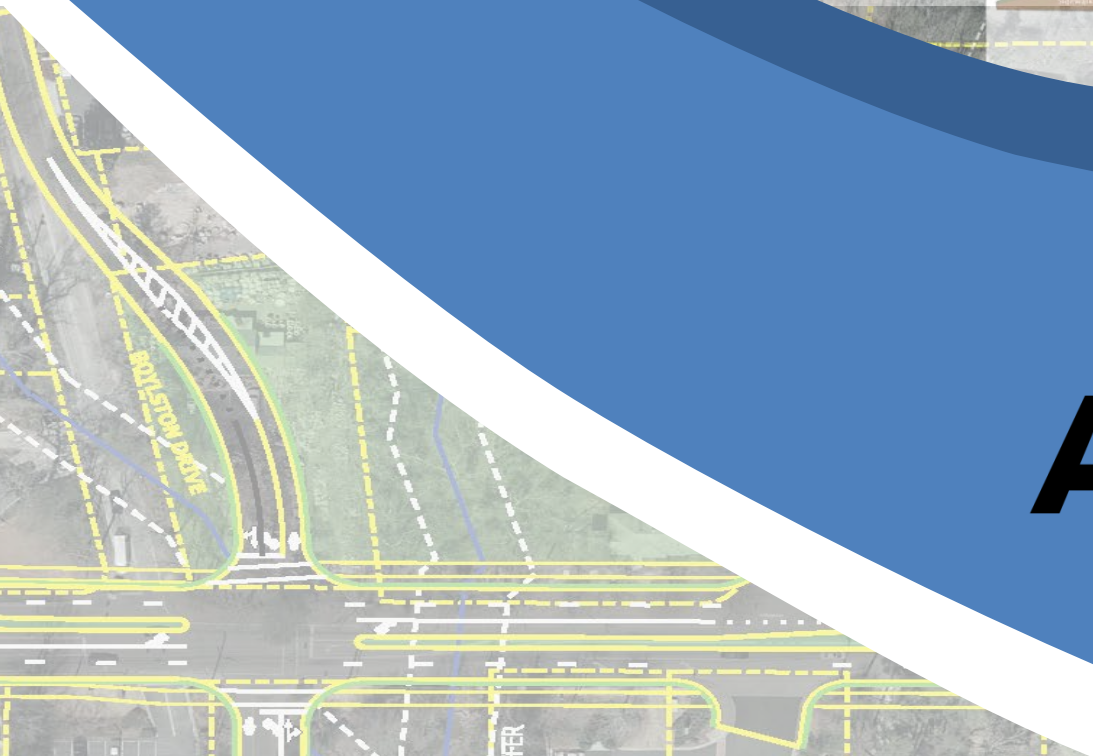
Hammond Drive Improvements
Corridor Study

PREPARED FOR: CITY OF SANDY SPRINGS

June 2016



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FIGURES AND TABLES

1. Introduction

AECOM performed a corridor study for Hammond Drive from Roswell Road (SR 9) to Glenridge Drive in Sandy Springs, Georgia. The limits of the corridor study are shown in **Figure 1**. The purpose of the corridor study is to document the quantitative comparison of the traffic analysis data that the City of Sandy Springs can use to support a conclusion regarding the benefit of the planned Hammond Drive corridor improvements from a traffic perspective.

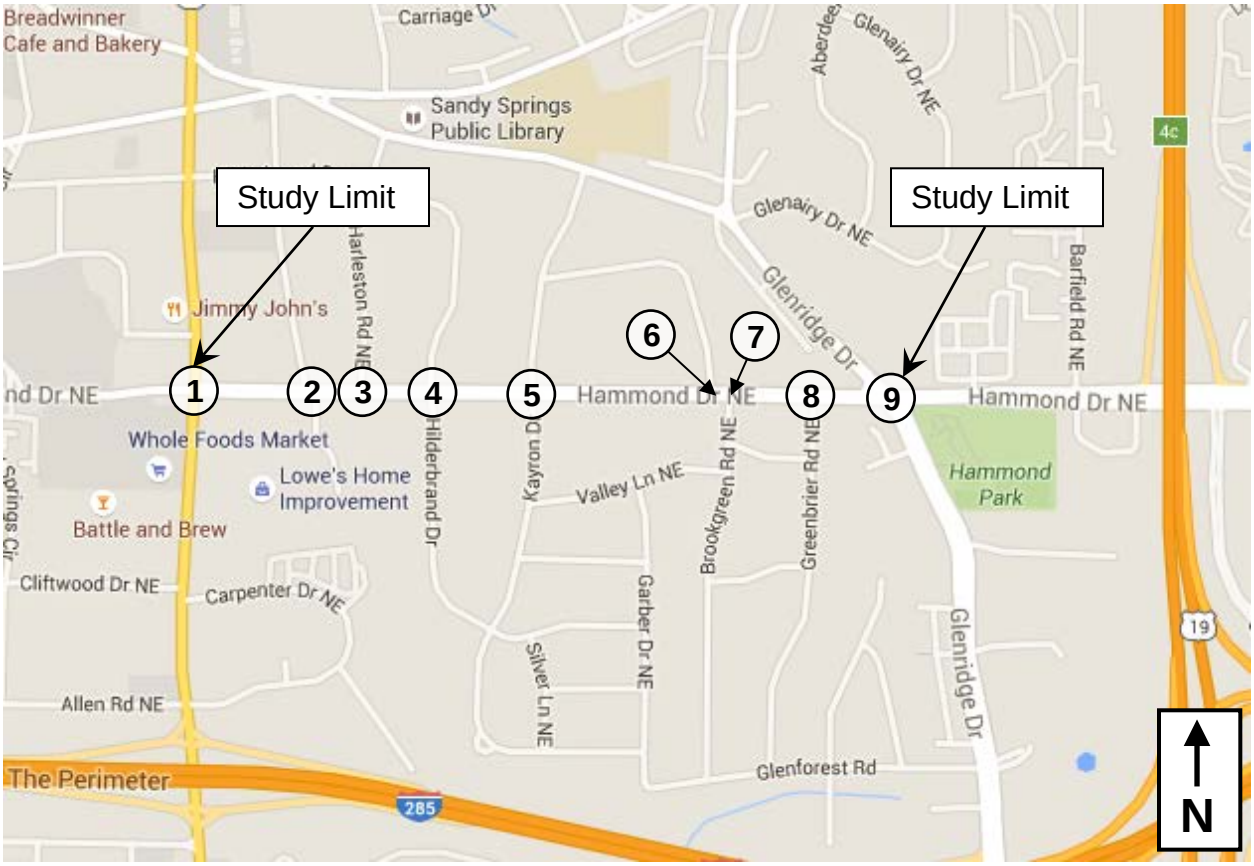


Figure 1 – Corridor Study Limits Map

The following intersections are included in the corridor study and are shown in **Figure 1**:

1. Hammond Drive at Roswell Road (SR 9) (signalized)
2. Hammond Drive at Boylston Drive (signalized)
3. Hammond Drive at Harleston Road (unsignalized)
4. Hammond Drive at Hilderbrand Drive (unsignalized)
5. Hammond Drive at Kayron Drive (unsignalized)
6. Hammond Drive at Lorell Terrace (unsignalized)
7. Hammond Drive at Brookgreen Road (unsignalized)
8. Hammond Drive at Greenbriar Road (unsignalized)
9. Hammond Drive at Glenridge Drive (signalized)

The proposed project is needed to provide adequate capacity to address projected demand related to growing traffic volumes along Hammond Drive between Roswell Road (SR 9) and SR 400. A majority of Hammond Drive between Ashford-Dunwoody Road and Mt. Vernon Highway has four to six lanes of roadway that serve the commuting public. However, between Roswell Road (SR 9) and SR 400, Hammond Drive is a two-lane roadway that is currently operating at capacity and is anticipated to be over capacity in future conditions without improvement. The proposed project would provide a continuous four to six-lane Hammond Drive that would better serve the driving public in an important growth corridor of north Fulton County. Therefore, the purpose of the project is to address future congestion in the area of Hammond Drive between Roswell Road (SR 9) and SR 400.

The planned Hammond Drive corridor improvements are expected to be completed by 2026 and therefore, the year 2026 was chosen as the opening year and the year 2046 as the design year. By studying the 2016 Existing, 2026 Opening Year No-Build and Build, and 2046 Design Year No-Build and Build alternatives, AECOM summarized the current and future roadway conditions at the study intersections.

2. Scope

This report includes an evaluation of 2016 Existing, 2026 Opening Year No-Build and Build, and 2046 Design Year No-Build and Build traffic conditions at the study intersections for the AM and PM peak hours.

The remainder of this report presents the following analysis:

- Year 2016 Existing traffic conditions in the study area
- Planned Hammond Drive corridor improvements

- 2026 Opening Year and 2046 Design Year No-Build traffic conditions
- 2026 Opening Year and 2046 Design Year Build conditions to determine traffic impacts

The term “No-Build” refers to the traffic conditions without the planned Hammond Drive corridor improvements project. The term “Build” refers to traffic conditions with the planned Hammond Drive corridor improvements.

Traffic operations were analyzed at the study area intersections for the No-Build and Build conditions to determine the traffic impacts of the planned Hammond Drive corridor improvements.

This study has been prepared in accordance with the following standards and includes the following data sources:

- *Manual on Uniform Traffic Control Devices (MUTCD),* 2009 Edition
- *Highway Capacity Manual 2010*, Transportation Research Board
- *Design Policy Manual*, Revised 05/06/2016, GDOT

3. Existing Conditions

3.1 Existing Transportation Facilities

The following provides a description of the existing street system in the study area including a description of street classifications and characteristics. Refer to **Figure 1** for the location of the following roadways with respect to the site.

Hammond Drive is currently a two-lane undivided Urban Collector roadway traversing primarily east-west in the study area with transitions to four-lanes at the intersections with Roswell Road and also Glenridge Drive. The current posted speed limit on Hammond Drive is 35 miles per hour (mph) in the study area and currently carries approximately 29,400 vehicles in the study area according to annual average daily traffic (AADT) counts from GDOT.

Roswell Road (SR 9) at the signalized intersection with Hammond Drive is currently a four-lane undivided Urban Principal Arterial roadway traversing primarily north-south in the study area. The current posted speed limit on Roswell Road is 35 mph in the study area. Roswell Road (SR 9) currently carries approximately 37,900 vehicles south of Hammond Drive and 29,900 vehicles north of Hammond Drive in the study area according to annual average daily traffic (AADT) counts from GDOT.

Boylston Drive at the signalized intersection with Hammond Drive is currently a two-lane undivided Urban Local roadway traversing primarily north-south in the study area. The current posted speed limit on Boylston Drive is 30 miles mph in the study area. The south leg of the intersection is a private business drive and adjacent

two-lane undivided roadway that provides access to the Hammond Glen Retirement Community. The traffic signal is split phase on the side street with the Boylston Drive north leg and business drive south leg as the first phase and the access road to Hammond Glen south leg as the second phase.

Hilderbrand Drive at the unsignalized intersection with Hammond Drive is currently a two-lane undivided Urban Local roadway traversing north-south. The current posted speed limit on Hilderbrand Drive is 35 mph in the study area.

Harleston Road at the unsignalized intersection with Hammond Drive is currently a two-lane undivided Urban Local roadway traversing north-south. The current posted speed limit on Harleston Road is 25 mph in the study area.

Kayron Drive at the unsignalized intersection with Hammond Drive is currently a two-lane undivided Urban Local roadway traversing primarily north-south in the study area. The current posted speed limit on Kayron Drive is 25 mph in the study area.

