.1			10.7			33.1	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Future Volume (vph)	20	868	31	46	504	12	27	495	87	18	275	30
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		4.6			5.6			6.1			6.1	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3123			3120			1618			1629	
Flt Permitted		0.94			0.77			0.97			0.95	
Satd. Flow (perm)		2943			2410			1575			1554	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	954	34	51	554	13	30	544	96	20	302	33
RTOR Reduction (vph)	0	2	0	0	1	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	1008	0	0	617	0	0	664	0	0	352	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	3	3 4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		40.8			28.4			42.9			42.9	
Effective Green, g (s)		40.8			28.4			42.9			42.9	
Actuated g/C Ratio		0.41			0.28			0.43			0.43	
Clearance Time (s)					5.6			6.1			6.1	
Lane Grp Cap (vph)		1223			684			675			666	
v/s Ratio Prot		c0.10										
v/s Ratio Perm		0.23			c0.26			c0.42			0.23	
v/c Ratio		0.82			0.90			0.98			0.53	
Uniform Delay, d1		26.4			34.5			28.2			21.1	
Progression Factor		0.49			1.00			0.74			1.40	
Incremental Delay, d2		5.6			17.3			27.6			2.9	
Delay (s)		18.5			51.8			48.5			32.4	
Level of Service		B			D			D			C	
Approach Delay (s)		18.5			51.8			48.5			32.4	
Approach LOS		B			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	78	26	8	28	5	13	544	24	3	369	18
Future Volume (vph)	52	78	26	8	28	5	13	544	24	3	369	18
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1553			1589			1637			1638	
Flt Permitted		0.89			0.95			0.99			1.00	
Satd. Flow (perm)		1404			1518			1622			1633	
Peak-hour factor, PHF	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. Flow (vph)	52	78	26	8	28	5	13	544	24	3	369	18
RTOR Reduction (vph)	0	7	0	0	4	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	149	0	0	37	0	0	579	0	0	388	0
Confl. Peds. (#/hr)	13		17	17		13	18		18	18		18
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.9			28.9			59.4			59.4	
Effective Green, g (s)		28.9			28.9			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		405			438			963			970	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.02			c0.36			0.24	
v/c Ratio		0.37			0.09			0.60			0.40	
Uniform Delay, d1		28.3			25.9			12.8			10.8	
Progression Factor		0.32			1.00			0.28			0.49	
Incremental Delay, d2		2.3			0.4			2.4			1.2	
Delay (s)		11.3			26.3			6.0			6.5	
Level of Service		B			C			A			A	
Approach Delay (s)		11.3			26.3			6.0			6.5	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	28	18	14	16	12	11	482	12	26	287	15
Future Volume (vph)	18	28	18	14	16	12	11	482	12	26	287	15
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.97			1.00			1.00	
Flpb, ped/bikes		0.97			0.96			1.00			1.00	
Frt		0.96			0.96			1.00			0.99	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1467			1454			1643			1628	
Flt Permitted		0.93			0.92			0.99			0.94	
Satd. Flow (perm)		1387			1364			1630			1542	
Peak-hour factor, PHF	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. Flow (vph)	18	28	18	14	16	12	11	482	12	26	287	15
RTOR Reduction (vph)	0	13	0	0	8	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	51	0	0	34	0	0	504	0	0	326	0
Confl. Peds. (#/hr)	37		48	48		37	29		21	21		29
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			59.4			59.4	
Effective Green, g (s)		29.4			29.4			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		407			401			968			915	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.02			c0.31			0.21	
v/c Ratio		0.13			0.08			0.52			0.36	
Uniform Delay, d1		25.9			25.5			11.9			10.5	
Progression Factor		0.78			1.00			0.04			0.59	
Incremental Delay, d2		0.6			0.4			1.2			1.0	
Delay (s)		20.8			26.0			1.7			7.2	
Level of Service		C			C			A			A	
Approach Delay (s)		20.8			26.0			1.7			7.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.0	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)	11.2
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Future Volume (vph)	32	425	19	117	456	29	7	392	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			1.00	
Flpb, ped/bikes		1.00			0.97			1.00			1.00	
Frt		0.99			0.99			0.97			0.98	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		3068			2994			1595			1604	
Flt Permitted		0.87			0.70			0.99			0.91	
Satd. Flow (perm)		2681			2105			1588			1470	
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)	34	457	20	126	490	31	8	422	112	31	223	44
RTOR Reduction (vph)	0	3	0	0	3	0	0	9	0	0	5	0
Lane Group Flow (vph)	0	508	0	0	644	0	0	533	0	0	293	0
Confl. Peds. (#/hr)	32		102	102		32	20		21	21		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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)		46.9			46.9			50.4			50.4	
Effective Green, g (s)		46.9			46.9			50.4			50.4	
Actuated g/C Ratio		0.43			0.43			0.46			0.46	
Clearance Time (s)		6.1			6.1			6.6			6.6	
Lane Grp Cap (vph)		1143			897			727			673	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.31			c0.34			0.20	
v/c Ratio		0.44			0.72			0.73			0.43	
Uniform Delay, d1		22.3			26.1			24.3			20.2	
Progression Factor		0.61			1.00			1.00			0.47	
Incremental Delay, d2		1.1			4.9			6.5			2.0	
Delay (s)		14.8			31.0			30.8			11.5	
Level of Service		B			C			C			B	
Approach Delay (s)		14.8			31.0			30.8			11.5	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	SBL2	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	55	1213	79	77	83	464	225
Future Volume (vph)	55	1213	79	77	83	464	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	4.0
Lane Util. Factor		0.86	0.86			*0.95	*0.95
Frpb, ped/bikes		1.00	1.00			1.00	1.00
Flpb, ped/bikes		0.99	1.00			0.91	1.00
Frt		1.00	0.85			1.00	1.00
Flt Protected		1.00	1.00			1.00	1.00
Satd. Flow (prot)		4000	1144			3200	3200
Flt Permitted		1.00	1.00			1.00	1.00
Satd. Flow (perm)		4000	1144			1358	1486
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	1251	81	79	86	478	232
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1316	152	0	0	411	385
Confl. Peds. (#/hr)	72		46		90		
Turn Type	Perm	NA	Prot		Perm	Split	NA
Protected Phases		4	4			2	2
Permitted Phases	4				2		
Actuated Green, G (s)		38.0	38.0			32.0	32.0
Effective Green, g (s)		39.0	39.0			33.0	33.0
Actuated g/C Ratio		0.49	0.49			0.41	0.41
Clearance Time (s)		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)		1950	557			560	1320
v/s Ratio Prot			0.13				0.12
v/s Ratio Perm		0.33				c0.30	
v/c Ratio		0.67	0.27			0.73	0.29
Uniform Delay, d1		15.7	12.1			19.8	15.7
Progression Factor		1.00	1.00			0.59	0.64
Incremental Delay, d2		1.9	1.2			6.1	0.4
Delay (s)		17.5	13.3			17.9	10.4
Level of Service		B	B			B	B
Approach Delay (s)		17.1					14.3
Approach LOS		B					B

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	117	25	0	0	0	0	507	10	77	634	0
Future Volume (vph)	58	117	25	0	0	0	0	507	10	77	634	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0		4.0	4.0	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frpb, ped/bikes		0.99						1.00		1.00	1.00	
Flpb, ped/bikes		0.99						1.00		0.99	1.00	
Frt		0.98						1.00		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		2806						1559		1465	1565	
Flt Permitted		0.99						1.00		0.37	1.00	
Satd. Flow (perm)		2806						1559		566	1565	
Peak-hour factor, PHF	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. Flow (vph)	58	117	25	0	0	0	0	507	10	77	634	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	186	0	0	0	0	0	516	0	77	634	0
Confl. Peds. (#/hr)	24		36	36		24	42		34	34		42
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.0						47.0		47.0	47.0	
Effective Green, g (s)		26.0						47.0		46.0	46.0	
Actuated g/C Ratio		0.32						0.59		0.58	0.58	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		911						915		325	899	
v/s Ratio Prot								0.33			c0.41	
v/s Ratio Perm		0.07								0.14		
v/c Ratio		0.20						0.56		0.24	0.71	
Uniform Delay, d1		19.5						10.2		8.4	12.2	
Progression Factor		1.00						0.42		0.35	0.28	
Incremental Delay, d2		0.5						2.2		1.2	3.3	
Delay (s)		20.0						6.5		4.1	6.7	
Level of Service		C						A		A	A	
Approach Delay (s)		20.0			0.0			6.5			6.5	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	53	17	15	20	13	12	483	13	27	288	15
Future Volume (vph)	18	53	17	15	20	13	12	483	13	27	288	15
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.6			6.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.99			0.99	
Flpb, ped/bikes		0.98			0.97			1.00			0.99	
Frt		0.97			0.96			1.00			0.99	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1520			1466			1634			1617	
Flt Permitted		0.94			0.91			0.99			0.94	
Satd. Flow (perm)		1451			1361			1621			1528	
Peak-hour factor, PHF	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. Flow (vph)	18	53	17	15	20	13	12	483	13	27	288	15
RTOR Reduction (vph)	0	9	0	0	9	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	79	0	0	39	0	0	507	0	0	328	0
Confl. Peds. (#/hr)	60		54	54		60	37		78	78		37
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		28.4			28.4			59.4			59.4	
Effective Green, g (s)		28.4			28.4			59.4			59.4	
Actuated g/C Ratio		0.28			0.28			0.59			0.59	
Clearance Time (s)		6.6			6.6			5.6			5.6	
Lane Grp Cap (vph)		412			386			962			907	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			c0.31			0.21	
v/c Ratio		0.19			0.10			0.53			0.36	
Uniform Delay, d1		27.1			26.4			12.0			10.5	
Progression Factor		1.00			0.96			1.28			0.33	
Incremental Delay, d2		1.0			0.5			1.3			1.1	
Delay (s)		28.2			25.8			16.6			4.5	
Level of Service		C			C			B			A	
Approach Delay (s)		28.2			25.8			16.6			4.5	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.0	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)	12.2
Intersection Capacity Utilization	65.2%	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)	33	80	21	0	0	0	0	562	0	12	344	0
Future Volume (vph)	33	80	21	0	0	0	0	562	0	12	344	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
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		0.98						1.00			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1590						1654			1651	
Flt Permitted		0.99						1.00			0.98	
Satd. Flow (perm)		1590						1654			1619	
Peak-hour factor, PHF	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. Flow (vph)	33	80	21	0	0	0	0	562	0	12	344	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	128	0	0	0	0	0	562	0	0	356	0
Confl. Peds. (#/hr)	2		4	4		2	14		15	15		14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		29.4						59.4			59.4	
Effective Green, g (s)		29.4						59.4			59.4	
Actuated g/C Ratio		0.29						0.59			0.59	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		467						982			961	
v/s Ratio Prot								c0.34				
v/s Ratio Perm		0.08									0.22	
v/c Ratio		0.27						0.57			0.37	
Uniform Delay, d1		27.1						12.5			10.6	
Progression Factor		1.00						1.10			0.10	
Incremental Delay, d2		1.4						1.9			1.0	
Delay (s)		28.5						15.6			2.1	
Level of Service		C						B			A	
Approach Delay (s)		28.5			0.0			15.6			2.1	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	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)	11.2
Intersection Capacity Utilization	60.0%	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)	17	83	45	0	0	0	0	563	5	13	442	18
Future Volume (vph)	17	83	45	0	0	0	0	563	5	13	442	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0			4.0	
Lane Util. Factor		1.00						1.00			1.00	
Frpb, ped/bikes		0.99						1.00			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.96						1.00			0.99	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		1467						1562			1551	
Flt Permitted		0.99						1.00			0.98	
Satd. Flow (perm)		1467						1562			1529	
Peak-hour factor, PHF	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. Flow (vph)	17	83	45	0	0	0	0	563	5	13	442	18
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	125	0	0	0	0	0	568	0	0	471	0
Confl. Peds. (#/hr)	11		13	13		11	21		19	19		21
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)		27.0						47.0			47.0	
Effective Green, g (s)		26.0						47.0			46.0	
Actuated g/C Ratio		0.32						0.59			0.58	
Clearance Time (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		476						917			879	
v/s Ratio Prot								c0.36				
v/s Ratio Perm		0.09									0.31	
v/c Ratio		0.26						0.62			0.54	
Uniform Delay, d1		19.9						10.7			10.4	
Progression Factor		1.00						1.86			0.28	
Incremental Delay, d2		1.3						2.5			2.0	
Delay (s)		21.3						22.3			5.0	
Level of Service		C						C			A	
Approach Delay (s)		21.3			0.0			22.3			5.0	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	130	27	7	70	5	13	543	23	3	369	17
Future Volume (vph)	53	130	27	7	70	5	13	543	23	3	369	17
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1			5.6			5.6	
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		0.99			1.00			1.00			1.00	
Frt		0.98			0.99			0.99			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1580			1624			1640			1640	
Flt Permitted		0.91			0.97			0.99			1.00	
Satd. Flow (perm)		1448			1589			1624			1636	
Peak-hour factor, PHF	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. Flow (vph)	53	130	27	7	70	5	13	543	23	3	369	17
RTOR Reduction (vph)	0	5	0	0	3	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	205	0	0	79	0	0	578	0	0	387	0
Confl. Peds. (#/hr)	10		20	20		10	12		11	11		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		33.9			33.9			54.4			54.4	
Effective Green, g (s)		33.9			33.9			54.4			54.4	
Actuated g/C Ratio		0.34			0.34			0.54			0.54	
Clearance Time (s)		6.1			6.1			5.6			5.6	
Lane Grp Cap (vph)		490			538			883			889	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.05			c0.36			0.24	
v/c Ratio		0.42			0.15			0.65			0.44	
Uniform Delay, d1		25.5			23.0			16.1			13.6	
Progression Factor		1.00			0.76			1.06			0.23	
Incremental Delay, d2		2.6			0.6			3.3			1.5	
Delay (s)		28.1			18.0			20.4			4.6	
Level of Service		C			B			C			A	
Approach Delay (s)		28.1			18.0			20.4			4.6	
Approach LOS		C			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	16.6	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)	11.7
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL2	WBT	WBR	NBL	NBT	SBT	SBR2	NER2
Lane Configurations								
Traffic Volume (vph)	57	22	23	25	53	645	13	70
Future Volume (vph)	57	22	23	25	53	645	13	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			5.0	4.0		4.0
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00
Frt	1.00	0.92			1.00	1.00		0.86
Flt Protected	0.95	1.00			0.98	1.00		1.00
Satd. Flow (prot)	1486	1445			1540	1561		1353
Flt Permitted	0.95	1.00			0.80	1.00		1.00
Satd. Flow (perm)	1486	1445			1245	1561		1353
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	57	22	23	25	53	645	13	70
RTOR Reduction (vph)	0	0	0	0	0	0	0	65
Lane Group Flow (vph)	57	45	0	0	78	658	0	5
Confl. Peds. (#/hr)	35							21
Turn Type	Split	NA		Perm	NA	NA		Prot
Protected Phases	4	4			2	2		3
Permitted Phases				2				
Actuated Green, G (s)	21.0	21.0			41.0	41.0		7.0
Effective Green, g (s)	20.0	20.0			41.0	42.0		6.0
Actuated g/C Ratio	0.25	0.25			0.51	0.52		0.08
Clearance Time (s)	3.0	3.0			5.0	5.0		3.0
Lane Grp Cap (vph)	371	361			638	819		101
v/s Ratio Prot	c0.04	0.03				c0.42		c0.00
v/s Ratio Perm					0.06			
v/c Ratio	0.15	0.12			0.12	0.80		0.05
Uniform Delay, d1	23.4	23.2			10.1	15.6		34.4
Progression Factor	1.05	1.05			1.26	0.11		1.00
Incremental Delay, d2	0.9	0.7			0.3	4.0		1.0
Delay (s)	25.5	25.2			13.2	5.8		35.3
Level of Service	C	C			B	A		D
Approach Delay (s)		25.4			13.2	5.8		
Approach LOS		C			B	A		