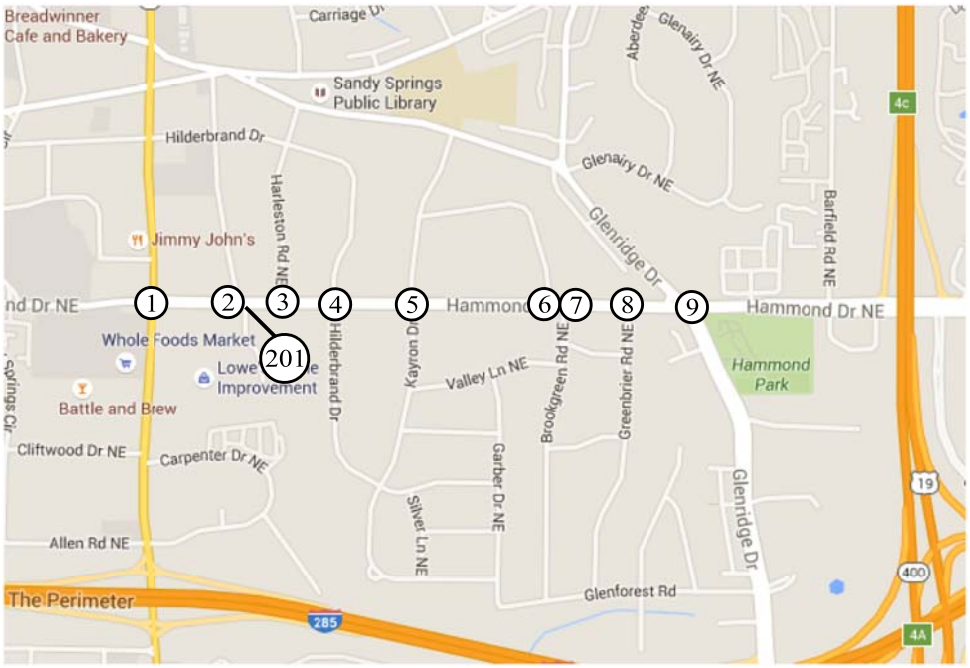
Lorell Terrace at the unsignalized intersection with Hammond Drive is currently a two-lane undivided Urban Local roadway traversing primarily north-south in the study area. The current posted speed limit on Lorell Terrace is 25 mph in the study area.

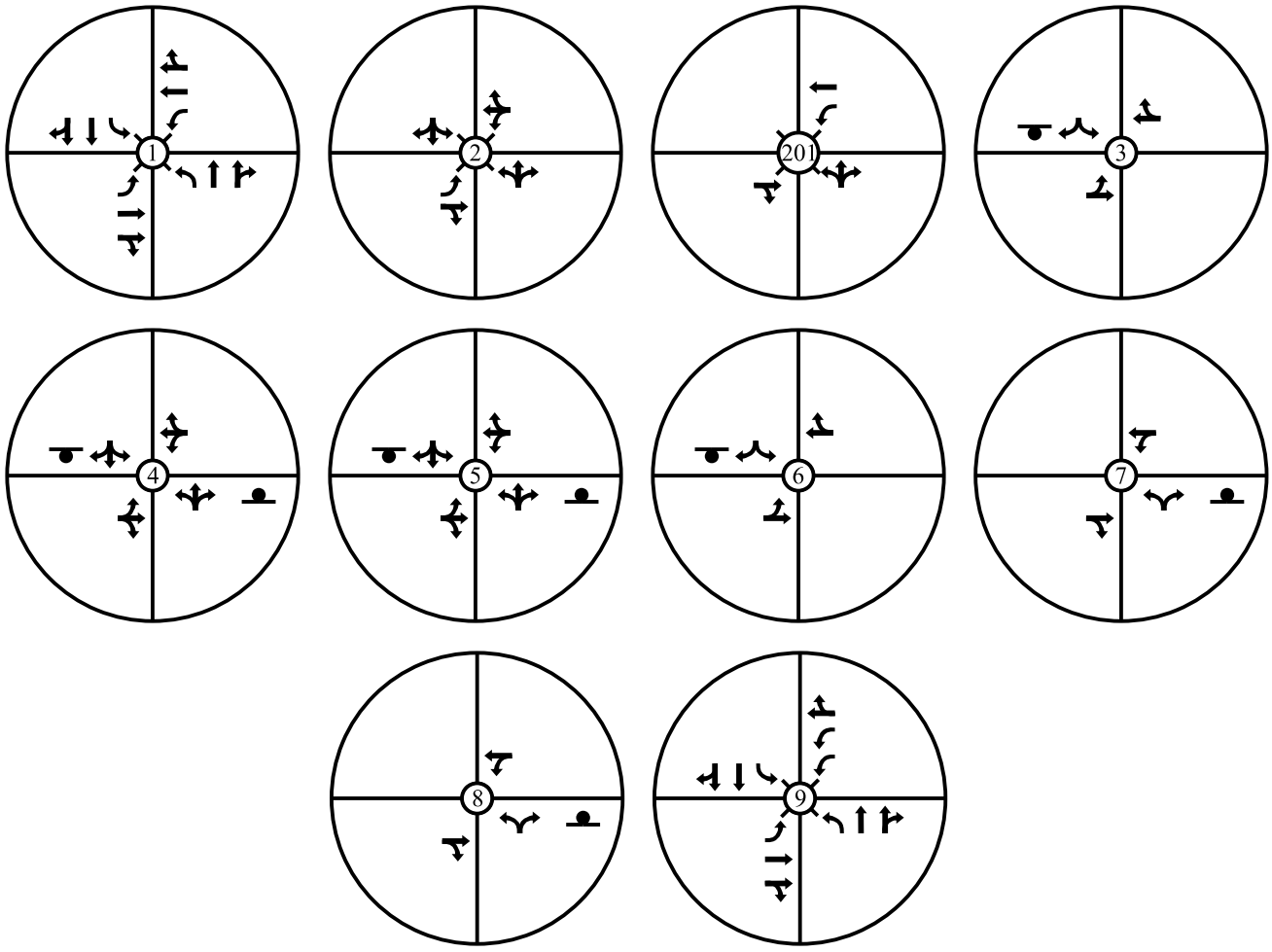
Brookgreen Road at the unsignalized intersection with Hammond Drive is currently a two-lane undivided Urban Local roadway traversing primarily north-south in the study area. The current posted speed limit on Brookgreen Road is 25 mph in the study area.

Greenbrier Road at the unsignalized intersection with Hammond Drive is currently a two-lane undivided Urban Local roadway traversing primarily north-south in the study area. The current posted speed limit on Greenbrier Road is 35 mph in the study area.

Glenridge Drive at the signalized intersection with Hammond Drive is currently a two-lane undivided Urban Collector roadway north of Hammond Drive and a four-lane divided Urban Minor Arterial south of Hammond Drive traversing primarily north-south in the study area. The current posted speed limit on Glenridge Drive is 35 mph in the study area.

Figure 2 schematically depicts the existing lane configurations and traffic control at the study area intersections.





LEGEND

- Lane Usage
- Traffic Signal
- Stop Sign

Figure 2

2016 Existing/Future No-Build
Lane Configurations and Traffic Control

3.2 Existing Traffic Volumes

Existing AM and PM peak hour turning movement counts at the study area intersections were collected on Wednesday April 27, 2016 by Greater Traffic (Vendor to Sandy Springs) and were provided by Sandy Springs.

Gresham, Smith and Partners (GS&P) provided data from the Hammond Drive Corridor Study dated April 14, 2015 that they conducted for the Atlanta Regional Commission (ARC). The traffic counts provided by GS&P were collected in March 2015 and were used to validate and supplement the traffic counts collected for this study.

The Year 2016 AM and PM peak hour turning movement counts are shown in **Figure 3**. The raw traffic count worksheets are provided in **Appendix A**.

3.3 Pedestrian Movements

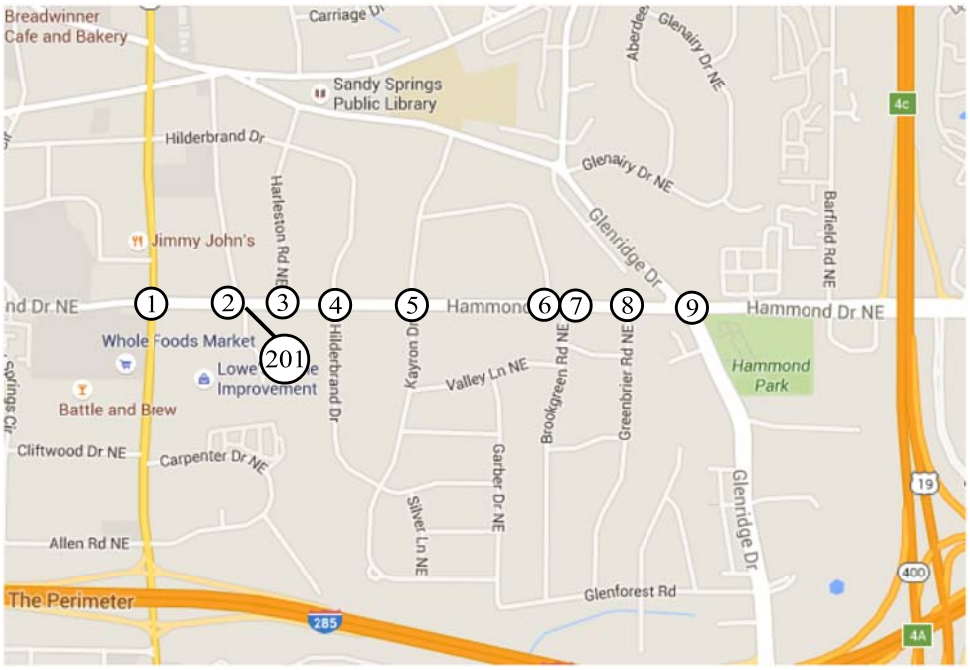
There are currently continuous sidewalks along the south side and non-continuous sidewalks along the north side of Hammond Drive from Roswell Road (SR 9) to Boylston Drive. There currently is not a sidewalk along Hammond Drive between Boylston Drive and Glenridge Drive with the exception of the sidewalk along the south side of the road between Greenbrier Road and Glenridge Drive.

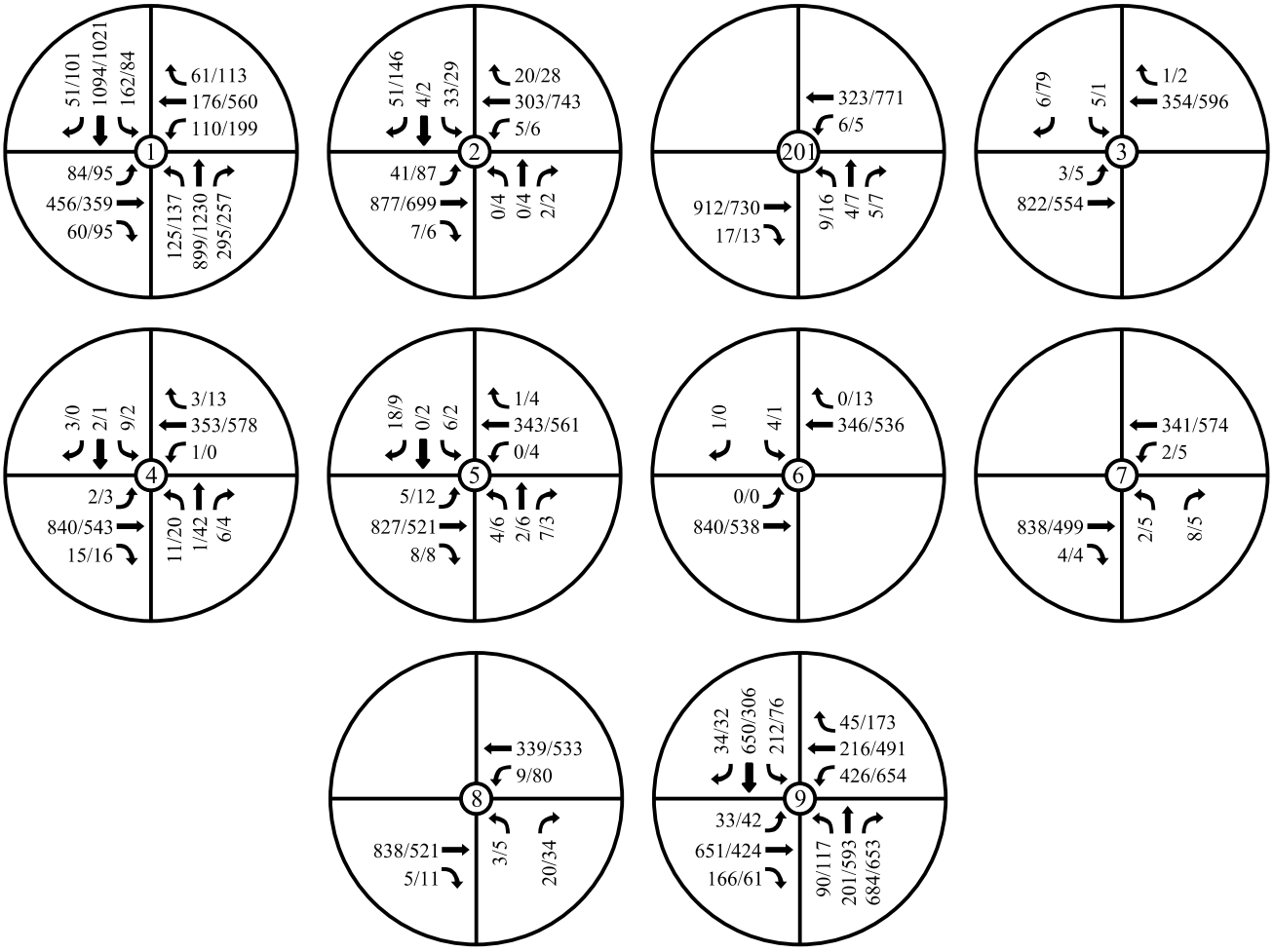
3.4 Other Modes of Transportation

Currently Hammond Drive does not have designated bicycle lanes.

Metropolitan Atlanta Rapid Transit Authority (MARTA) provides bus transit service in the Atlanta region. Currently two bus routes (Route 5 – Piedmont Road/Sandy Springs and Route 87 – Roswell Rd/Morgan Falls) operate in the study area along Hammond Drive and are shown in **Figure 4**.

Route 5 operates daily between the Dunwoody Rail Station and the Lindbergh Rail Station. In the study area, Route 5 operates along Glenridge Drive and Roswell Road at both ends of the Hammond Drive study area. Weekday service operates from approximately 5:00 am to 1:00 am every 15 minutes in peak periods and every 30 minutes in the off-peak periods. Weekend service operates approximately every 24-45 minutes. Currently, there are Route 5 bus stops along Roswell Road for northbound and southbound buses 300 feet north and 100 feet south of the Hammond Drive intersection and in the northeast and southeast corners at the Glenridge Drive and Hammond Drive intersection.





LEGEND

→ Turning Movement

XX/XX A.M./P.M. Peak Hour Volume

Figure 3

2016 Existing
AM and PM Peak Hour Traffic Volumes

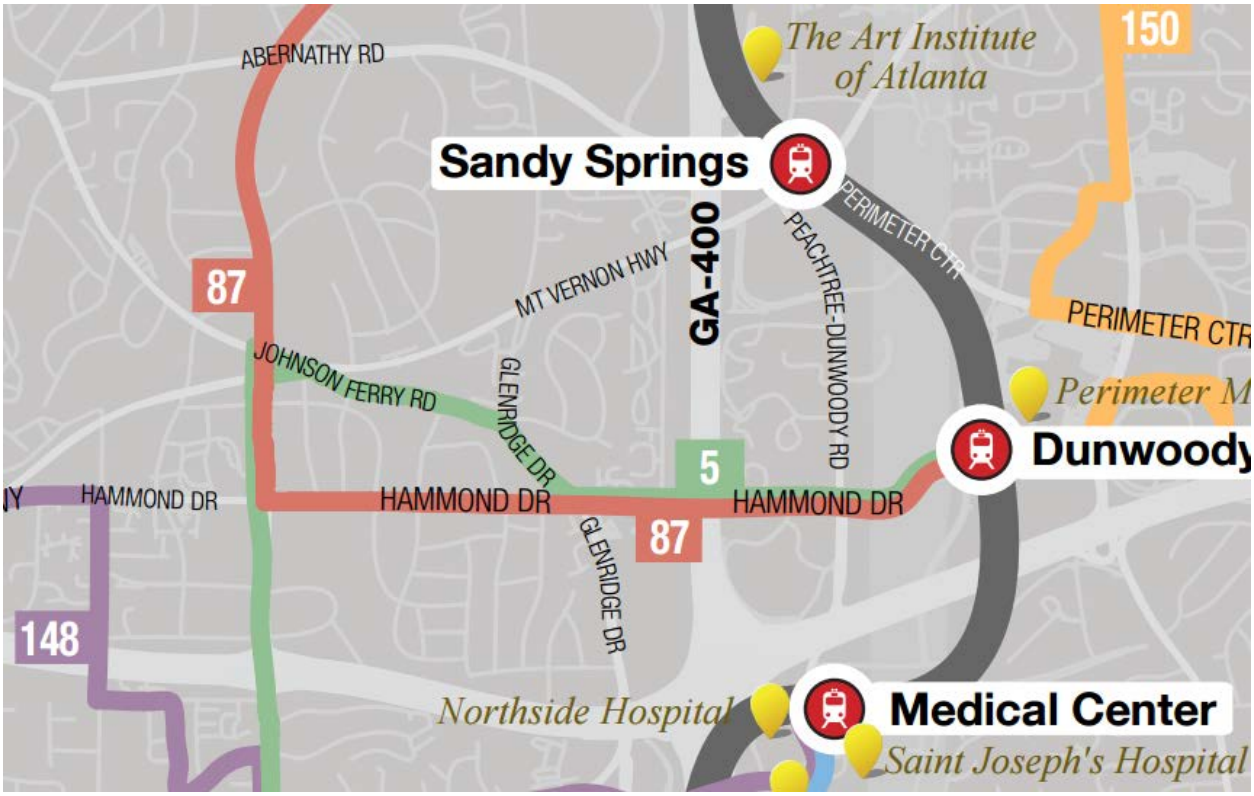


Figure 4 – Study Area MARTA Transit Service Map

Route 87 operates daily between the North Springs Rail Station and the Dunwoody Rail Station. In the study area, Route 87 operates along the entire Hammond Drive corridor from Roswell Road to Glenridge Drive. Weekday service operates from approximately 5:00 am to 1:00 am every 15-20 minutes in peak periods and every 35 minutes in the off-peak periods. Weekend service operates approximately every 40 minutes. Currently, there several bus stops along the Hammond Drive corridor from Roswell Road to Glenridge Drive.

3.5 Parking

There was no on-street parking observed or anticipated along any of the study area roadways.

3.6 Planned Transportation Improvements

The City of Sandy Springs was consulted to determine if there are any planned transportation improvement projects along Hammond Drive for along Kimball Bridge Road in the study area. According to the City, the only planned transportation improvement to Hammond Drive in the study area is the project T-0024 Hammond Drive Improvements, which is discussed in section 5 of this study.

Therefore, the 2026 Opening Year and 2046 Design Year No-Build lane configurations and traffic control are the same as shown in **Figure 3**.

4. Method of Analysis

4.1 Traffic Volume Assumptions

Based on discussions with the City of Sandy Springs staff, it is estimated that the proposed Hammond Drive improvements project will be completed by 2026. Therefore, the year 2026 was chosen as the opening year and 2046 was chosen as the design year.

The 2026 Opening Year and 2046 Design Year peak hour traffic volumes were forecasted by growing the 2016 Existing Year peak hour traffic volumes at an estimated annual growth rate. The annual growth rate was estimated based on discussions with the City of Sandy Springs staff and also based on the Hammond Drive Corridor Study dated April 14, 2015 prepared by Gresham, Smith and Partners (GS&P) that is included in **Appendix B**.

The City of Sandy Springs staff recommended a growth rate of one percent (1%). According to the referenced Hammond Drive Corridor Study by GS&P, the expected annual growth in traffic was based on the historical data obtained from GDOT traffic count locations, the future traffic growth as predicted by the Atlanta Regional Commission's (ARC) Travel Demand Model, and population growth estimates obtained from ARC. Based on these data sources, the GS&P study used an annual growth rate of 1% for the forecasting effort.

Since the City staff and the referenced Hammond Drive Corridor Study by GS&P both recommended a compound annual growth rate of 1%, a 1% growth rate is used for this study.

The following formula was used for the traffic projections:

$$F = P\,(1+i)^n$$

Where:

- **F** = future projected traffic volume, vehicles per hour
- **P** = 2016 peak hour traffic volume, vehicles per hour
- **i** = annual growth rate = 1.0 percent (0.01)
- **n** = number of years in projection, 10 for 2026 and 30 for 2046

In the Hammond Drive Corridor traffic analysis from Gresham, Smith and Partners (GS&P) for Hammond Drive from Glenridge Drive to Ashford Dunwoody Road, GS&P determined the future trip assignments along Hammond Drive related to the nine planned developments shown in **Figure 5**.

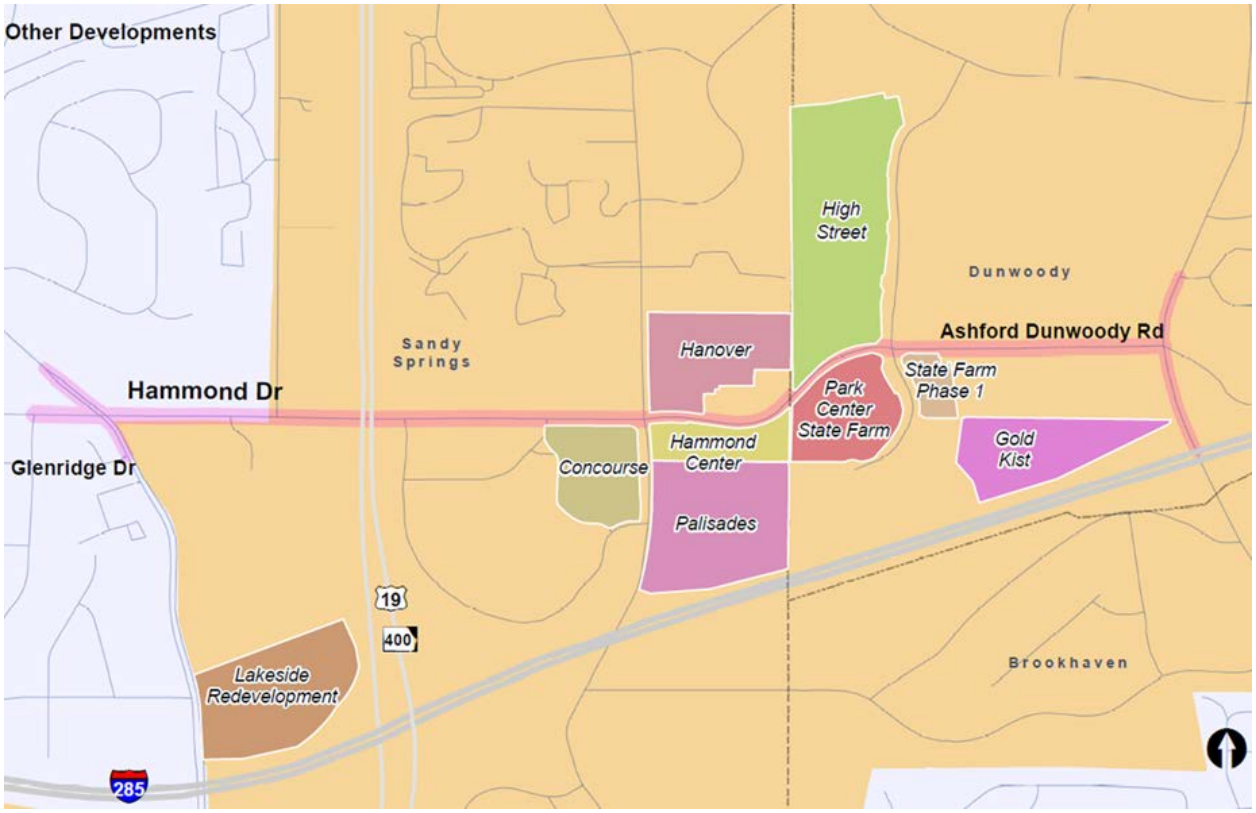
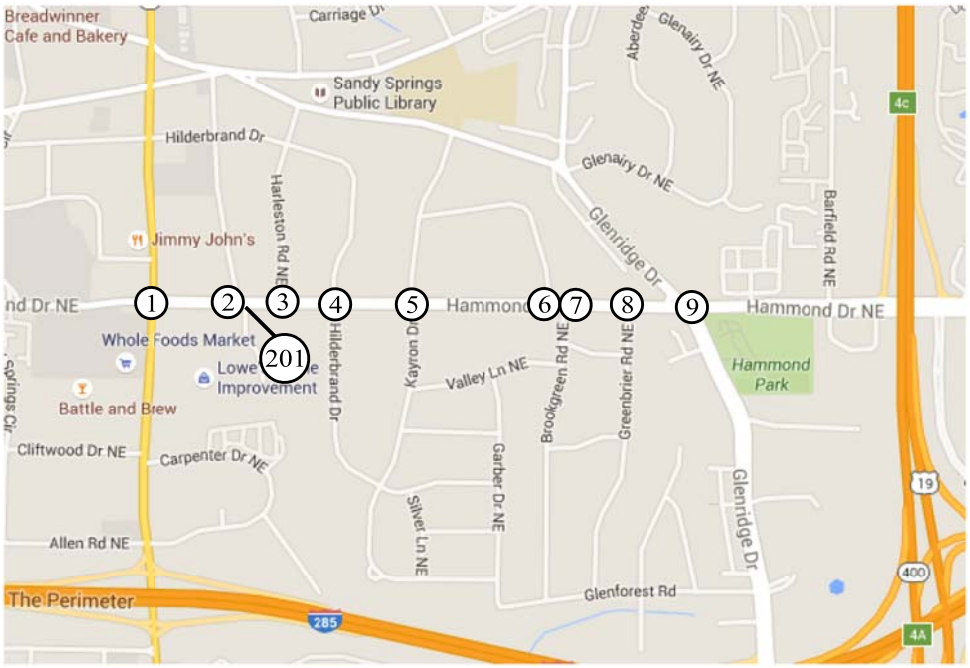
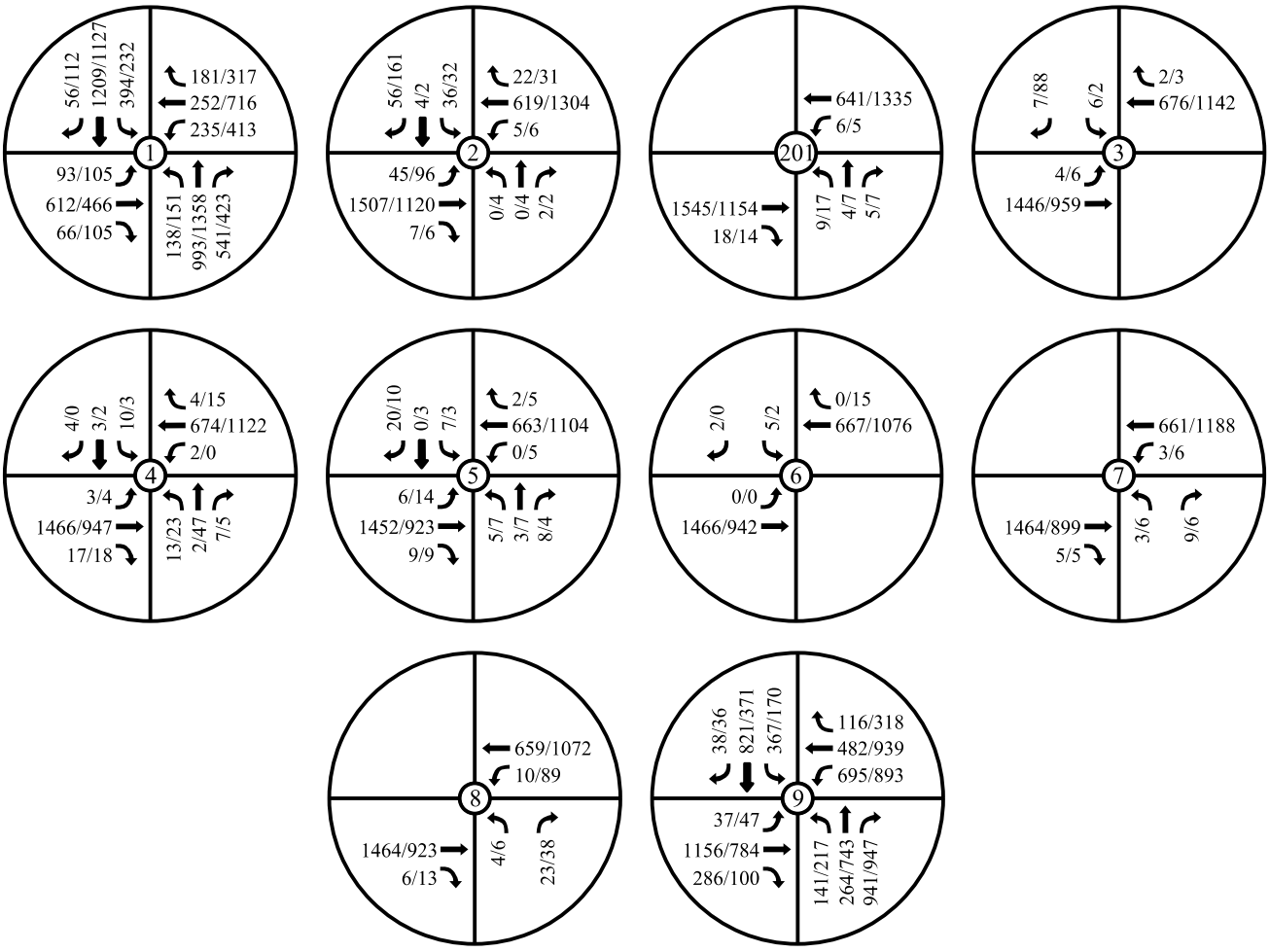