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
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												
Traffic Volume (vph)	0	0	0	46	422	20	62	489	0	0	696	63
Future Volume (vph)	0	0	0	46	422	20	62	489	0	0	696	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			3.0			4.0	
Lane Util. Factor					0.95			1.00			0.95	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.99			1.00			0.99	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					2914			1553			2918	
Flt Permitted					1.00			0.86			1.00	
Satd. Flow (perm)					2914			1346			2918	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	47	431	20	63	499	0	0	710	64
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	0	0	494	0	0	562	0	0	766	0
Confl. Peds. (#/hr)	53		41	41		53	56		50	50		56
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					27.0			47.0			47.0	
Effective Green, g (s)					26.0			47.0			46.0	
Actuated g/C Ratio					0.32			0.59			0.58	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					947			790			1677	
v/s Ratio Prot											0.26	
v/s Ratio Perm					0.17			c0.42				
v/c Ratio					0.52			0.71			0.46	
Uniform Delay, d1					21.9			11.7			9.8	
Progression Factor					0.44			0.24			0.08	
Incremental Delay, d2					1.7			3.8			0.8	
Delay (s)					11.5			6.7			1.5	
Level of Service					B			A			A	
Approach Delay (s)		0.0			11.5			6.7			1.5	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.0%	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)	23	80	32	27	187	20	38	510	17	5	652	65
Future Volume (vph)	23	80	32	27	187	20	38	510	17	5	652	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.97			0.99			1.00			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1458			1517			1547			1535	
Flt Permitted		0.94			0.96			0.93			1.00	
Satd. Flow (perm)		1386			1463			1450			1532	
Peak-hour factor, PHF	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. Flow (vph)	23	80	32	27	187	20	38	510	17	5	652	65
RTOR Reduction (vph)	0	14	0	0	5	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	121	0	0	229	0	0	564	0	0	718	0
Confl. Peds. (#/hr)	28		36	36		28	26		38	38		26
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)		20.0			20.0			54.0			54.0	
Effective Green, g (s)		19.0			19.0			54.0			53.0	
Actuated g/C Ratio		0.24			0.24			0.68			0.66	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		329			347			978			1014	
v/s Ratio Prot												
v/s Ratio Perm		0.09			c0.16			0.39			c0.47	
v/c Ratio		0.37			0.66			0.58			0.71	
Uniform Delay, d1		25.5			27.6			6.9			8.6	
Progression Factor		1.00			0.99			0.95			0.43	
Incremental Delay, d2		3.2			8.8			2.1			2.1	
Delay (s)		28.6			36.0			8.7			5.8	
Level of Service		C			D			A			A	
Approach Delay (s)		28.6			36.0			8.7			5.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	60	20	11	70	8	23	469	18	17	605	37
Future Volume (vph)	40	60	20	11	70	8	23	469	18	17	605	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			1.00			0.99	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.98			0.99			1.00			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1445			1509			1546			1540	
Flt Permitted		0.89			0.97			0.97			0.99	
Satd. Flow (perm)		1311			1472			1496			1519	
Peak-hour factor, PHF	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. Flow (vph)	40	60	20	11	70	8	23	469	18	17	605	37
RTOR Reduction (vph)	0	9	0	0	5	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	111	0	0	84	0	0	508	0	0	656	0
Confl. Peds. (#/hr)	33		45	45		33	50		45	45		50
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
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)		20.0			20.0			54.0			54.0	
Effective Green, g (s)		19.0			19.0			54.0			53.0	
Actuated g/C Ratio		0.24			0.24			0.68			0.66	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		311			349			1009			1006	
v/s Ratio Prot												
v/s Ratio Perm		c0.08			0.06			0.34			c0.43	
v/c Ratio		0.36			0.24			0.50			0.65	
Uniform Delay, d1		25.4			24.7			6.4			8.0	
Progression Factor		1.00			0.96			0.62			0.20	
Incremental Delay, d2		3.2			1.6			1.3			2.4	
Delay (s)		28.6			25.4			5.3			4.0	
Level of Service		C			C			A			A	
Approach Delay (s)		28.6			25.4			5.3			4.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	51	353	453	22	79	0	0	600	34
Future Volume (vph)	0	0	0	51	353	453	22	79	0	0	600	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			5.0			4.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.93			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.92			1.00			0.99	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					2506			1548			1546	
Flt Permitted					1.00			0.79			1.00	
Satd. Flow (perm)					2506			1229			1546	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	56	388	498	24	87	0	0	659	37
RTOR Reduction (vph)	0	0	0	0	255	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	687	0	0	111	0	0	694	0
Confl. Peds. (#/hr)	61		73	73		61	64		42	42		64
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					32.0			40.0			40.0	
Effective Green, g (s)					31.0			40.0			41.0	
Actuated g/C Ratio					0.39			0.50			0.51	
Clearance Time (s)					3.0			5.0			5.0	
Lane Grp Cap (vph)					971			614			792	
v/s Ratio Prot											c0.45	
v/s Ratio Perm					0.27			0.09				
v/c Ratio					0.71			0.18			0.88	
Uniform Delay, d1					20.7			11.0			17.2	
Progression Factor					0.54			0.51			0.66	
Incremental Delay, d2					2.4			0.6			10.9	
Delay (s)					13.6			6.2			22.3	
Level of Service					B			A			C	
Approach Delay (s)		0.0			13.6			6.2			22.3	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	78.7%	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)	57	562	44	0	0	0	0	494	59	86	656	0
Future Volume (vph)	57	562	44	0	0	0	0	494	59	86	656	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						3.0		4.0	4.0	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frpb, ped/bikes		0.99						0.99		1.00	1.00	
Flpb, ped/bikes		0.99						1.00		0.99	1.00	
Frt		0.99						0.99		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		4152						1533		1467	1565	
Flt Permitted		1.00						1.00		0.27	1.00	
Satd. Flow (perm)		4152						1533		419	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)	61	604	47	0	0	0	0	531	63	92	705	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	0	0	0	589	0	92	705	0
Confl. Peds. (#/hr)	42		48	48		42	39		40	40		39
Bus Blockages (#/hr)	0	0	10	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		32.0						42.0		42.0	42.0	
Effective Green, g (s)		31.0						42.0		41.0	41.0	
Actuated g/C Ratio		0.39						0.52		0.51	0.51	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1608						804		214	802	
v/s Ratio Prot								0.38			c0.45	
v/s Ratio Perm		0.17								0.22		
v/c Ratio		0.44						0.73		0.43	0.88	
Uniform Delay, d1		18.1						14.7		12.2	17.3	
Progression Factor		1.00						1.58		0.26	0.41	
Incremental Delay, d2		0.9						5.0		5.7	12.2	
Delay (s)		18.9						28.2		8.9	19.2	
Level of Service		B						C		A	B	
Approach Delay (s)		18.9			0.0			28.2			18.0	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	166	53	4	552	95	63	434	12	45	402	3
Future Volume (vph)	36	166	53	4	552	95	63	434	12	45	402	3
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		3.0	3.0		4.0	4.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		0.99	1.00	
Frt		1.00	0.85		0.98		1.00	1.00		1.00	1.00	
Flt Protected		0.99	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2947	1297		2907		1486	1558		1473	1563	
Flt Permitted		0.81	1.00		0.95		0.38	1.00		0.32	1.00	
Satd. Flow (perm)		2415	1297		2774		587	1558		499	1563	
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)	38	177	56	4	587	101	67	462	13	48	428	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	215	56	0	692	0	67	474	0	48	431	0
Confl. Peds. (#/hr)			14	14						28		
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)		37.0	37.0		37.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)		36.0	36.0		36.0		37.0	37.0		36.0	36.0	
Actuated g/C Ratio		0.45	0.45		0.45		0.46	0.46		0.45	0.45	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1086	583		1248		271	720		224	703	
v/s Ratio Prot								c0.30			0.28	
v/s Ratio Perm		0.09	0.04		c0.25		0.11			0.10		
v/c Ratio		0.20	0.10		0.55		0.25	0.66		0.21	0.61	
Uniform Delay, d1		13.3	12.6		16.1		13.0	16.6		13.4	16.7	
Progression Factor		1.00	1.00		0.15		1.44	1.28		0.56	0.52	
Incremental Delay, d2		0.4	0.3		1.1		1.6	3.4		2.0	3.7	
Delay (s)		13.7	13.0		3.5		20.4	24.7		9.5	12.4	
Level of Service		B	B		A		C	C		A	B	
Approach Delay (s)		13.5			3.5			24.1			12.1	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER
Lane Configurations	
Traffic Volume (vph)	300
Future Volume (vph)	300
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1306
Flt Permitted	1.00
Satd. Flow (perm)	1306
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	319
RTOR Reduction (vph)	0
Lane Group Flow (vph)	319
Confl. Peds. (#/hr)	30
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	37.0
Effective Green, g (s)	36.0
Actuated g/C Ratio	0.45
Clearance Time (s)	3.0
Lane Grp Cap (vph)	587
v/s Ratio Prot	
v/s Ratio Perm	0.24
v/c Ratio	0.54
Uniform Delay, d1	16.0
Progression Factor	1.00
Incremental Delay, d2	3.6
Delay (s)	19.6
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Future Volume (vph)	32	329	20	118	358	28	7	393	104	29	207	41
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	6.6	6.6	6.6	4.6	4.6			6.6			6.6	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.46	1.00	0.99			0.93			0.97	
Flpb, ped/bikes	0.93	1.00	1.00	0.85	1.00			1.00			0.99	
Frt	1.00	1.00	0.85	1.00	0.99			0.97			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1459	3143	645	1329	1625			1496			1553	
Flt Permitted	0.52	1.00	1.00	0.51	1.00			1.00			0.91	
Satd. Flow (perm)	804	3143	645	715	1625			1490			1422	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	346	21	124	377	29	7	414	109	31	218	43