Figure 5 – Planned Developments from GS&P Hammond Drive Study

GS&P reviewed the traffic studies for each of the developments shown in **Figure 5** to determine the future trip assignments along Hammond Drive.

AECOM used the future trip assignments at the Hammond Drive at Glenridge Drive intersection from GS&P to determine the future trip assignments along the Hammond Drive Corridor in the study area. The future trip assignments along the Hammond Drive Corridor study area were then added to the future traffic projections to determine the 2026 Opening Year and 2046 Design Year No-Build peak hour traffic volumes that are shown in **Figure 6** and **Figure 7** respectively.





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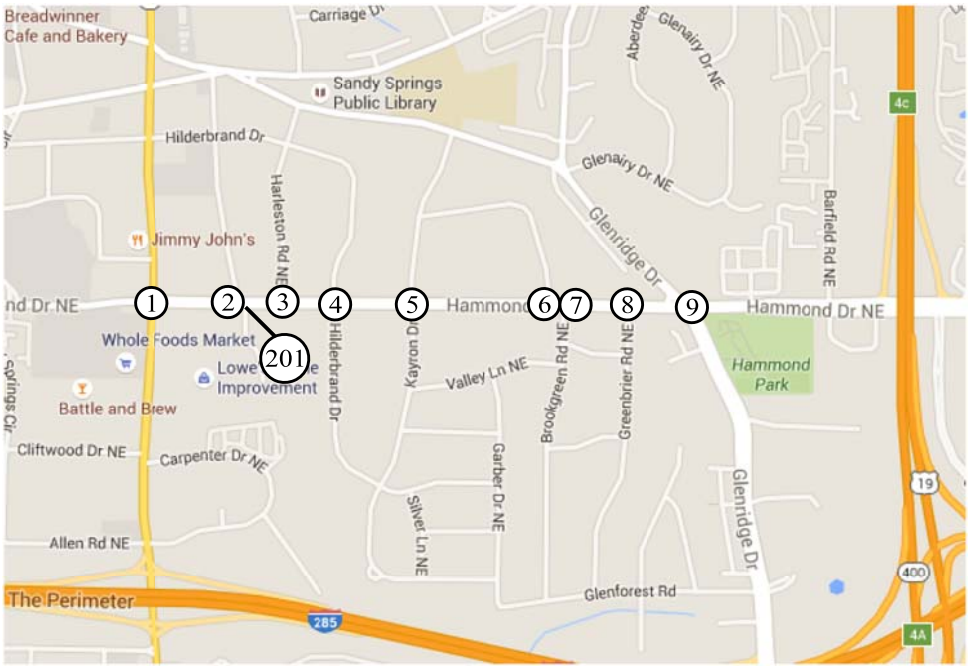
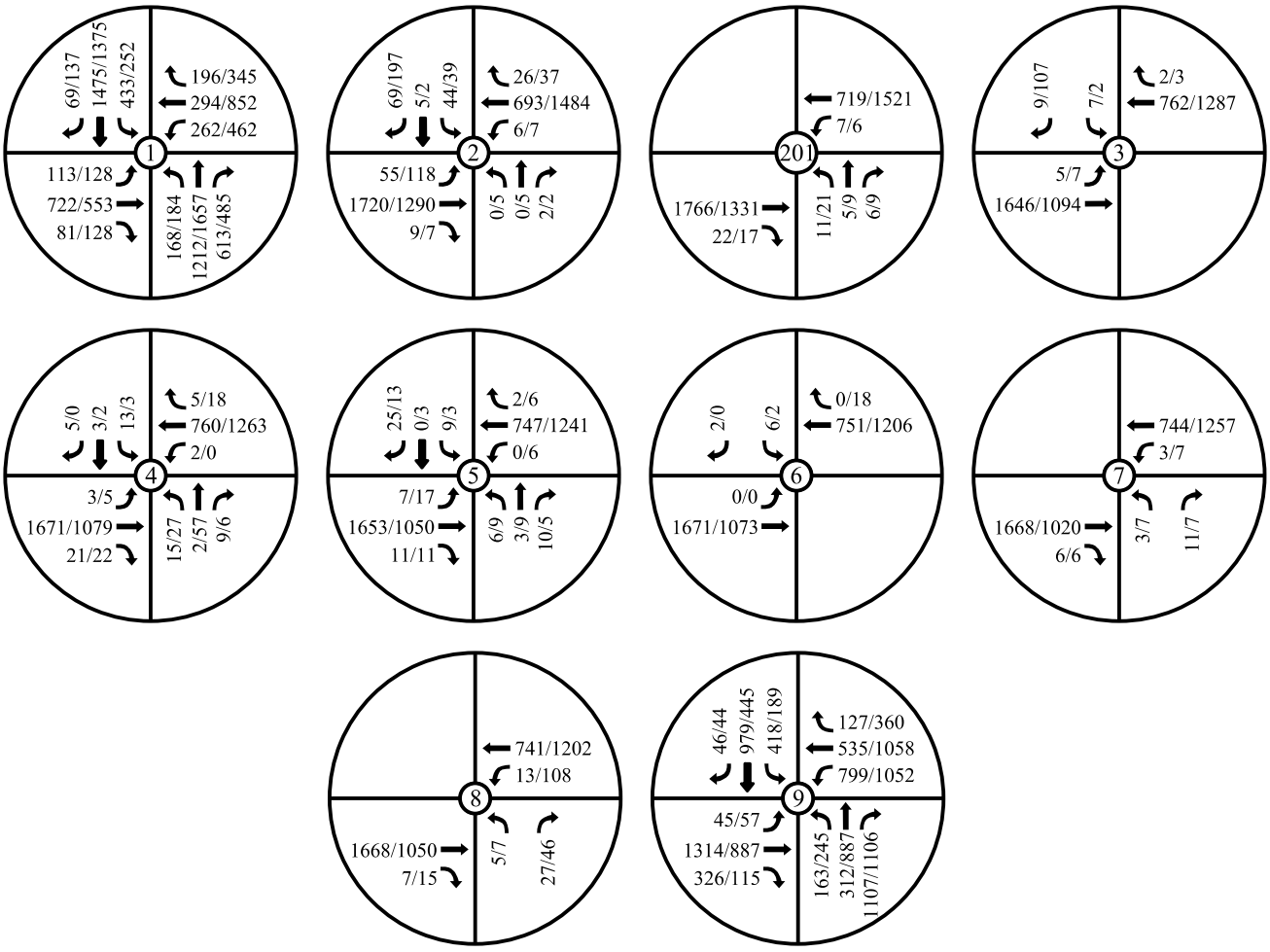
LEGEND

- Lane Usage
- Traffic Signal
- Stop Sign

Figure 6

2026 Opening Year No-Build
AM and PM Peak Hour Traffic Volumes





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- Lane Usage
- Traffic Signal
- Stop Sign

Figure 7

2046 Design Year No-Build
AM and PM Peak Hour Traffic Volumes

4.2 Capacity Analysis

The capacity analyses performed are based on methodologies from the *Highway Capacity Manual (HCM 2010)*. Traffic modeling software used in the capacity analyses were *Synchro 9* and *SimTraffic 9 (Version 9.1, Build 907, Revision 6)*.

The traffic carrying ability of a roadway is described by levels of service (LOS) that range from LOS A to LOS F. LOS A represents unrestricted maneuverability and operating speeds. LOS B represents reduced maneuverability and operating speeds. LOS C represents restricted maneuverability and operating speeds closer to the speed limit. LOS D represents severely restricted maneuverability and unstable, low operating speeds. This LOS (LOS D) is considered acceptable in developed urban areas. LOS E represents operating conditions at or near the capacity level. LOS F represents breakdown conditions characterized by stop and go travel. **Table 1** defines the traffic flow conditions and approximate driver comfort level at each level of service.

Table 1 – Level of Service (LOS) Index

LOS	Traffic Flow Conditions	Delay (seconds) Signalized Intersections	Delay (seconds) Unsignalized Intersections
A	Progression is extremely favorable and most vehicles do not stop at all.	0-10	0-10
B	Good progression, some delay.	10-20	10-15
C	Fair progression, higher delay.	20-35	15-25
D	Unfavorable progression, congestion becomes apparent.	35-55	25-35
E	Poor progression, significant delay.	55-80	35-50
F	Poor progression, extreme delay.	>80	>50

Note that the delays associated with LOS for signalized intersections are different from those associated with unsignalized intersections. The Highway Capacity Manual explains that drivers perceive that a signalized intersection is designed to carry higher traffic volumes and therefore expect to experience greater delays at signalized intersections. A signalized intersection is described by a single LOS.

Unsignalized intersections are assigned delay and LOS for each minor movement and only the delay and LOS for the worst approach is reported. Typically, LOS D is considered the minimum acceptable level of service at an intersection (signalized or unsignalized).

Delay and LOS were analyzed at intersections but queuing was not studied in this analysis.

5. Hammond Drive Improvements

According to the Sandy Springs Capital Improvement Program (CIP)/Master Transportation Plan/North Fulton Comprehensive Transportation Plan, the proposed Hammond Drive improvements project would greatly improve connectivity between City Center and Perimeter Center. Improvements could include additional traffic lanes, intersection improvements at adjacent cross streets to improve traffic flow between Roswell Road and Glenridge Drive, features to improve transit access, and bicycle/pedestrian accommodations. The Hammond Drive Improvements project will include four lanes with sidewalks and bicycle lanes.

The concept for Roswell Road (SR 9) to Boylston Drive is shown in **Figure 8** below.

Figure 8 – Hammond Drive at Roswell Road (SR 9) Concept

From Boylston Drive to Glenridge Drive, there are concepts for a north alignment, center alignment, and south alignment due to the right-of-way impacts of the project. Since the purpose of this study is to evaluate the traffic along the Hammond Drive corridor, the center alignment was used in the analysis.

Between Boylston Drive and Glenridge Drive, the center alignment concept assumes:

- four-lane cross-section (two lanes in each direction)
- intersection realignment at Boylston Drive and Hammond Drive
- median openings at Boylston Drive and Kayron Drive

The Hammond Drive center alignment concept at Boylston Drive, Kayron Drive and Glenridge Drive is shown in **Figure 9, Figure 10, and Figure 11** respectively. Study intersections between the Boylston Drive, Kayron Drive, and Glenridge Drive intersections will only allow right turns onto and from Hammond Drive.

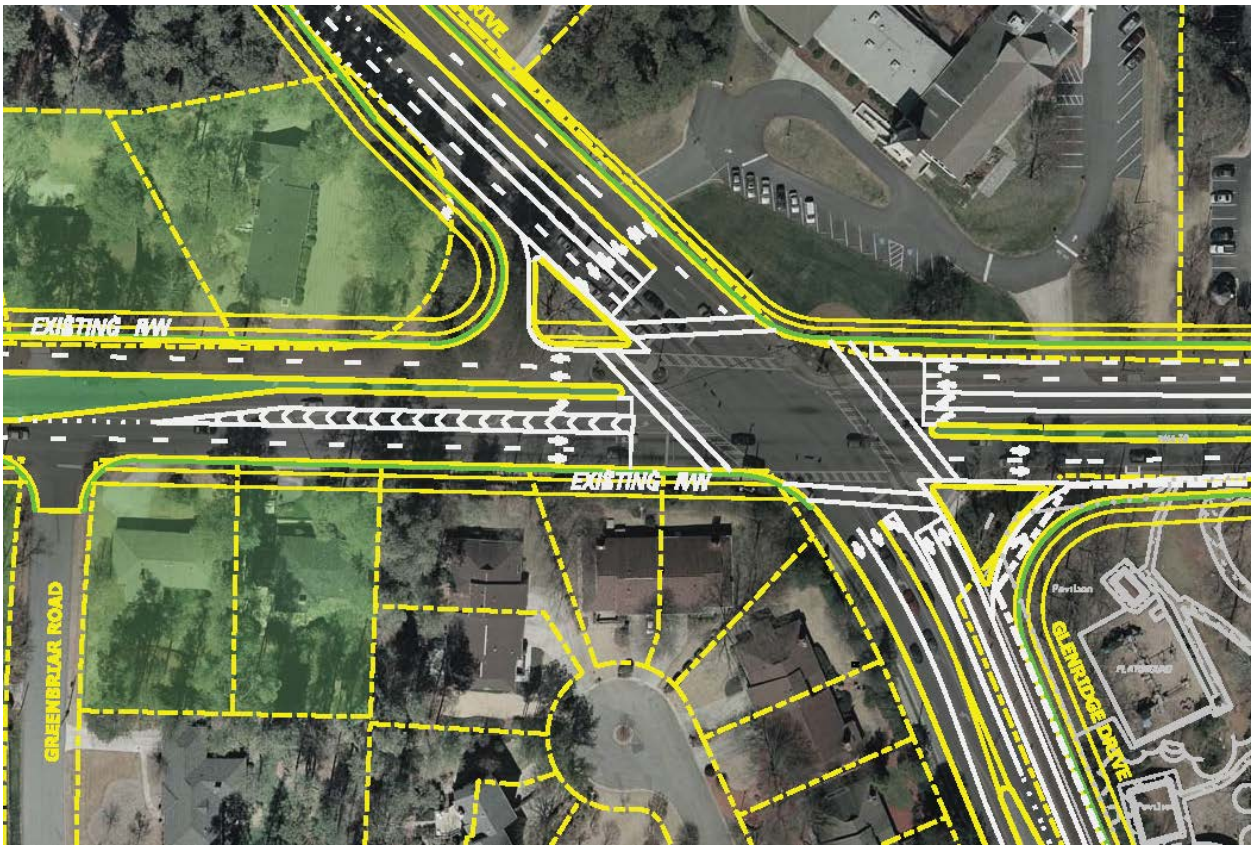
The proposed lane configurations and traffic control with the Hammond Drive improvements are shown in **Figure 12**.

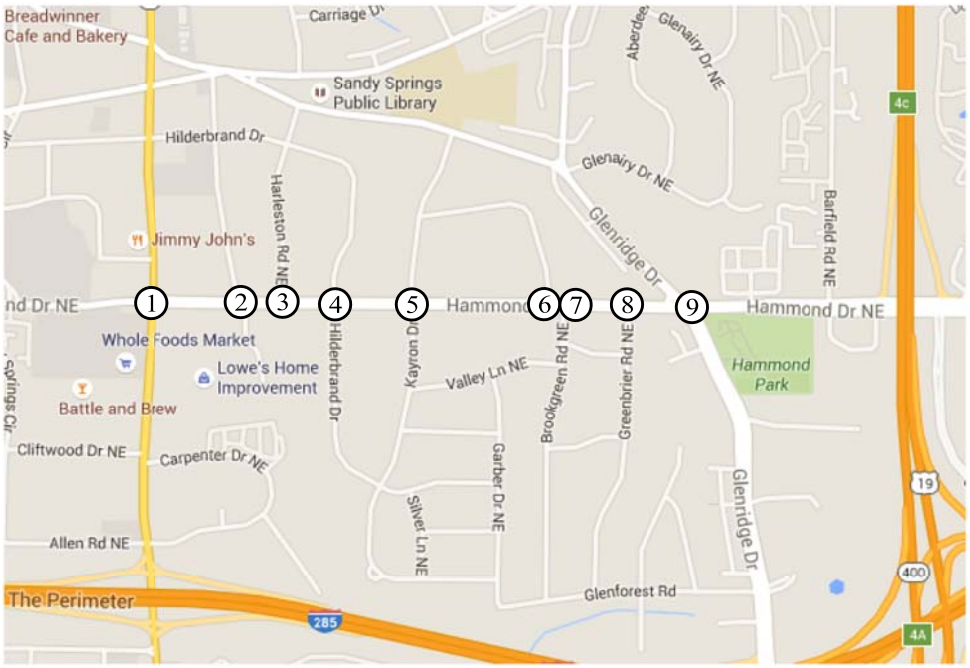
The 2026 Opening Year and 2046 Design Year Build peak hour traffic volumes are shown in **Figure 13** and **Figure 14** respectively.

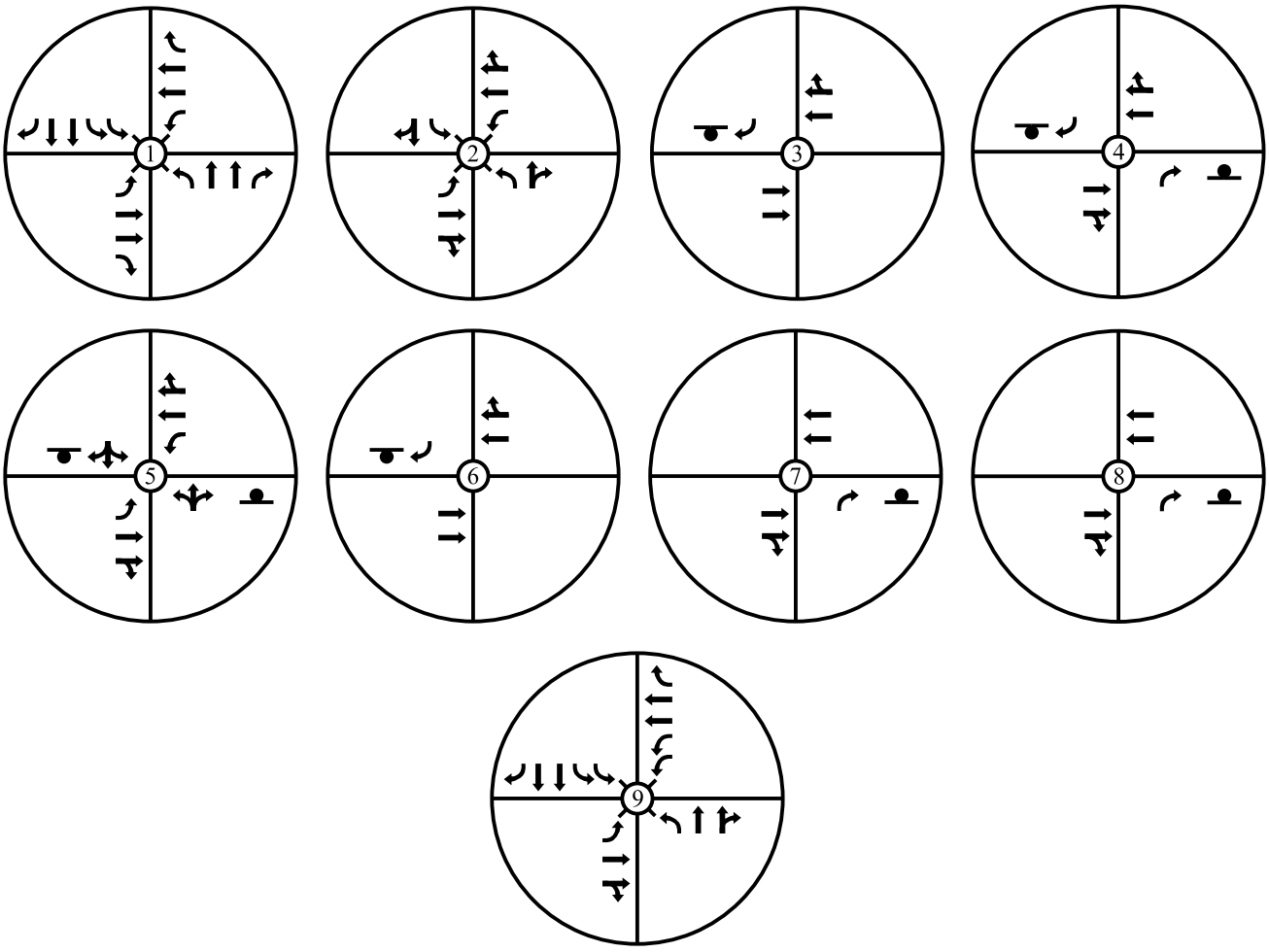
Figure 9 – Hammond Drive at Boylston Drive Concept