RTOR Reduction (vph)	0	0	15	0	3	0	0	8	0	0	5	0
Lane Group Flow (vph)	34	346	6	124	403	0	0	522	0	0	287	0
Confl. Peds. (#/hr)	71		372	372		71	87		403	403		87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	D.P+P	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	3 4			2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Effective Green, g (s)	33.4	33.4	33.4	47.8	52.4			44.4			44.4	
Actuated g/C Ratio	0.30	0.30	0.30	0.43	0.48			0.40			0.40	
Clearance Time (s)	6.6	6.6	6.6	4.6				6.6			6.6	
Lane Grp Cap (vph)	244	954	195	391	774			601			573	
v/s Ratio Prot		0.11		0.04	c0.25							
v/s Ratio Perm	0.04		0.01	0.10				c0.35			0.20	
v/c Ratio	0.14	0.36	0.03	0.32	0.52			0.87			0.50	
Uniform Delay, d1	27.8	30.0	26.9	19.4	20.1			30.1			24.5	
Progression Factor	1.00	1.00	1.00	0.33	0.22			1.00			1.00	
Incremental Delay, d2	1.2	1.1	0.3	1.5	1.8			15.6			3.1	
Delay (s)	29.0	31.0	27.3	7.9	6.2			45.7			27.6	
Level of Service	C	C	C	A	A			D			C	
Approach Delay (s)		30.7			6.6			45.7			27.6	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	13	15	48	28	30	550	0	0	445	17
Future Volume (vph)	0	0	13	15	48	28	30	550	0	0	445	17
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		3.0	3.0			4.0	
Lane Util. Factor			1.00	1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes			0.96	1.00	0.97		1.00	1.00			1.00	
Flpb, ped/bikes			1.00	0.98	1.00		1.00	1.00			1.00	
Frt			0.85	1.00	0.94		1.00	1.00			1.00	
Flt Protected			1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)			1277	1457	1436		1480	1565			1555	
Flt Permitted			1.00	0.95	1.00		0.39	1.00			1.00	
Satd. Flow (perm)			1277	1457	1436		601	1565			1555	
Peak-hour factor, PHF	0.70	0.70	0.70	0.67	0.67	0.67	1.00	1.00	1.00	0.92	0.92	0.92
Adj. Flow (vph)	0	0	19	22	72	42	30	550	0	0	484	18
RTOR Reduction (vph)	0	0	13	0	26	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	6	22	88	0	30	550	0	0	500	0
Confl. Peds. (#/hr)	35		12	12		35	6		27	27		6
Turn Type	D.Pm		Perm	Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases	4		4	4			2					
Actuated Green, G (s)			27.0	27.0	27.0		47.0	47.0			47.0	
Effective Green, g (s)			26.0	26.0	26.0		47.0	47.0			46.0	
Actuated g/C Ratio			0.32	0.32	0.32		0.59	0.59			0.58	
Clearance Time (s)			3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)			415	473	466		353	919			894	
v/s Ratio Prot					c0.06			c0.35			0.32	
v/s Ratio Perm			0.00	0.02			0.05					
v/c Ratio			0.01	0.05	0.19		0.08	0.60			0.56	
Uniform Delay, d1			18.3	18.5	19.4		7.2	10.5			10.7	
Progression Factor			1.00	0.83	0.79		0.84	0.47			1.00	
Incremental Delay, d2			0.1	0.2	0.8		0.4	2.3			2.5	
Delay (s)			18.4	15.6	16.2		6.4	7.3			13.2	
Level of Service			B	B	B		A	A			B	
Approach Delay (s)		18.4			16.1			7.2			13.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Future Volume (vph)	0	0	0	36	734	9	49	497	0	0	245	100
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					6.0		6.0	6.0			6.0	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			0.98	
Flpb, ped/bikes					1.00		0.98	1.00			1.00	
Frt					1.00		1.00	1.00			0.96	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					3109		1541	1654			1564	
Flt Permitted					1.00		0.42	1.00			1.00	
Satd. Flow (perm)					3109		681	1654			1564	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	40	825	10	55	558	0	0	275	112
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	0	0	0	874	0	55	558	0	0	372	0
Confl. Peds. (#/hr)	54		41	41		54	28		3	3		28
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					44.0		44.0	44.0			44.0	
Effective Green, g (s)					44.0		44.0	44.0			44.0	
Actuated g/C Ratio					0.44		0.44	0.44			0.44	
Clearance Time (s)					6.0		6.0	6.0			6.0	
Lane Grp Cap (vph)					1367		299	727			688	
v/s Ratio Prot								c0.34			0.24	
v/s Ratio Perm					0.28		0.08					
v/c Ratio					0.64		0.18	0.77			0.54	
Uniform Delay, d1					21.8		17.1	23.7			20.6	
Progression Factor					0.42		0.93	0.83			0.62	
Incremental Delay, d2					2.0		0.9	5.4			3.0	
Delay (s)					11.3		16.8	25.0			15.7	
Level of Service					B		B	C			B	
Approach Delay (s)		0.0			11.3			24.3			15.7	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	16.4	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)	12.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	623	83	127	1185	0	0	0	0
Future Volume (vph)	0	0	0	0	623	83	127	1185	0	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	4.0				
Lane Util. Factor					0.91		1.00	0.91				
Frpb, ped/bikes					0.98		1.00	1.00				
Flpb, ped/bikes					1.00		0.82	1.00				
Frt					0.98		1.00	1.00				
Flt Protected					1.00		0.95	1.00				
Satd. Flow (prot)					4578		1362	4746				
Flt Permitted					1.00		0.95	1.00				
Satd. Flow (perm)					4578		1362	4746				
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	0	0	0	670	89	137	1274	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	14	0	9	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	745	0	128	1274	0	0	0	0
Confl. Peds. (#/hr)	131		247	247		131	146		249	249		146
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Actuated Green, G (s)					30.0		62.0	62.0				
Effective Green, g (s)					31.0		61.0	61.0				
Actuated g/C Ratio					0.31		0.61	0.61				
Clearance Time (s)					5.0		3.0	3.0				
Lane Grp Cap (vph)					1419		830	2895				
v/s Ratio Prot					c0.16			c0.27				
v/s Ratio Perm							0.09					
v/c Ratio					0.52		0.15	0.44				
Uniform Delay, d1					28.4		8.4	10.4				
Progression Factor					1.00		0.71	0.70				
Incremental Delay, d2					1.4		0.4	0.4				
Delay (s)					29.8		6.3	7.7				
Level of Service					C		A	A				
Approach Delay (s)		0.0			29.8			7.6			0.0	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.4	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)	8.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	50	13	11	22	5	18	529	6	6	283	9
Future Volume (vph)	10	50	13	11	22	5	18	529	6	6	283	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			1.00			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1603			1601			1649			1646	
Flt Permitted		0.97			0.94			0.99			0.99	
Satd. Flow (perm)		1568			1519			1628			1632	
Peak-hour factor, PHF	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. Flow (vph)	10	50	13	11	22	5	18	529	6	6	283	9
RTOR Reduction (vph)	0	8	0	0	4	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	65	0	0	34	0	0	553	0	0	297	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			59.4			59.4	
Effective Green, g (s)		29.4			29.4			59.4			59.4	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		460			446			967			969	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.02			c0.34			0.18	
v/c Ratio		0.14			0.08			0.57			0.31	
Uniform Delay, d1		26.0			25.5			12.5			10.1	
Progression Factor		1.00			1.23			1.83			0.12	
Incremental Delay, d2		0.6			0.3			1.4			0.7	
Delay (s)		26.7			31.6			24.3			1.9	
Level of Service		C			C			C			A	
Approach Delay (s)		26.7			31.6			24.3			1.9	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	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)	11.2
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	50	30	105	1278	0	0	0	0
Future Volume (vph)	0	0	0	0	50	30	105	1278	0	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				
Lane Util. Factor					0.95			0.86				
Frpb, ped/bikes					0.94			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					0.94			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					2649			5337				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					2649			5337				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	0.80	0.80	0.87	0.87	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	62	38	121	1469	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	101	0	0	1577	0	0	0	0
Confl. Peds. (#/hr)	97		171	171		97	43		111	111		43
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Actuated Green, G (s)					24.0			70.0				
Effective Green, g (s)					23.0			69.0				
Actuated g/C Ratio					0.23			0.69				
Clearance Time (s)					3.0			3.0				
Lane Grp Cap (vph)					609			3682				
v/s Ratio Prot					c0.04							
v/s Ratio Perm								0.30				
v/c Ratio					0.17			0.43				
Uniform Delay, d1					30.8			6.8				
Progression Factor					1.00			0.17				
Incremental Delay, d2					0.6			0.2				
Delay (s)					31.4			1.4				
Level of Service					C			A				
Approach Delay (s)		0.0			31.4			1.4			0.0	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.2	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)	8.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	85	0	0	0	0	0	1077	230	0	0	0
Future Volume (vph)	95	85	0	0	0	0	0	1077	230	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						4.0				
Lane Util. Factor	1.00	0.95						0.91				
Frpb, ped/bikes	1.00	1.00						0.94				
Flpb, ped/bikes	0.90	1.00						1.00				
Frt	1.00	1.00						0.97				
Flt Protected	0.95	1.00						1.00				
Satd. Flow (prot)	1342	2973						3915				
Flt Permitted	0.95	1.00						1.00				
Satd. Flow (perm)	1342	2973						3915				
Peak-hour factor, PHF	0.92	0.92	1.00	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00
Adj. Flow (vph)	103	92	0	0	0	0	0	1099	235	0	0	0
RTOR Reduction (vph)	29	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	74	92	0	0	0	0	0	1334	0	0	0	0
Confl. Peds. (#/hr)	104		154	154		104	157		306	306		157
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)	34.0	34.0						60.0				
Effective Green, g (s)	33.0	33.0						59.0				
Actuated g/C Ratio	0.33	0.33						0.59				
Clearance Time (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	442	981						2309				
v/s Ratio Prot		0.03						c0.34				
v/s Ratio Perm	c0.05											
v/c Ratio	0.17	0.09						0.58				
Uniform Delay, d1	23.7	23.2						12.8				
Progression Factor	0.09	0.33						0.81				
Incremental Delay, d2	0.8	0.2						1.0				
Delay (s)	2.8	7.9						11.4				
Level of Service	A	A						B				
Approach Delay (s)		5.2			0.0			11.4			0.0	
Approach LOS		A			A			B			A	