Figure 10 – Hammond Drive at Kayron Drive Concept

Figure 11 – Hammond Drive at Glenridge Drive Concept







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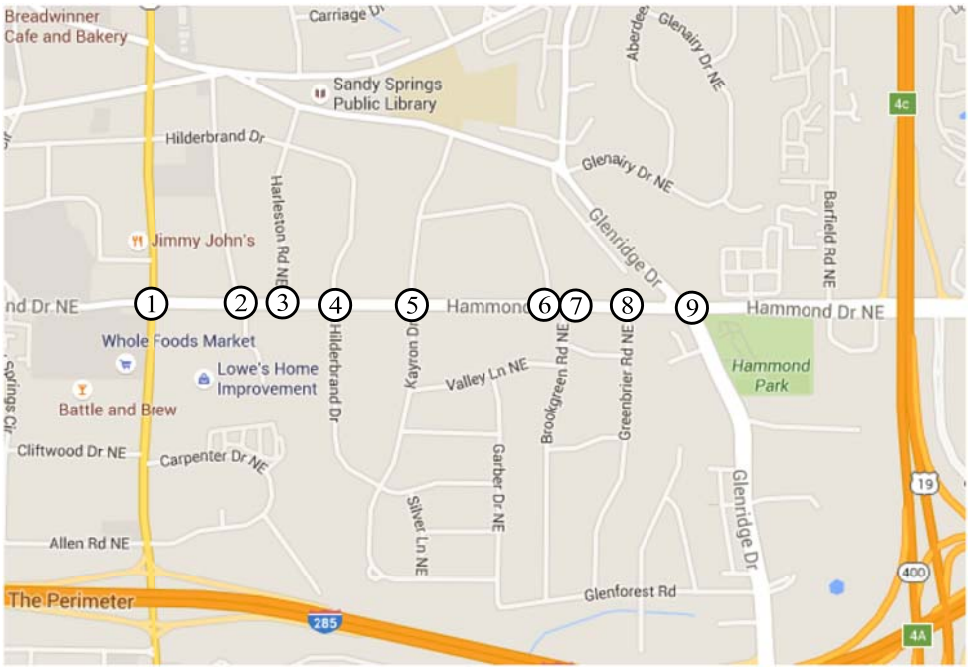
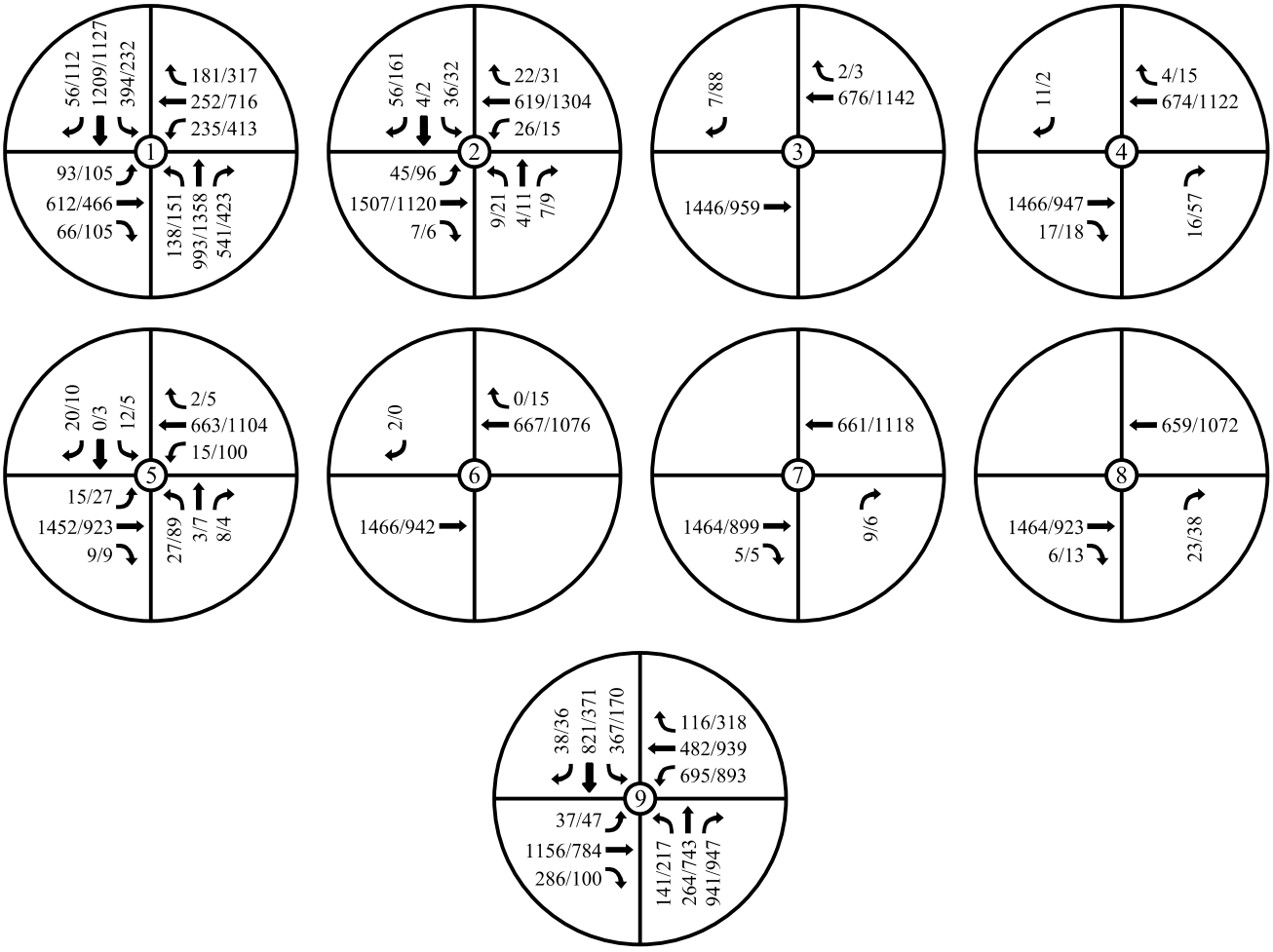
LEGEND

- Lane Usage
- Traffic Signal
- Stop Sign

Figure 12

Hammond Drive Improvement
Configurations and Traffic Control





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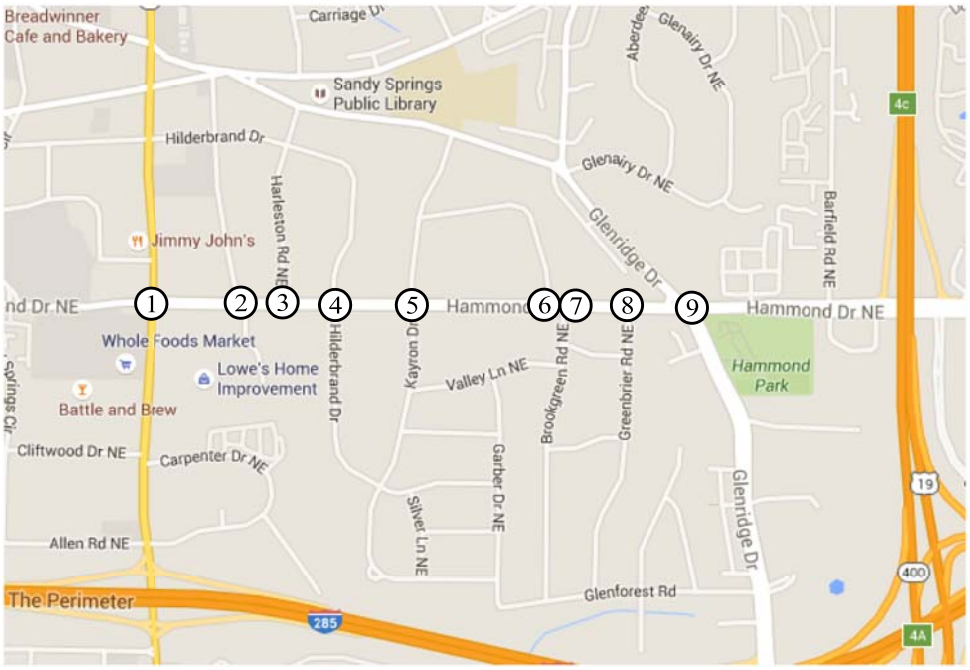
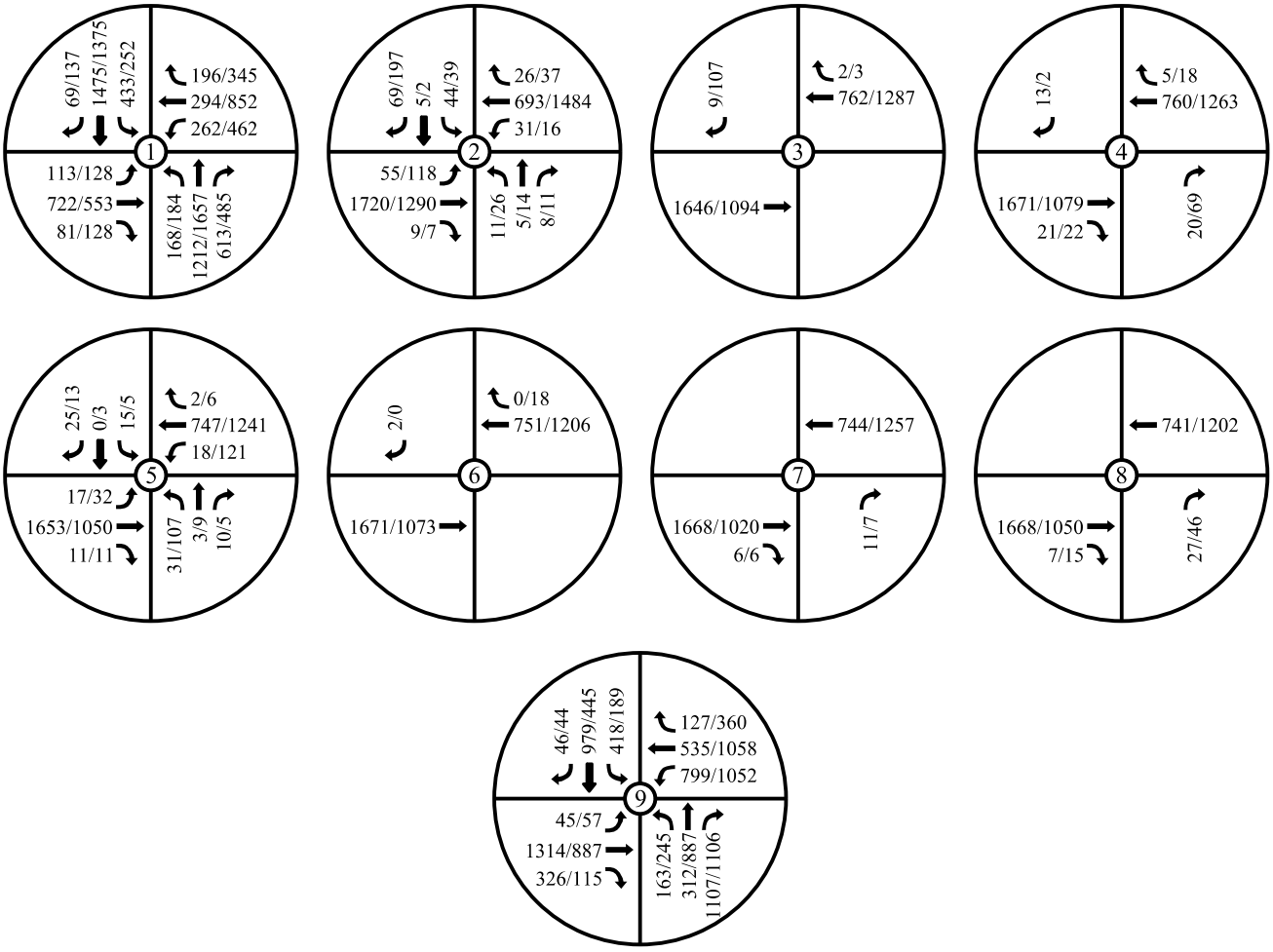
LEGEND

- Lane Usage
- Traffic Signal
- Stop Sign

Figure 13

2026 Opening Year Build
AM and PM Peak Hour Traffic Volumes





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LEGEND

- Lane Usage
- Traffic Signal
- Stop Sign

Figure 14

2046 Design Year Build
AM and PM Peak Hour Traffic Volumes

6. Findings

The following sections contain the findings and recommendations for the 2016 Existing, 2026 Opening Year No-Build and Build, and 2046 Design Year No-Build and Build scenarios. Delay and LOS were analyzed at all study intersections but queuing was not studied in this analysis.

6.1 2016 Existing

Capacity analyses were performed for 2016 AM and PM peak periods (Existing Scenario) for the study intersections. Levels of service and delays for each study intersection are summarized in **Table 2**. The lane configurations are shown in **Figure 2** and the traffic volumes are shown in **Figure 3**. Detailed Synchro Reports are located in **Appendix C**.

Table 2 – 2016 Existing Summary of LOS and Delay

Intersection	AM Peak		PM Peak	
	Delay (sec)	LOS	Delay (sec)	LOS
Signalized Intersections				
Hammond Dr at Roswell Rd (SR 9)	45.6	D	59.9	**E**
Hammond Dr at BoylstonDr	15.2	B	18.3	B
Hammond Dr at Glenridge Dr	54.4	D	59.3	**E**
Unsignalized Intersections				
Hammond Dr at Harleston Rd	16.6	C	14.8	B
Hammond Dr at Hilderbrand Dr	27.2	D	38.9	**E**
Hammond Dr at Kayron Drive	22.3	C	25.3	D
Hammond Dr at Lorrell Terrace	20.9	C	21.2	C
Hammond Dr at Brookgreen Rd	17.2	C	16.7	C
Hammond Dr at Greenbrier Rd	18.2	C	14.5	B

As shown in **Table 2**, three of the study intersections fail to operate at an acceptable level of service (LOS D or better) in the AM and PM peak hours. The signalized intersections of Hammond Drive at Roswell Rd (SR 9) and Hammond Drive at Glenridge Drive operate at an overall LOS D and LOS E in the AM and PM peak hours respectively. The unsignalized intersection of Hammond Drive at Hilderbrand Drive operates at a LOS D and LOS E for the minor street approach in the AM and PM peak hours respectively.

6.2 2026 and 2046 No-Build

Capacity analyses were performed for the 2026 Opening Year and 2046 Design Year No-Build AM and PM peak periods for the study intersections. Since the only planned improvement along the study area is the Hammond Drive Improvements project, the No-Build scenarios lane configurations and traffic control are the same as the Existing. The 2026 Opening Year and 2046 Design Year No-Build scenarios traffic signal timings (cycle lengths, splits, and offsets) have been optimized using Syncho 9.0 software.

Levels of service and delays for the 2026 Opening Year and 2046 Design Year No-Build scenarios at each study intersection are summarized in **Table 3** and **Table 4** respectively. The 2026 Opening Year and 2046 Design Year lane configurations are shown in **Figure 2** and the traffic volumes are shown in **Figure 6** and **Figure 7**. Detailed Synchro Reports are located in **Appendix D**.

Table 3 – 2026 Opening Year No-Build Summary of LOS and Delay

Intersection	AM Peak		PM Peak	
	Delay (sec)	LOS	Delay (sec)	LOS
Signalized Intersections				
Hammond Dr at Roswell Rd (SR 9)	122.4	F	131.8	F
Hammond Dr at BoylstonDr	64.8	E	40.3	D
Hammond Dr at Glenridge Dr	144.8	F	174.3	F
Unsignalized Intersections				
Hammond Dr at Harleston Rd	50.7	F	42.5	E
Hammond Dr at Hilderbrand Dr	202.3	F	>600.0	F
Hammond Dr at Kayron Drive	104.0	F	154.1	F
Hammond Dr at Lorrell Terrace	66.1	F	74.4	F
Hammond Dr at Brookgreen Rd	47.5	E	49.1	E
Hammond Dr at Greenbrier Rd	49.1	E	37.4	E

As shown in **Table 3**, all of the study intersections except for Hammond Drive at Boylston Drive fail to operate at an acceptable level of service (LOS D or better) in the AM and PM peak hours. The signalized intersection of Hammond Drive at Boylston Drive operates at a LOS E and LOS D in the AM and PM peak hours respectively.

Table 4 – 2046 Design Year No-Build Summary of LOS and Delay

Intersection	AM Peak		PM Peak	
	Delay (sec)	LOS	Delay (sec)	LOS
Signalized Intersections				
Hammond Dr at Roswell Rd (SR 9)	175.3	F	185.9	F
Hammond Dr at BoylstonDr	125.2	F	107.4	F
Hammond Dr at Glenridge Dr	205.0	F	216.5	F
Unsignalized Intersections				
Hammond Dr at Harleston Rd	84.6	F	84.3	F
Hammond Dr at Hilderbrand Dr	>600.0	F	>600.0	F
Hammond Dr at Kayron Drive	265.6	F	481.2	F
Hammond Dr at Lorrell Terrace	110.6	F	111.1	F
Hammond Dr at Brookgreen Rd	67.1	F	77.1	F
Hammond Dr at Greenbrier Rd	85.1	F	66.9	F

As shown in **Table 4**, all of the study intersections fail to operate at an acceptable level of service (LOS D or better) in the AM and PM peak hours.

6.3 2026 and 2046 Build

The 2026 Opening Year and 2046 Design Year Build analysis assumes that the Hammond Drive improvements project has been completed. The 2026 Opening Year and 2046 Design Year Build lane configurations and traffic control are shown in **Figure 12**. The 2026 Opening Year and 2046 Design Year Build traffic volumes are shown in **Figure 13** and **Figure 14**. The 2026 Opening Year and 2046 Design Year Build scenario traffic signal timings (cycle lengths, splits, and offsets) have been optimized using Synchro 9.0 software.

Levels of service and delays for the 2026 Opening Year and 2046 Design Year Build scenarios at each study intersection are summarized in **Table 5** and **Table 6** respectively. Detailed Synchro Reports are located in **Appendix E** and **Appendix F**.

Table 5 – 2026 Opening Year Build Summary of LOS and Delay

Intersection	AM Peak		PM Peak	
	Delay (sec)	LOS	Delay (sec)	LOS
Signalized Intersections				
Hammond Dr at Roswell Rd (SR 9)	53.6	D	60.7	**E**
Hammond Dr at BoylstonDr	7.4	A	16.3	B
Hammond Dr at Glenridge Dr	128.7	**F**	83.7	**F**
Unsignalized Intersections				
Hammond Dr at Harleston Rd	10.6	B	15.9	C
Hammond Dr at Hilderbrand Dr	16.1	C	13.3	B
Hammond Dr at Kayron Drive	228.8	**F**	>600.0	**F**
Hammond Dr at Lorrell Terrace	10.5	B	0.0	A
Hammond Dr at Brookgreen Rd	15.6	C	11.8	B
Hammond Dr at Greenbrier Rd	16.2	C	12.4	B

As shown in **Table 5** for the 2026 Opening Year Build scenarios, two signalized intersections fail to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Roswell Road (SR 9) operates at a LOS D and E in the AM and PM peak hours respectively and Hammond Drive at Glenridge Drive operates at a LOS F in the AM and PM peak hours. Also shown in **Table 5**, one unsignalized intersection fails to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Kayron Drive operates at a LOS F in the AM and PM peak hours.

Table 6 – 2046 Design Year Build Summary of LOS and Delay

Intersection	AM Peak		PM Peak	
	Delay (sec)	LOS	Delay (sec)	LOS
Signalized Intersections				
Hammond Dr at Roswell Rd (SR 9)	87.4	**F**	109.0	**F**
Hammond Dr at BoylstonDr	7.8	A	20.9	C
Hammond Dr at Glenridge Dr	177.7	**F**	118.5	**F**
Unsignalized Intersections				
Hammond Dr at Harleston Rd	11.0	B	18.8	C
Hammond Dr at Hilderbrand Dr	18.4	C	14.6	B
Hammond Dr at Kayron Drive	584.3	**F**	>600.0	**F**
Hammond Dr at Lorrell Terrace	10.9	B	0.0	A
Hammond Dr at Brookgreen Rd	17.6	C	12.4	B
Hammond Dr at Greenbrier Rd	18.5	C	13.4	B

As shown in **Table 6** for the 2046 Design Year Build scenarios, two signalized intersections fail to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Roswell Road (SR 9) operates at a LOS F in the AM and PM peak hours and Hammond Drive at Glenridge Drive operates at a LOS F in the AM and PM peak hours. Also shown in **Table 6**, one unsignalized intersection fails to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Kayron Drive operates at a LOS F in the AM and PM peak hours.

6.3 Roadway Segment Analysis

As previously mentioned, Gresham, Smith and Partners (GS&P) prepared a Hammond Drive Corridor Study that included a roadway segment analysis for Hammond Drive between Roswell Road (SR 9) and Barfield Road (east of Glenridge Drive). The purpose of the study was to analyze and justify the transportation improvements needed along the Hammond Drive Corridor. This section presents the methodology and findings from the GS&P Hammond Drive Corridor Study.

GS&P collected two-day bi-directional counts along Hammond Drive east of Roswell Road (SR 9). The two-day bi-directional counts were normalized to obtain AADT volumes by applying daily, monthly, and axle factors as applicable. The daily, monthly, and axle factors were obtained from Georgia Department of Transportation's (GDOT) website.

GS&P forecasted AADT volumes to estimate the future transportation improvements needed along the Hammond Drive Corridor. A future traffic growth rate of one percent (1%) was determined based on the Atlanta Regional Commission's Travel Demand Model and population growth estimates obtained from ARC.

The traffic operations along the Hammond Drive Corridor were determined by analyzing the existing condition AADTs and the future condition AADTs. This analysis was based on methodologies outlined in the 2010 Highway Capacity Manual (HCM) and summarized in FDOT's 2012 Quality/Level of Service Handbook. For the Hammond Drive Corridor, an Urban Collector roadway, an LOS grade of D is considered the minimum desirable and grades of E, or F is considered undesirable. The results of the traffic operations analysis is also included in **Table 7**.

Table 7 – Roadway Segment Traffic Operations Analysis[1]

Hammond Drive Corridor Roadway Segment	AADT			Level of Service				
				No Improvements			With Improvements	
				2015	2027	2047	2027	2047
	Existing Year 2015	Opening Year 2027	Design Year 2047	2-Lane	2-Lane	2-Lane	4-Lane	4-Lane
Hammond Dr east of SR 9	15,050	16,950	23,300	C	D	**F**	C	C

1. Source: Hammond Drive Corridor Study, Gresham Smith and Partners, April 14, 2015.

As shown in Table 1, Hammond Drive within the study area operates at LOS C under the existing conditions and at LOS F under the future conditions (design year 2047) if no improvements are made. This undesirable operational condition can be improved to an LOS C if Hammond Drive widened to a four-lane roadway between Roswell Road (SR 9) and Glenridge Drive.

7. Traffic Signal Warrant Analysis

A signal warrant analysis was conducted at the Hammond Drive and Kayron Drive intersection since it is the only intersection in the study area with a median opening allowing left turns that doesn't already have a traffic signal.

The signal warrant analysis was conducted based on criteria established in the 2009 Manual on Uniform Traffic Control Devices (MUTCD) utilizing the full volume requirement and right turn reduction for the predominant minor approach. The right-turn reduction used the Illinois Department of Transportation methodologies. Since the 2026 and 2046 Build volumes are provided during the AM and PM peak hours, only Warrant 3 (Peak Hour Vehicular Volume) was analyzed.

The Peak Hour signal warrant is applied where traffic conditions are heavy during a minimum of one hour for an average day, causing undue delay during this time period to side street volumes entering or crossing the major street. The MUTCD states that this warrant is intended for application where a land use attracts or discharges a large number of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

    1. The total stopped time delay experienced by the traffic on one minor-street approach one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

    2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

    3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in **Figure 15**, (Figure 4C-3 from the MUTCD) for the existing combination of approach lanes.

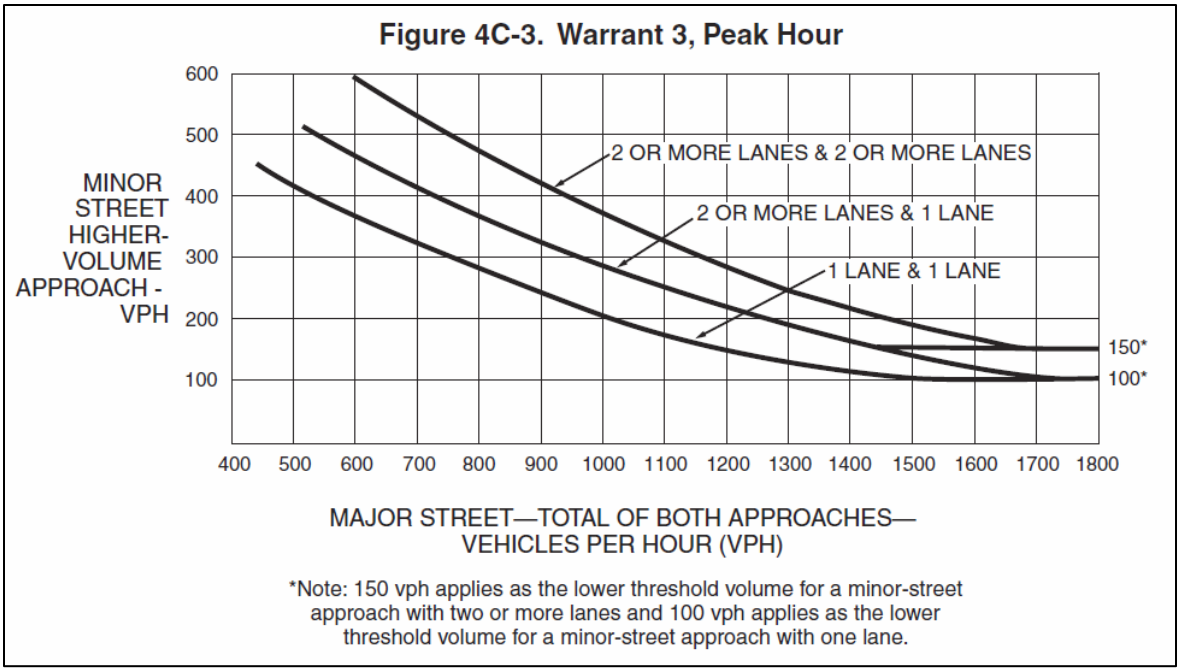


Figure 15 – Warrant 3, Peak Hour from the MUTCD

At the Hammond Drive and Kayron Drive intersection, south leg of Kayron Drive is expected to be the higher of the two minor street approaches. Based on the 2026 Opening Year Build adjusted projected northbound approach volumes (36 vehicles in the AM Peak hour and 53 vehicles during the PM peak hour) from this minor street approach, a signal is not warranted since the approach volume on the minor-street does not equal or exceed 100 vehicles per hour.