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)	8.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	110	120	40	0	0	0	0	0	1490	40
Future Volume (vph)	0	0	110	120	40	0	0	0	0	0	1490	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0						4.0	
Lane Util. Factor			1.00		0.95						0.86	
Frpb, ped/bikes			1.00		1.00						0.99	
Flpb, ped/bikes			1.00		0.79						1.00	
Frt			0.86		1.00						1.00	
Flt Protected			1.00		0.96						1.00	
Satd. Flow (prot)			1353		2269						5320	
Flt Permitted			1.00		0.96						1.00	
Satd. Flow (perm)			1353		2269						5320	
Peak-hour factor, PHF	1.00	1.00	0.80	0.76	0.76	1.00	1.00	1.00	1.00	1.00	0.91	0.91
Adj. Flow (vph)	0	0	138	158	53	0	0	0	0	0	1637	44
RTOR Reduction (vph)	0	0	10	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	128	0	199	0	0	0	0	0	1681	0
Confl. Peds. (#/hr)	32		204	204		32	224		175	175		224
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	15
Turn Type			Prot	Perm	NA						NA	
Protected Phases			4		4						2	
Permitted Phases				4								
Actuated Green, G (s)			25.0		25.0						66.0	
Effective Green, g (s)			27.0		27.0						65.0	
Actuated g/C Ratio			0.27		0.27						0.65	
Clearance Time (s)			6.0		6.0						3.0	
Lane Grp Cap (vph)			365		612						3458	
v/s Ratio Prot			c0.09								c0.32	
v/s Ratio Perm					0.09							
v/c Ratio			0.35		0.32						0.49	
Uniform Delay, d1			29.4		29.2						9.0	
Progression Factor			1.00		1.23						0.25	
Incremental Delay, d2			2.6		0.4						0.4	
Delay (s)			32.1		36.4						2.7	
Level of Service			C		D						A	
Approach Delay (s)		32.1			36.4			0.0			2.7	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.6%	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)	170	673	0	0	0	0	0	1142	204	0	0	0
Future Volume (vph)	170	673	0	0	0	0	0	1142	204	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						4.0				
Lane Util. Factor	1.00	0.95						0.91				
Frpb, ped/bikes	1.00	1.00						1.00				
Flpb, ped/bikes	1.00	1.00						1.00				
Frt	1.00	1.00						0.98				
Flt Protected	0.95	1.00						1.00				
Satd. Flow (prot)	1486	2973						4800				
Flt Permitted	0.95	1.00						1.00				
Satd. Flow (perm)	1486	2973						4174				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	732	0	0	0	0	0	1241	222	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	185	732	0	0	0	0	0	1463	0	0	0	0
Confl. Peds. (#/hr)			6	6								
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	25	0	0	0
Turn Type	Perm	NA						NA				
Protected Phases		4						2				
Permitted Phases	4											
Actuated Green, G (s)	32.0	32.0						62.0				
Effective Green, g (s)	31.0	31.0						61.0				
Actuated g/C Ratio	0.31	0.31						0.61				
Clearance Time (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	460	921						2928				
v/s Ratio Prot		c0.25						c0.30				
v/s Ratio Perm	0.12											
v/c Ratio	0.40	0.79						0.50				
Uniform Delay, d1	27.2	31.6						10.9				
Progression Factor	1.13	1.00						1.36				
Incremental Delay, d2	1.7	4.7						0.6				
Delay (s)	32.5	36.5						15.4				
Level of Service	C	D						B				
Approach Delay (s)		35.7			0.0			15.4			0.0	
Approach LOS		D			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	58	0	0	400	35	123	1060	27	0	0	0
Future Volume (vph)	189	58	0	0	400	35	123	1060	27	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			4.0				
Lane Util. Factor		1.00			0.95			0.91				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.99			1.00				
Flt Protected		0.96			1.00			0.99				
Satd. Flow (prot)		1500			2925			4196				
Flt Permitted		0.38			1.00			0.99				
Satd. Flow (perm)		585			2925			4196				
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)	197	60	0	0	417	36	128	1104	28	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	257	0	0	446	0	0	1258	0	0	0	0
Confl. Peds. (#/hr)	27		55	55		27	27		66	66		27
Turn Type	D.P+P	NA			NA		Perm	NA				
Protected Phases	3	3 4			4			2				
Permitted Phases	4						2					
Actuated Green, G (s)		38.0			28.0			53.0				
Effective Green, g (s)		36.0			27.0			52.0				
Actuated g/C Ratio		0.36			0.27			0.52				
Clearance Time (s)					3.0			3.0				
Lane Grp Cap (vph)		292			789			2181				
v/s Ratio Prot		c0.08			0.15							
v/s Ratio Perm		c0.24						0.30				
v/c Ratio		0.88			0.57			0.58				
Uniform Delay, d1		30.0			31.4			16.5				
Progression Factor		0.76			1.00			0.35				
Incremental Delay, d2		27.8			2.9			1.0				
Delay (s)		50.6			34.4			6.7				
Level of Service		D			C			A				
Approach Delay (s)		50.6			34.4			6.7			0.0	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	18.8	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)	12.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	38	64	37	14	528	0	0	419	9
Future Volume (vph)	0	0	0	38	64	37	14	528	0	0	419	9
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.96			1.00			1.00	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2943			1651			1648	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					2943			1631			1648	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	38	64	37	14	528	0	0	419	9
RTOR Reduction (vph)	0	0	0	0	26	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	113	0	0	542	0	0	427	0
Confl. Peds. (#/hr)	2		6	6		2	20		17	17		20
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					865			968			978	
v/s Ratio Prot											0.26	
v/s Ratio Perm					0.04			c0.33				
v/c Ratio					0.13			0.56			0.44	
Uniform Delay, d1					25.9			12.3			11.1	
Progression Factor					0.73			0.16			0.36	
Incremental Delay, d2					0.3			1.2			1.3	
Delay (s)					19.3			3.2			5.3	
Level of Service					B			A			A	
Approach Delay (s)		0.0			19.3			3.2			5.3	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2543	91	99	1272	0	0	0	0
Future Volume (vph)	0	0	0	0	2543	91	99	1272	0	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				
Lane Util. Factor					0.81			0.86				
Frt					0.99			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					6304			5363				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					6304			5363				
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	0	2795	100	109	1398	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2895	0	0	1507	0	0	0	0
Bus Blockages (#/hr)	0	0	0	0	0	10	0	0	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Actuated Green, G (s)					57.0			37.0				
Effective Green, g (s)					56.0			36.0				
Actuated g/C Ratio					0.56			0.36				
Clearance Time (s)					3.0			3.0				
Lane Grp Cap (vph)					3530			1930				
v/s Ratio Prot					c0.46							
v/s Ratio Perm								0.28				
v/c Ratio					0.82			0.78				
Uniform Delay, d1					17.9			28.5				
Progression Factor					1.00			0.68				
Incremental Delay, d2					2.3			2.3				
Delay (s)					20.2			21.8				
Level of Service					C			C				
Approach Delay (s)		0.0			20.2			21.8			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
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												
Traffic Volume (vph)	0	0	0	15	78	27	30	550	0	0	444	18
Future Volume (vph)	0	0	0	15	78	27	30	550	0	0	444	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0			3.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.97			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					2819			1561			1556	
Flt Permitted					0.99			0.96			1.00	
Satd. Flow (perm)					2819			1508			1556	
Peak-hour factor, PHF	1.00	1.00	1.00	0.71	0.71	0.71	0.82	0.82	0.82	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	21	110	38	37	671	0	0	444	18
RTOR Reduction (vph)	0	0	0	0	28	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	141	0	0	708	0	0	460	0
Confl. Peds. (#/hr)	5		24	24		5	2		46	46		2
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					22.0			52.0			52.0	
Effective Green, g (s)					21.0			51.0			52.0	
Actuated g/C Ratio					0.26			0.64			0.65	
Clearance Time (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					739			961			1011	
v/s Ratio Prot											0.30	
v/s Ratio Perm					0.05			c0.47				
v/c Ratio					0.19			0.74			0.46	
Uniform Delay, d1					22.9			9.9			7.0	
Progression Factor					1.00			0.42			1.00	
Incremental Delay, d2					0.6			4.6			1.5	
Delay (s)					23.5			8.8			8.4	
Level of Service					C			A			A	
Approach Delay (s)		0.0			23.5			8.8			8.4	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
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)	0	0	0	9	40	6	18	602	0	0	339	19
Future Volume (vph)	0	0	0	9	40	6	18	602	0	0	339	19
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frt					0.99			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					1616			1652			1642	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					1616			1630			1642	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	9	40	6	18	602	0	0	339	19
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	51	0	0	620	0	0	356	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2					
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					475			968			975	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.03			c0.38				
v/c Ratio					0.11			0.64			0.37	
Uniform Delay, d1					25.7			13.3			10.5	
Progression Factor					0.99			0.77			0.33	
Incremental Delay, d2					0.4			2.8			0.8	
Delay (s)					26.0			13.0			4.3	
Level of Service					C			B			A	
Approach Delay (s)		0.0			26.0			13.0			4.3	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	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)	11.2
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Future Volume (vph)	21	814	31	45	504	12	27	495	86	19	275	31
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.1			6.1		6.1	6.1	6.1		6.1	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.97	1.00	1.00		1.00	
Frt		0.99			1.00		1.00	1.00	0.85		0.99	
Flt Protected		1.00			1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110			3110		1518	1654	1370		1615	
Flt Permitted		0.93			0.81		0.46	1.00	1.00		0.83	
Satd. Flow (perm)		2903			2544		730	1654	1370		1349	
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)	21	831	32	46	514	12	28	505	88	19	281	32
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	31	0	4	0
Lane Group Flow (vph)	0	881	0	0	571	0	28	505	57	0	328	0
Confl. Peds. (#/hr)	31		25	25		31	55		11	11		55
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		
Actuated Green, G (s)		51.9			51.9		35.9	35.9	35.9		35.9	
Effective Green, g (s)		51.9			51.9		35.9	35.9	35.9		35.9	
Actuated g/C Ratio		0.52			0.52		0.36	0.36	0.36		0.36	
Clearance Time (s)		6.1			6.1		6.1	6.1	6.1		6.1	
Lane Grp Cap (vph)		1506			1320		262	593	491		484	
v/s Ratio Prot								c0.31				
v/s Ratio Perm		c0.30			0.22		0.04		0.04		0.24	
v/c Ratio		0.59			0.43		0.11	0.85	0.12		0.68	
Uniform Delay, d1		16.6			14.9		21.4	29.6	21.4		27.2	
Progression Factor		1.00			0.19		1.50	1.30	1.90		0.98	
Incremental Delay, d2		1.7			0.5		0.6	11.6	0.4		7.3	
Delay (s)		18.3			3.3		32.7	50.1	41.2		33.9	
Level of Service		B			A		C	D	D		C	
Approach Delay (s)		18.3			3.3			48.0			33.9	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	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)	12.2
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1385	53	0	0	0	0	0	0	79	301	0
Future Volume (vph)	0	1385	53	0	0	0	0	0	0	79	301	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0								4.0	4.0	
Lane Util. Factor		0.91								1.00	0.95	
Frpb, ped/bikes		1.00								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.99								1.00	1.00	
Flt Protected		1.00								0.95	1.00	
Satd. Flow (prot)		4248								1486	2973	
Flt Permitted		1.00								0.95	1.00	
Satd. Flow (perm)		4248								1486	2973	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	1522	58	0	0	0	0	0	0	87	331	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	79	0	0
Lane Group Flow (vph)	0	1576	0	0	0	0	0	0	0	8	331	0
Confl. Peds. (#/hr)							41		1	1		41
Turn Type		NA								Prot	NA	
Protected Phases		2								1	1 4	
Permitted Phases												
Actuated Green, G (s)		57.0								10.0	37.0	
Effective Green, g (s)		56.0								9.0	36.0	
Actuated g/C Ratio		0.56								0.09	0.36	
Clearance Time (s)		3.0								3.0		
Lane Grp Cap (vph)		2378								133	1070	
v/s Ratio Prot		c0.37								0.01	c0.11	
v/s Ratio Perm												
v/c Ratio		0.66								0.06	0.31	
Uniform Delay, d1		15.4								41.6	23.0	
Progression Factor		1.00								2.17	0.92	
Incremental Delay, d2		1.5								0.7	0.6	
Delay (s)		16.9								90.9	21.9	
Level of Service		B								F	C	
Approach Delay (s)		16.9			0.0			0.0			36.3	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.0%	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)	10	10	0	0	0	94	0	1325	19	0	0	0
Future Volume (vph)	10	10	0	0	0	94	0	1325	19	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		4.0				
Lane Util. Factor		1.00				1.00		0.91				
Frt		1.00				0.86		1.00				
Flt Protected		0.98				1.00		1.00				
Satd. Flow (prot)		1527				1353		4263				
Flt Permitted		0.98				1.00		1.00				
Satd. Flow (perm)		1527				1353		4263				
Peak-hour factor, PHF	1.00	1.00	1.00	0.78	1.00	0.78	1.00	0.99	0.99	1.00	1.00	1.00
Adj. Flow (vph)	10	10	0	0	0	121	0	1338	19	0	0	0
RTOR Reduction (vph)	0	8	0	0	0	81	0	2	0	0	0	0
Lane Group Flow (vph)	0	12	0	0	0	40	0	1355	0	0	0	0
Turn Type	Perm	NA				Perm		NA				
Protected Phases		4						2				
Permitted Phases	4					4						
Actuated Green, G (s)		19.0				19.0		75.0				
Effective Green, g (s)		18.0				18.0		74.0				
Actuated g/C Ratio		0.18				0.18		0.74				
Clearance Time (s)		3.0				3.0		3.0				
Lane Grp Cap (vph)		274				243		3154				
v/s Ratio Prot								c0.32				
v/s Ratio Perm		0.01				c0.03						
v/c Ratio		0.04				0.16		0.43				
Uniform Delay, d1		33.9				34.6		5.0				
Progression Factor		1.00				1.00		0.17				
Incremental Delay, d2		0.3				1.4		0.3				
Delay (s)		34.2				36.1		1.2				
Level of Service		C				D		A				
Approach Delay (s)		34.2			36.1			1.2			0.0	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.5	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)	8.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	865	22	0	0	0	0	498	47	14	276	0
Future Volume (vph)	48	865	22	0	0	0	0	498	47	14	276	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						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						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3116						1629			1649	
Flt Permitted		1.00						1.00			0.97	
Satd. Flow (perm)		3116						1629			1600	
Peak-hour factor, PHF	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. Flow (vph)	48	865	22	0	0	0	0	498	47	14	276	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	933	0	0	0	0	0	542	0	0	290	0
Confl. Peds. (#/hr)	7		15	15		7	12		20	20		12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		44.4						44.4			44.4	
Effective Green, g (s)		44.4						44.4			44.4	
Actuated g/C Ratio		0.44						0.44			0.44	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1383						723			710	
v/s Ratio Prot								c0.33				
v/s Ratio Perm		0.30									0.18	
v/c Ratio		0.67						0.75			0.41	
Uniform Delay, d1		22.1						23.2			18.9	
Progression Factor		0.45						0.13			0.58	
Incremental Delay, d2		2.1						5.6			1.5	
Delay (s)		12.1						8.6			12.4	
Level of Service		B						A			B	
Approach Delay (s)		12.1			0.0			8.6			12.4	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	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)	11.2
Intersection Capacity Utilization	76.1%	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)	48	854	22	0	0	0	0	498	46	14	276	0
Future Volume (vph)	48	854	22	0	0	0	0	498	46	14	276	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6						5.6			5.6	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.99			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3117						1627			1650	
Flt Permitted		1.00						1.00			0.97	
Satd. Flow (perm)		3117						1627			1600	
Peak-hour factor, PHF	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. Flow (vph)	48	854	22	0	0	0	0	498	46	14	276	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	922	0	0	0	0	0	540	0	0	290	0
Confl. Peds. (#/hr)	7		8	8		7	19		29	29		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4									2		
Actuated Green, G (s)		47.4						41.4			41.4	
Effective Green, g (s)		47.4						41.4			41.4	
Actuated g/C Ratio		0.47						0.41			0.41	
Clearance Time (s)		5.6						5.6			5.6	
Lane Grp Cap (vph)		1477						673			662	
v/s Ratio Prot								c0.33				
v/s Ratio Perm		0.30									0.18	
v/c Ratio		0.62						0.80			0.44	
Uniform Delay, d1		19.7						25.7			21.0	
Progression Factor		1.00						0.77			0.42	
Incremental Delay, d2		2.0						8.3			1.8	
Delay (s)		21.7						28.2			10.6	
Level of Service		C						C			B	
Approach Delay (s)		21.7			0.0			28.2			10.6	
Approach LOS		C			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.8	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)	11.2
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	0	0	0	0	751
Future Volume (vph)	419	0	0	0	0	751
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	0.97					0.91
Frt	1.00					1.00
Flt Protected	0.95					1.00
Satd. Flow (prot)	2884					4272
Flt Permitted	0.95					1.00
Satd. Flow (perm)	2884					4272
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	419	0	0	0	0	751
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	419	0	0	0	0	751
Turn Type	Prot					NA
Protected Phases	4					2
Permitted Phases						
Actuated Green, G (s)	32.0					62.0
Effective Green, g (s)	31.0					61.0
Actuated g/C Ratio	0.31					0.61
Clearance Time (s)	3.0					3.0
Lane Grp Cap (vph)	894					2605
v/s Ratio Prot	c0.15					c0.18
v/s Ratio Perm						
v/c Ratio	0.47					0.29
Uniform Delay, d1	27.9					9.2
Progression Factor	0.56					1.00
Incremental Delay, d2	1.6					0.3
Delay (s)	17.2					9.5
Level of Service	B					A
Approach Delay (s)	17.2		0.0			9.5
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	159	27	188	291	0	0	0	0	45	1023	102
Future Volume (vph)	0	159	27	188	291	0	0	0	0	45	1023	102
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	
Lane Util. Factor		1.00			0.95						0.91	
Frpb, ped/bikes		0.99			1.00						1.00	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.98			1.00						0.99	
Flt Protected		1.00			0.98						1.00	
Satd. Flow (prot)		1521			2878						4170	
Flt Permitted		1.00			0.70						1.00	
Satd. Flow (perm)		1521			2045						4170	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	179	30	211	327	0	0	0	0	51	1149	115
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	203	0	0	538	0	0	0	0	0	1315	0
Confl. Peds. (#/hr)	51		40	40		51	6		88	88		6
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		4			4						2	
Permitted Phases				4						2		
Actuated Green, G (s)		32.0			32.0						62.0	
Effective Green, g (s)		31.0			31.0						61.0	
Actuated g/C Ratio		0.31			0.31						0.61	
Clearance Time (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		471			633						2543	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.26						0.32	
v/c Ratio		0.43			0.85						0.52	
Uniform Delay, d1		27.5			32.3						11.1	
Progression Factor		0.56			0.98						0.90	
Incremental Delay, d2		2.6			11.4						0.7	
Delay (s)		17.9			43.2						10.8	
Level of Service		B			D						B	
Approach Delay (s)		17.9			43.2			0.0			10.8	
Approach LOS		B			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	20.0	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)	8.0
Intersection Capacity Utilization	77.8%	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)	0	0	0	9	24	7	18	602	4	0	339	19
Future Volume (vph)	0	0	0	9	24	7	18	602	4	0	339	19
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)					5.6			5.6			5.6	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			1.00	
Flpb, ped/bikes					0.99			1.00			1.00	
Frt					0.98			1.00			0.99	
Flt Protected					0.99			1.00			1.00	
Satd. Flow (prot)					1574			1649			1638	
Flt Permitted					0.99			0.99			1.00	
Satd. Flow (perm)					1574			1628			1638	
Peak-hour factor, PHF	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. Flow (vph)	0	0	0	9	24	7	18	602	4	0	339	19
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	35	0	0	624	0	0	356	0
Confl. Peds. (#/hr)	12		8	8		12	10		3	3		10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4			2			2		
Actuated Green, G (s)					29.4			59.4			59.4	
Effective Green, g (s)					29.4			59.4			59.4	
Actuated g/C Ratio					0.29			0.59			0.59	
Clearance Time (s)					5.6			5.6			5.6	
Lane Grp Cap (vph)					462			967			972	
v/s Ratio Prot											0.22	
v/s Ratio Perm					0.02			c0.38				
v/c Ratio					0.08			0.64			0.37	
Uniform Delay, d1					25.5			13.4			10.5	
Progression Factor					1.00			0.21			1.20	
Incremental Delay, d2					0.3			2.7			0.9	
Delay (s)					25.8			5.5			13.5	
Level of Service					C			A			B	
Approach Delay (s)		0.0			25.8			5.5			13.5	
Approach LOS		A			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	50	20	11	25	9	24	468	18	18	300	38
Future Volume (vph)	40	50	20	11	25	9	24	468	18	18	300	38
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			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.98			1.00			0.99	
Flpb, ped/bikes		0.98			0.99			1.00			1.00	
Frt		0.98			0.97			1.00			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1447			1464			1550			1529	
Flt Permitted		0.90			0.95			0.98			0.97	
Satd. Flow (perm)		1327			1403			1519			1490	
Peak-hour factor, PHF	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. Flow (vph)	40	50	20	11	25	9	24	468	18	18	300	38
RTOR Reduction (vph)	0	10	0	0	7	0	0	2	0	0	5	0
Lane Group Flow (vph)	0	100	0	0	38	0	0	508	0	0	351	0
Confl. Peds. (#/hr)	32		26	26		32	19		8	8		19
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	0
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)		22.0			22.0			52.0			52.0	
Effective Green, g (s)		21.0			21.0			51.0			52.0	
Actuated g/C Ratio		0.26			0.26			0.64			0.65	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		348			368			968			968	
v/s Ratio Prot												
v/s Ratio Perm		c0.08			0.03			c0.33			0.24	
v/c Ratio		0.29			0.10			0.52			0.36	
Uniform Delay, d1		23.5			22.4			7.9			6.4	
Progression Factor		1.06			1.00			0.14			1.32	
Incremental Delay, d2		1.9			0.6			1.6			0.9	
Delay (s)		26.9			22.9			2.8			9.4	
Level of Service		C			C			A			A	
Approach Delay (s)		26.9			22.9			2.8			9.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	98	2	7	25	8	15	476	21	12	319	12
Future Volume (vph)	17	98	2	7	25	8	15	476	21	12	319	12
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			4.6			4.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.97			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1626			1558			1640			1640	
Flt Permitted		0.96			0.96			0.99			0.98	
Satd. Flow (perm)		1579			1508			1621			1612	
Peak-hour factor, PHF	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. Flow (vph)	17	98	2	7	25	8	15	476	21	12	319	12
RTOR Reduction (vph)	0	1	0	0	6	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	116	0	0	34	0	0	510	0	0	342	0
Confl. Peds. (#/hr)	16		31	31		16	11		4	4		11
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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)		29.4			29.4			60.4			60.4	
Effective Green, g (s)		29.4			29.4			60.4			60.4	
Actuated g/C Ratio		0.29			0.29			0.60			0.60	
Clearance Time (s)		5.6			5.6			4.6			4.6	
Lane Grp Cap (vph)		464			443			979			973	
v/s Ratio Prot												
v/s Ratio Perm		c0.07			0.02			c0.31			0.21	
v/c Ratio		0.25			0.08			0.52			0.35	
Uniform Delay, d1		26.9			25.5			11.4			10.0	
Progression Factor		0.95			1.00			0.10			1.00	
Incremental Delay, d2		1.3			0.3			1.7			1.0	
Delay (s)		26.7			25.8			2.9			11.0	
Level of Service		C			C			A			B	
Approach Delay (s)		26.7			25.8			2.9			11.0	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.2
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

Description: As provided 1651 - Intersection Timing Sheets use 1702 split 6

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	440	277	0
Future Volume (vph)	0	0	0	440	277	0
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12
Total Lost time (s)				5.6	5.6	
Lane Util. Factor				1.00	1.00	
Frpb, ped/bikes				1.00	1.00	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				1654	1654	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				1654	1654	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	440	277	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	440	277	0
Confl. Peds. (#/hr)	34	8	14			14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot			NA	NA	
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)				63.4	63.4	
Effective Green, g (s)				63.4	63.4	
Actuated g/C Ratio				0.58	0.58	
Clearance Time (s)				5.6	5.6	
Lane Grp Cap (vph)				953	953	
v/s Ratio Prot				c0.27	0.17	
v/s Ratio Perm						
v/c Ratio				0.46	0.29	
Uniform Delay, d1				13.4	11.9	
Progression Factor				0.25	1.00	
Incremental Delay, d2				1.1	0.8	
Delay (s)				4.5	12.6	
Level of Service				A	B	
Approach Delay (s)	0.0			4.5	12.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	57	3	8	36	8	16	476	22	13	319	13
Future Volume (vph)	17	57	3	8	36	8	16	476	22	13	319	13
Ideal Flow (vphpl)	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654	1654
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		5.6			5.6			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.98			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1596			1575			1610			1610	
Flt Permitted		0.94			0.96			0.98			0.98	
Satd. Flow (perm)		1519			1526			1587			1575	
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)	18	62	3	9	39	9	17	517	24	14	347	14
RTOR Reduction (vph)	0	1	0	0	7	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	82	0	0	50	0	0	557	0	0	374	0
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)		25.4			25.4			63.4			63.4	
Effective Green, g (s)		25.4			25.4			63.4			63.4	
Actuated g/C Ratio		0.25			0.25			0.63			0.63	
Clearance Time (s)		5.6			5.6			5.6			5.6	
Lane Grp Cap (vph)		385			387			1006			998	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.03			c0.35			0.24	
v/c Ratio		0.21			0.13			0.55			0.37	
Uniform Delay, d1		29.4			28.8			10.3			8.8	
Progression Factor		1.00			1.07			0.86			1.00	
Incremental Delay, d2		1.3			0.7			2.0			1.1	
Delay (s)		30.7			31.4			10.8			9.9	
Level of Service		C			C			B			A	
Approach Delay (s)		30.7			31.4			10.8			9.9	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.1	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)	11.2
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX H

DEDICATED TURN LANES/RUSH HOUR LANES TRAVEL TIMES

St. Paul Street

AM Travel Times

Arterial Level of Service: NB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Monument St	326	27.9	33.4	0.1	10
Madison St	335	15.6	21.3	0.1	12
Read St	330	13.9	19.9	0.1	14
Eager St	319	7.7	15.7	0.1	21
Chase St	328	25.5	33.9	0.1	10
Biddle St	348	12.6	18.6	0.1	14
Preston St	327	13.5	20.2	0.1	13
Mt. Royal Ave	350	17.4	23.1	0.1	11
Penn Station	387	2.8	10.9	0.1	29
Lanvale St	324	42.8	54.4	0.1	9
Lafayette Ave	354	82.8	94.7	0.1	3
North Ave	156	135.7	196.3	0.1	2
20th St	551	27.6	37.3	0.1	7
21st St	325	7.4	15.1	0.1	17
23rd St	323	11.7	28.3	0.1	18
24th St	851	12.2	21.3	0.1	13
25th St	878	29.6	41.0	0.1	9
27th St	478	16.6	38.6	0.2	18
28th St	1170	18.9	28.2	0.1	11
29th St	371	25.5	36.7	0.1	9
31st St	320	13.0	33.8	0.2	19
32nd St	1786	16.4	25.3	0.1	11
33rd St	351	65.3	81.2	0.1	4
	7234	3.9	12.5	0.1	21
University Pkwy	86	48.0	63.8	0.2	9
Total		694.2	1005.4	2.4	9

Arterial Level of Service: SB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7234	14.5	34.2	0.2	17
33rd St	351	33.0	40.8	0.1	7
32nd St	1786	4.3	14.5	0.1	21
31st St	320	4.1	13.0	0.1	21
29th St	371	34.9	55.1	0.2	12
28th St	1170	9.7	20.9	0.1	15
27th St	478	4.5	14.7	0.1	22
25th St	878	26.5	49.0	0.2	14
24th St	851	3.8	16.3	0.1	23
23rd St	323	2.2	11.3	0.1	24
21st St	325	6.5	23.1	0.1	22
20th St	551	8.7	17.0	0.1	15
North Ave	156	19.1	28.1	0.1	10
Lafayette Ave	354	16.1	25.2	0.1	13
Lanvale St	324	7.3	14.0	0.1	19
Penn Station	387	4.8	16.6	0.1	29
	350	11.5	19.3	0.1	16
Preston St	327	7.8	14.2	0.1	18
Biddle St	348	4.5	11.5	0.1	23
Chase St	328	3.1	9.4	0.1	28
Eager St	319	2.4	11.2	0.1	31
Read St	330	3.3	11.5	0.1	29
Madison St	335	5.5	11.9	0.1	23
E Mt. Vernon Pl	326	9.1	15.6	0.1	17
Centre St	318	26.6	34.6	0.1	9
Franklin St	393	51.4	162.8	0.1	6
Mulberry St	1044	11.4	16.4	0.1	12
Saratoga St	191	13.9	25.5	0.1	19
Lexington St	190	24.7	31.2	0.1	10
Fayette St	188	35.8	39.7	0.0	4
Total		410.8	808.4	2.8	15

Calvert Street

AM Travel Times

Arterial Level of Service: NB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	509	2.8	8.5	0.1	22
Saratoga St	518	6.7	15.9	0.1	19
Pleasant St	221	3.7	13.8	0.1	22
Bath St	1120	13.1	20.4	0.1	11
Centre St	222	43.0	58.2	0.1	8
Monument St	224	35.2	50.6	0.1	7
Madison St	223	3.6	12.3	0.1	21
Read St	1576	2.1	10.4	0.1	25
Eager St	219	1.9	12.8	0.1	27
Chase St	220	5.6	16.7	0.1	21
Biddle St	226	9.9	17.9	0.1	14
Preston St	229	12.7	21.8	0.1	12
Mt. Royal Ave	231	16.9	24.5	0.1	10
Lanvale St	227	4.6	30.2	0.2	27
Lafayette Ave	764	31.4	40.9	0.1	7
North Ave	155	99.8	123.5	0.1	3
20th St	228	31.5	40.9	0.1	7
21st St	259	5.1	12.9	0.1	20
22nd St	230	8.3	16.2	0.1	15
23rd St	7149	4.2	12.6	0.1	21
24th St	1422	16.3	25.1	0.1	11
25th St	244	89.3	100.8	0.1	4
27th St	232	30.3	52.5	0.2	13
28th St	1168	14.4	24.2	0.1	13
29th St	233	47.9	58.6	0.1	5
31st St	262	6.5	27.0	0.2	23
32nd St	1651	28.9	37.7	0.1	7
33rd St	298	91.2	100.7	0.1	3
Total		666.9	987.4	2.6	10

Arterial Level of Service: SB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
32nd St	1651	27.9	38.7	0.1	8
31st St	262	7.1	16.2	0.1	17
29th St	233	66.1	85.5	0.2	7
28th St	1168	9.2	20.1	0.1	16
27th St	232	16.3	27.0	0.1	12
25th St	244	81.8	103.8	0.2	7
24th St	1422	12.2	24.5	0.1	15
23rd St	7149	2.6	11.6	0.1	23
22nd St	230	23.2	31.3	0.1	8
21st St	259	6.7	15.2	0.1	16
20th St	228	23.6	31.8	0.1	8
North Ave	155	35.9	46.9	0.1	6
Lafayette Ave	764	15.6	26.4	0.1	12
Lanvale St	227	9.3	18.2	0.1	15
Mt. Royal Ave	231	14.5	39.2	0.2	21
Preston St	229	19.3	27.6	0.1	9
Biddle St	226	20.6	29.9	0.1	9
Chase St	220	6.7	15.1	0.1	17
Eager St	219	17.3	28.8	0.1	12
Read St	1576	8.2	19.2	0.1	18
Madison St	223	16.7	24.9	0.1	11
Monument St	224	7.3	16.1	0.1	16
Centre St	222	43.0	54.2	0.1	5
Total		491.1	752.3	2.2	11

St. Paul Street

PM Travel Times

Arterial Level of Service: NB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Monument St	326	21.5	25.7	0.1	12
Madison St	335	16.6	23.7	0.1	11
Read St	330	14.3	22.6	0.1	12
Eager St	319	11.3	22.2	0.1	15
Chase St	328	22.6	34.4	0.1	10
Biddle St	348	24.7	32.9	0.1	8
Preston St	327	19.8	29.2	0.1	9
Mt. Royal Ave	350	25.0	32.6	0.1	8
	3149	6.6	18.1	0.1	18
Lanvale St	324	37.7	52.9	0.1	9
Lafayette Ave	354	33.1	43.0	0.1	6
North Ave	156	46.6	56.4	0.1	6
20th St	551	4.4	14.4	0.1	19
21st St	325	24.3	32.8	0.1	8
23rd St	323	24.7	40.9	0.1	12
24th St	851	40.2	68.9	0.1	5
25th St	878	72.9	84.9	0.1	4
27th St	478	24.9	47.8	0.2	15
28th St	1170	34.0	44.1	0.1	7
29th St	371	21.3	32.5	0.1	10
31st St	320	44.5	65.3	0.2	10
32nd St	1786	43.2	56.9	0.1	5
33rd St	351	65.5	76.2	0.1	4
	7234	9.8	19.0	0.1	14
University Pkwy	84	127.8	144.8	0.2	4
Total		817.2	1122.5	2.4	8

Arterial Level of Service: SB #1

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	7234	1.9	20.1	0.2	28
33rd St	351	41.0	49.3	0.1	5
32nd St	1786	11.2	21.0	0.1	14
31st St	320	6.9	15.6	0.1	17
29th St	371	14.8	34.9	0.2	18
28th St	1170	20.8	31.8	0.1	10
27th St	478	3.0	13.3	0.1	24
25th St	878	82.3	103.3	0.2	7
24th St	851	4.6	17.0	0.1	22
23rd St	323	9.7	18.8	0.1	14
21st St	325	34.1	55.8	0.1	10
20th St	551	14.3	23.7	0.1	11
North Ave	156	33.8	50.7	0.1	6
Lafayette Ave	354	15.4	26.0	0.1	12
Lanvale St	324	8.3	17.4	0.1	15
	3149	3.9	18.6	0.1	26
St. Paul St Exit	350	17.1	27.8	0.1	12
Preston St	327	4.0	12.7	0.1	20
Biddle St	348	13.5	22.7	0.1	12
Chase St	328	5.0	13.3	0.1	20
Eager St	319	5.5	17.3	0.1	20
Read St	330	7.7	18.6	0.1	18
Madison St	335	11.1	19.7	0.1	14
E Mt. Vernon Pl	326	5.6	14.0	0.1	18
Centre St	318	14.3	23.7	0.1	13
Franklin St	41	42.0	52.5	0.1	6
Mulberry St	1044	6.5	13.2	0.1	15
Saratoga St	191	27.3	42.0	0.1	12
Lexington St	190	37.4	46.4	0.1	7
Fayette St	188	33.3	38.0	0.0	5
Total		536.2	879.4	2.8	12

Calvert Street

PM Travel Times

Arterial Level of Service: NB #2

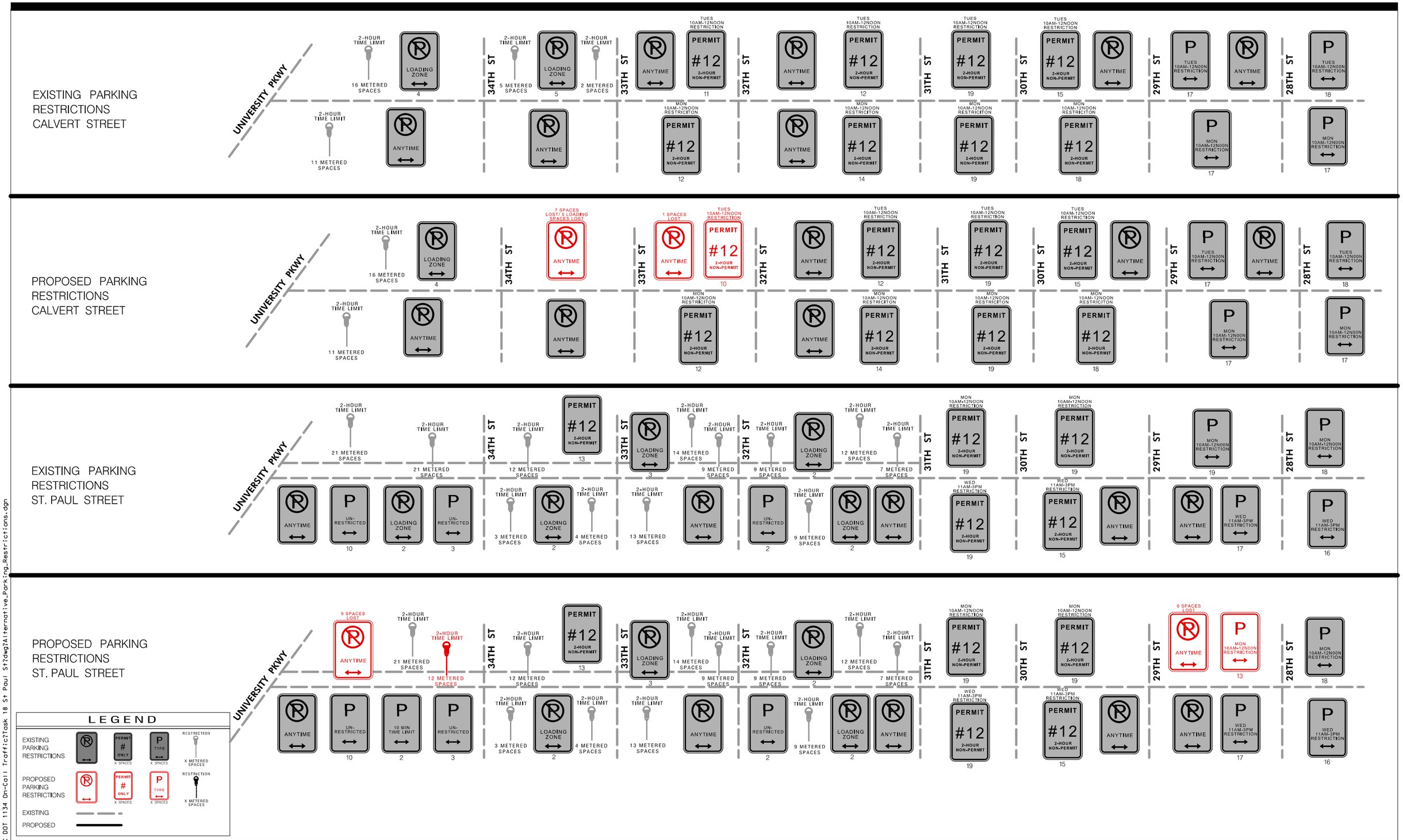
Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lexington St	509	5.6	11.2	0.1	16
Saratoga St	518	16.2	26.3	0.1	11
Pleasant St	221	11.9	22.2	0.1	14
Bath St	1120	1.8	9.1	0.1	25
Centre St	222	37.3	62.2	0.1	9
Monument St	224	41.9	55.6	0.1	6
Madison St	223	8.3	40.8	0.1	15
Read St	1576	4.6	13.0	0.1	20
Eager St	219	4.8	16.1	0.1	21
Chase St	220	12.3	24.0	0.1	14
Biddle St	226	10.1	18.3	0.1	14
Preston St	229	15.4	24.9	0.1	11
Mt. Royal Ave	231	18.4	26.1	0.1	9
Lanvale St	227	12.7	39.5	0.2	20
Lafayette Ave	764	21.0	30.5	0.1	9
North Ave	155	32.9	41.3	0.1	8
20th St	228	15.1	25.0	0.1	11
21st St	259	10.3	18.6	0.1	14
22nd St	230	15.8	25.4	0.1	10
23rd St	7149	6.8	15.5	0.1	17
24th St	1422	18.6	33.2	0.1	10
25th St	244	32.8	44.9	0.1	8
27th St	232	8.0	30.9	0.2	22
28th St	1168	15.2	25.8	0.1	13
29th St	233	16.8	27.8	0.1	11
31st St	262	4.8	25.5	0.2	25
32nd St	1651	5.8	15.0	0.1	18
33rd St	298	32.1	41.9	0.1	7
34th St	1748	4.0	12.8	0.1	20
University Pkwy	149	17.9	27.3	0.1	14
Total		459.5	831.0	2.8	13

Arterial Level of Service: SB #2

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
34th St	1748	13.4	18.7	0.1	21
33rd St	298	25.6	34.2	0.1	8
32nd St	1651	14.1	24.5	0.1	12
31st St	262	13.0	22.2	0.1	12
29th St	233	30.1	49.9	0.2	13
28th St	1168	20.5	31.5	0.1	10
27th St	232	14.1	24.7	0.1	13
25th St	244	47.6	69.5	0.2	10
24th St	1422	16.3	28.9	0.1	13
23rd St	7149	2.5	11.6	0.1	23
22nd St	230	14.7	23.1	0.1	11
21st St	259	8.0	16.0	0.1	15
20th St	228	8.1	16.2	0.1	16
North Ave	155	12.0	20.1	0.1	14
Lafayette Ave	764	11.0	21.8	0.1	14
Lanvale St	227	7.4	16.7	0.1	16
Mt. Royal Ave	231	26.6	51.6	0.2	16
Preston St	229	8.6	17.1	0.1	15
Biddle St	226	25.1	34.4	0.1	8
Chase St	220	8.6	16.8	0.1	16
Eager St	219	17.3	29.1	0.1	12
Read St	1576	10.5	21.8	0.1	16
Madison St	223	12.4	20.9	0.1	13
Monument St	224	7.1	15.7	0.1	17
Centre St	222	30.6	42.3	0.1	7
Total		405.1	679.4	2.4	13

APPENDIX I

PARKING RESTRICTIONS DIAGRAM

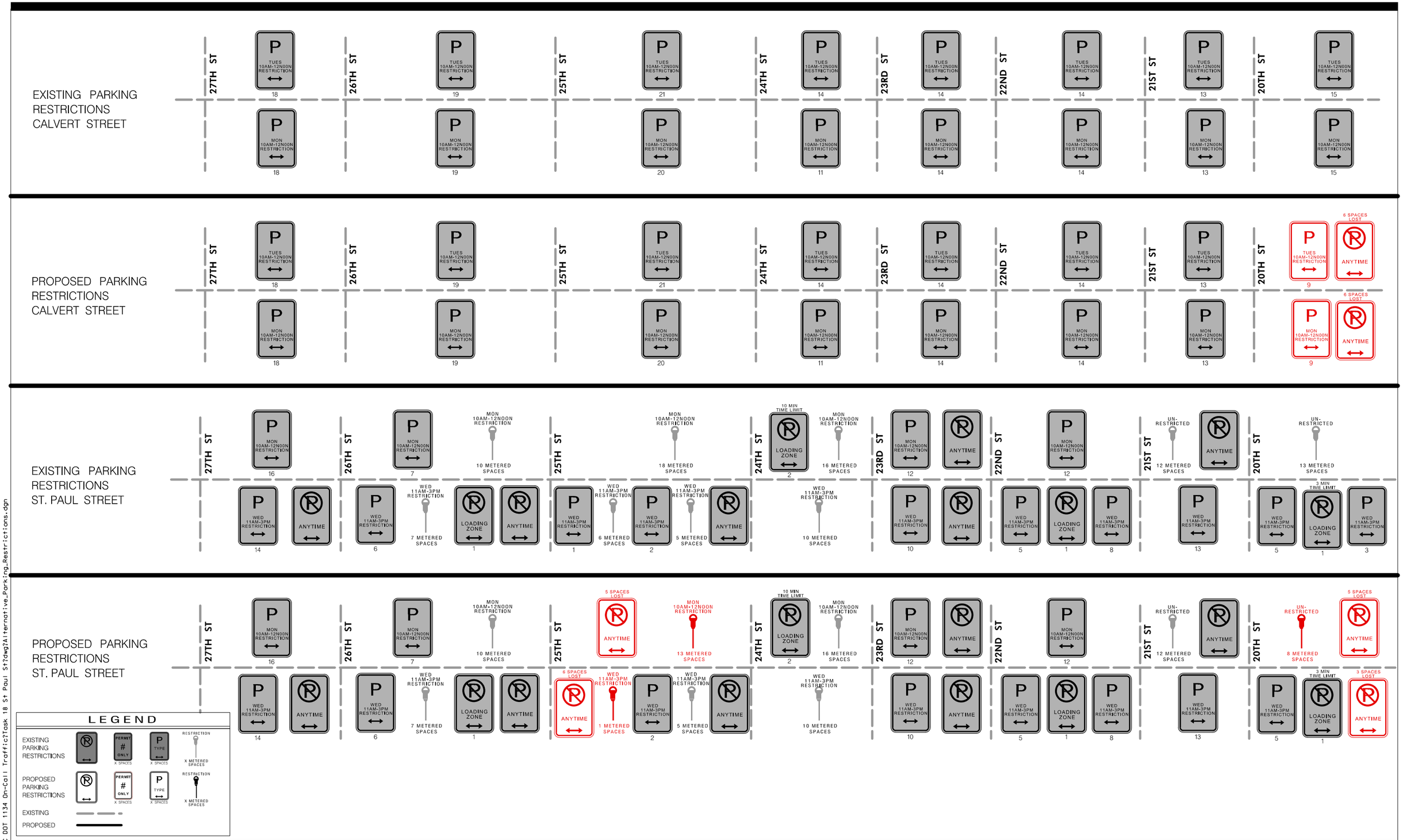


SABRA, WANG & ASSOCIATES, INC.
ENGINEERS • PLANNERS • ANALYSTS

St. Paul Street and Calvert Street
From Lombard Street to University Parkway
Alternative Parking Restrictions

Figure 1

OPERATOR:smaniwong|PLOTTED:Thursday, December 17, 2015 AT 09:19 AM
FILE NAME:22010263 BC DOT 1134 On-Call Traffic?Task 18 St Paul St?dwg?Alternative_Parking_Restrictions.dgn



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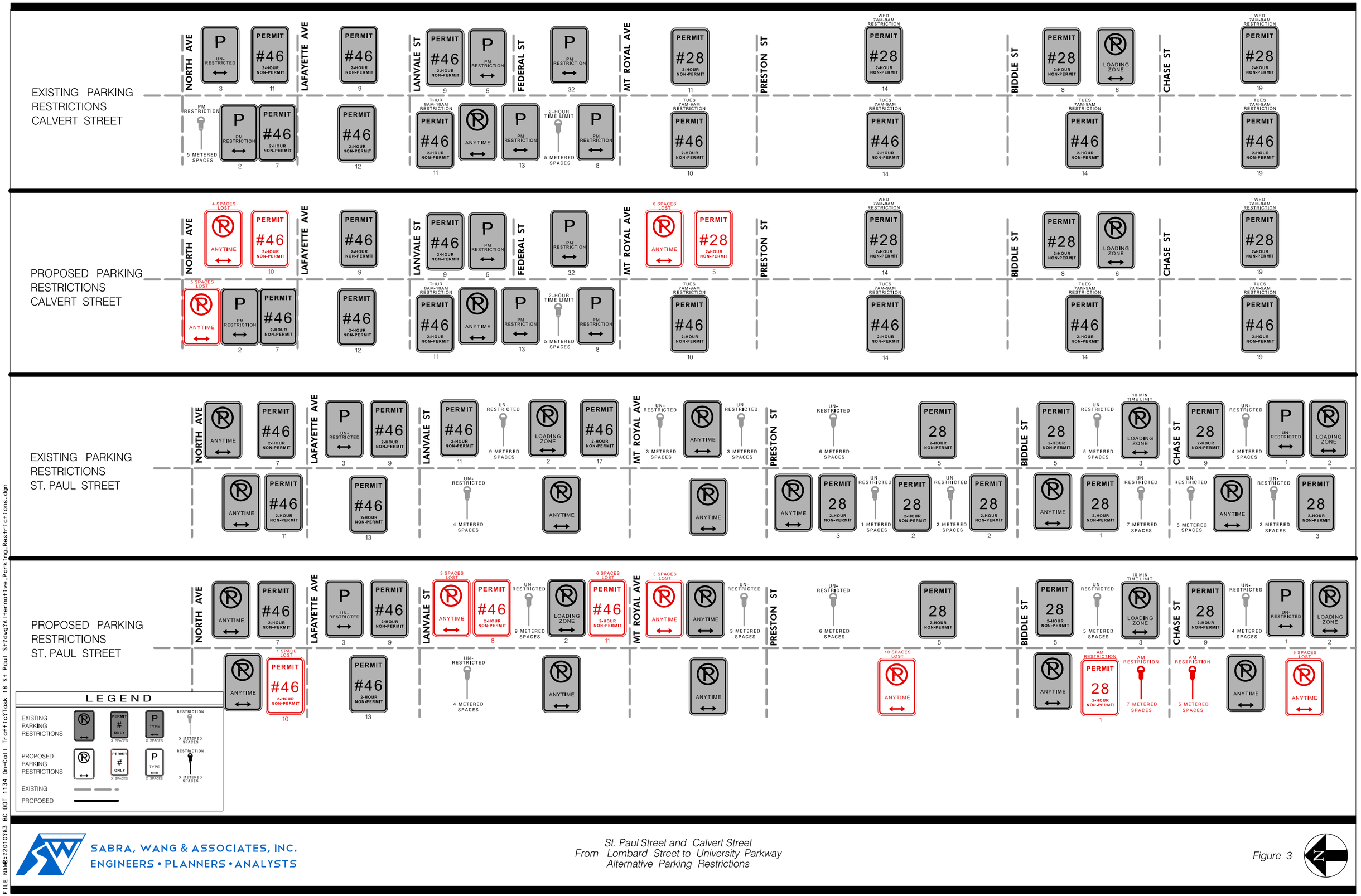
St. Paul Street and Calvert Street
From Lombard Street to University Parkway
Alternative Parking Restrictions

Figure 2

OPERATOR:smaniwang PLOTTED:Monday, November 30, 2015 AT 03:45 PM
FILE NAME:I:2010263 BC DOT 1134 On-Call Traffic?Task 18 St Paul St?dwg?Alternative_Parking_Restrictions.dgn



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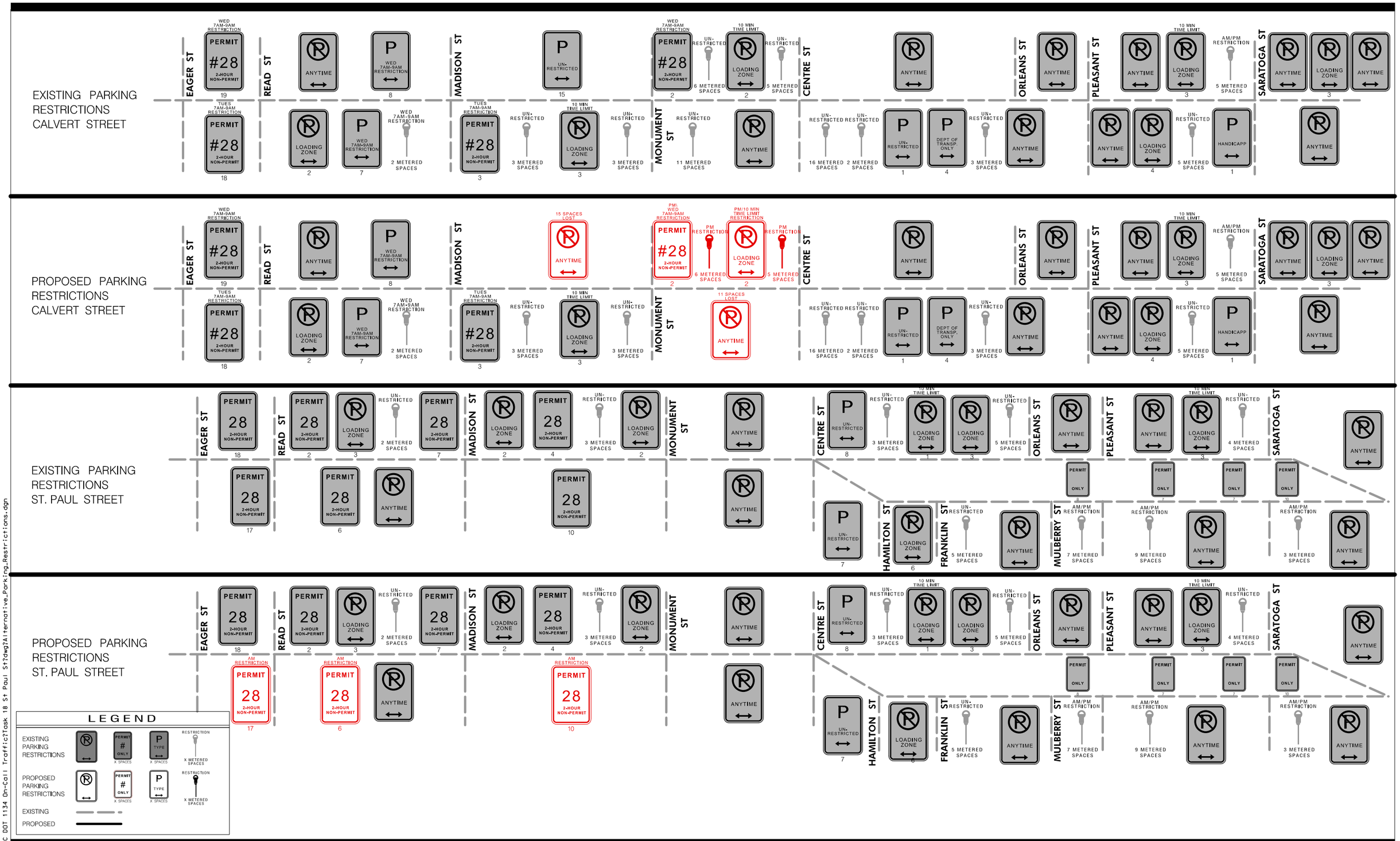
St. Paul Street and Calvert Street
From Lombard Street to University Parkway
Alternative Parking Restrictions

Figure 3

OPERATOR:ramoniwong PLOTTED:Tuesday, December 01, 2015 AT 06:53 AM
FILE NAME:22010263 BC DOT 1134 On-Call Traffic?Task 18 St Paul St?dwg?Alternative_Parking_Restrictions.dgn



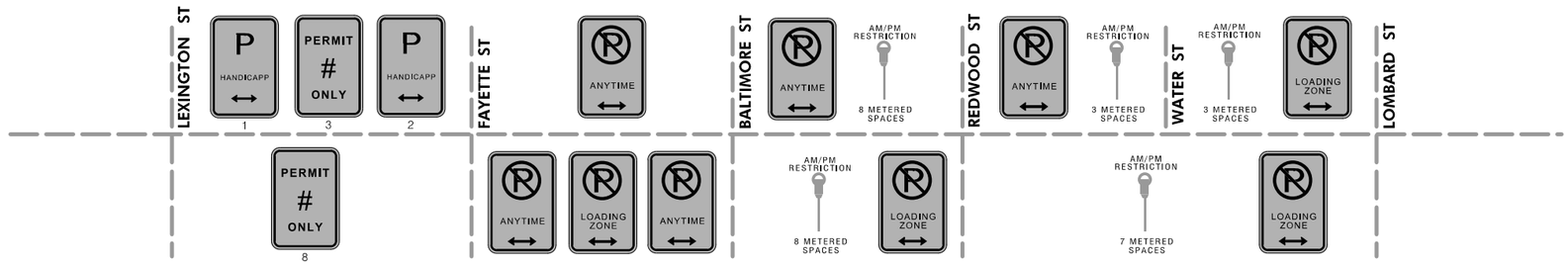
SABRA, WANG & ASSOCIATES, INC.
ENGINEERS • PLANNERS • ANALYSTS

St. Paul Street and Calvert Street
From Lombard Street to University Parkway
Alternative Parking Restrictions

Figure 4

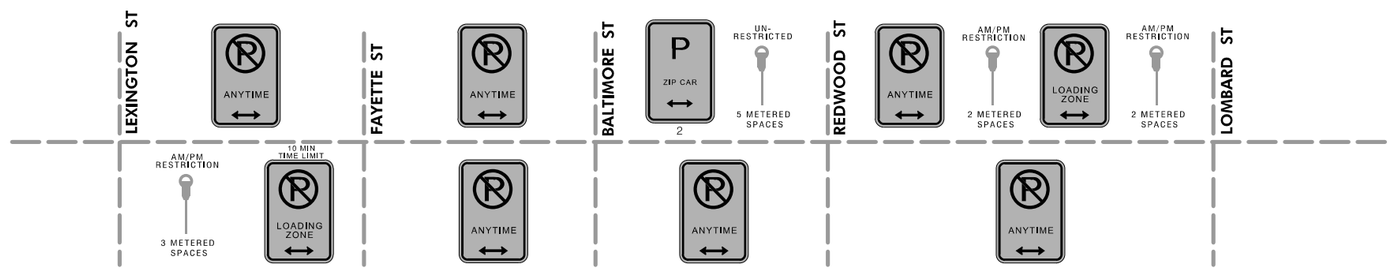
OPERATOR:smoniwong PLOTTED:Monday, November 30, 2015 AT 04:01 PM
FILE NAME:22010263 BC DOT 1134 On-Call Traffic?Task 18 St Paul St?dwg?Alternative_Parking_Restrictions.dgn

EXISTING PARKING
RESTRICTIONS
CALVERT STREET

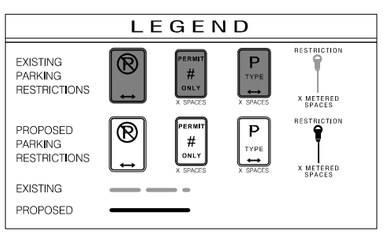


PROPOSED PARKING
RESTRICTIONS
CALVERT STREET

EXISTING PARKING
RESTRICTIONS
ST. PAUL STREET



PROPOSED PARKING
RESTRICTIONS
ST. PAUL STREET



SABRA, WANG & ASSOCIATES, INC.
ENGINEERS • PLANNERS • ANALYSTS

St. Paul Street and Calvert Street
From Lombard Street to University Parkway
Alternative Parking Restrictions

Figure 5

OPERATOR:smaniwang PLOTTED:Wednesday, November 25, 2015 AT 11:50 AM
FILE NAME:J:2010263 BC DOT 1134 On-Call Traffic2Task 18 St Paul St2dwg2Alternative_Parking_Restrictions.dgn