Based on the 2046 Design Year Build adjusted projected northbound approach volumes (42 vehicles in the AM Peak hour and 64 vehicles during the PM peak hour) from this minor street approach, a signal is not warranted since the approach volume on the minor-street does not equal or exceed 100 vehicles per hour.

It is recommended that an in-depth signal warrant analysis be conducted and that a roundabout be studied at the Hammond Drive and Kayron Drive intersection to mitigate future intersection delay.

8. Conclusions and Recommendations

Based on AECOM's traffic analyses and the LOS and delay summaries shown in **Tables 2** through **Table 7**, the following are the conclusions and recommendations from the traffic analysis:

Conclusions

- Under the existing conditions, two of the study intersections fail to operate at an acceptable level of service (LOS D or better) in the AM and PM peak hours. The signalized intersection of Hammond Drive at Glenridge Drive operates at an overall LOS D and LOS E in the AM and PM peak hours respectively. The unsignalized intersection of Hammond Drive at Hilderbrand Drive operates at a LOS D and LOS E for the minor street approach in the AM and PM peak hours respectively.

- In the 2026 Opening Year No-Build analysis, all of the study intersections except for Hammond Drive at Boylston Drive fail to operate at an acceptable level of service (LOS D or better) in the AM and PM peak hours. The signalized intersection of Hammond Drive at Boylston Drive operates at an overall LOS D in the AM and PM peak hours.

- In the 2046 Design Year No-Build analysis, all of the study intersections fail to operate at an acceptable level of service (LOS D or better) in the AM and PM peak hours.

- The purpose of the proposed Hammond Drive Improvement project is to provide adequate capacity to address projected demand related to growing traffic volumes along Hammond Drive between Roswell Road and SR 400. The Hammond Drive Improvements project will include four lanes with sidewalks and bicycle lanes.

- With the project in the 2026 Opening Year Build scenario, two signalized intersections fail to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Roswell Road (SR 9) operates at an overall LOS D and E in the AM and PM peak hours respectively and Hammond Drive at Glenridge Drive operates at an overall LOS F in the AM and PM peak hours. In addition, one unsignalized intersection fails to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Kayron Drive operates at a LOS F for the minor street approach in the AM and PM peak hours.

- With the project in the 2046 Design Year scenarios, two signalized intersections fail to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Roswell Road (SR 9) operates at an overall LOS F in the AM and PM peak hours and Hammond Drive at Glenridge Drive

operates at an overall LOS F in the AM and PM peak hours. In addition, one unsignalized intersection fails to operate at acceptable levels of service (LOS D or better) in the AM and PM peak hours. Hammond Drive at Kayron Drive operates at a LOS F for the minor street approach in the AM and PM peak hours.

- Based on the 2026 Opening Year and 2046 Design Year Build adjusted projected northbound approach volumes (36 vehicles in the AM Peak hour and 53 vehicles during the PM peak hour) from this minor street approach, a signal is not warranted since the approach volume on the minor-street does not equal or exceed 100 vehicles per hour.

Recommendations

Based on the traffic analysis documented in this report and the traffic analysis documented in the Hammond Drive Corridor Study by Gresham, Smith and Partners dated April 14, 2015, widening of Hammond Drive from a two-lane roadway to a four lane roadway between Roswell Road (SR 9) and Glenridge Drive is recommended to maintain desirable traffic operations for the corridor. It is to be noted, that some intersections are expected to operate with a LOS D or worse with the widening.

It is also recommended that an in-depth signal warrant analysis be conducted and that a roundabout be studied at the Hammond Drive and Kayron Drive intersection to mitigate future intersection delay.

APPENDIX A – Traffic Count Worksheets

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-9059-001 **Day:** Tuesday

City: Sandy Springs **Date:** 3/3/2015

AM

NS/EW Streets:	Rosewell Rd_Hwy 9			Rosewell Rd_Hwy 9			Hammond Dr			Hammond Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	2	0	1	2	0	
7:00 AM	20	169	43	41	203	16	17	73	19	20	24	20	665
7:15 AM	24	181	35	30	250	10	17	110	13	31	32	21	754
7:30 AM	27	221	48	26	292	17	23	119	11	22	37	17	860
7:45 AM	24	200	62	41	245	9	18	106	13	26	38	14	796
8:00 AM	28	213	73	37	260	13	19	100	19	25	43	10	840
8:15 AM	34	235	61	43	262	13	17	127	14	28	55	12	901
8:30 AM	34	210	86	42	305	13	25	112	10	25	35	24	921
8:45 AM	27	232	72	38	256	11	22	112	16	30	41	14	871
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	218	1661	480	298	2073	102	158	859	115	207	305	132	6608
APPROACH %'s :	9.24%	70.41%	20.35%	12.05%	83.83%	4.12%	13.96%	75.88%	10.16%	32.14%	47.36%	20.50%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	123	890	292	160	1083	50	83	451	59	108	174	60	3533
PEAK HR FACTOR :		0.986			0.898			0.938			0.900		0.959

NB Uturns	SB Uturns	EB Uturns	WB Uturns
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-9059-001 **Day:** Tuesday

City: Sandy Springs **Date:** 3/3/2015

PM

NS/EW Streets:	Rosewell Rd_Hwy 9			Rosewell Rd_Hwy 9			Hammond Dr			Hammond Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
4:00 PM	37	283	45	27	251	16	31	86	23	50	132	25	1006
4:15 PM	51	298	48	20	265	19	23	76	30	48	125	28	1031
4:30 PM	36	325	48	22	222	20	23	67	19	56	135	28	1001
4:45 PM	33	324	57	17	257	25	24	80	25	55	150	25	1072
5:00 PM	37	328	35	26	231	19	23	79	25	40	137	28	1008
5:15 PM	34	292	69	21	260	27	22	99	22	53	132	34	1065
5:30 PM	31	273	93	19	262	29	25	97	22	49	135	24	1059
5:45 PM	37	270	98	13	238	22	28	118	25	44	144	18	1055
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	296	2393	493	165	1986	177	199	702	191	395	1090	210	8297
APPROACH %'s :	9.30%	75.20%	15.49%	7.09%	85.31%	7.60%	18.22%	64.29%	17.49%	23.30%	64.31%	12.39%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	135	1217	254	83	1010	100	94	355	94	197	554	111	4204
PEAK HR FACTOR :		0.970			0.962			0.943			0.937		0.980

NB Uturns	SB Uturns	EB Uturns	WB Uturns
0	0	0	0

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Rosewell Rd Hwy 9 and Hammond Dr , Sandy Springs

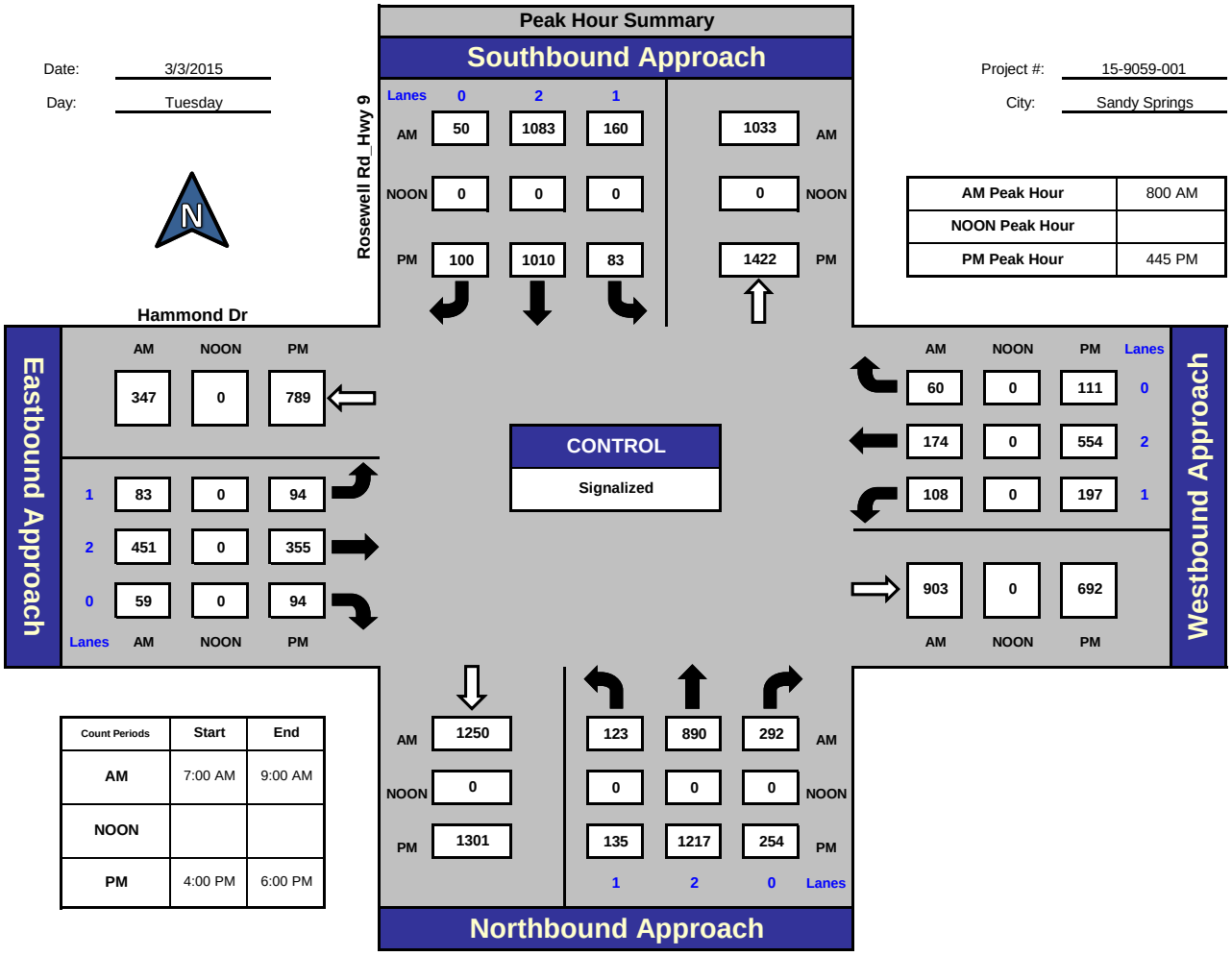
Date: 3/3/2015

Day: Tuesday

Project #: 15-9059-001

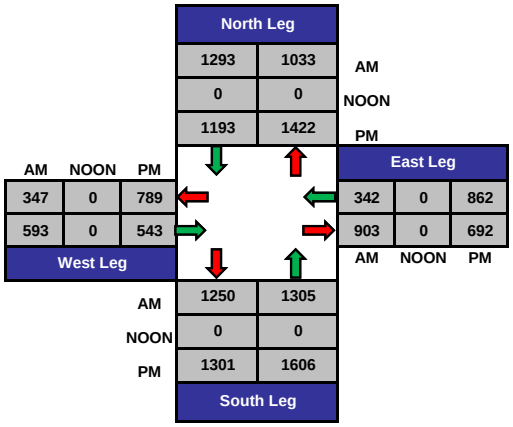
City: Sandy Springs

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

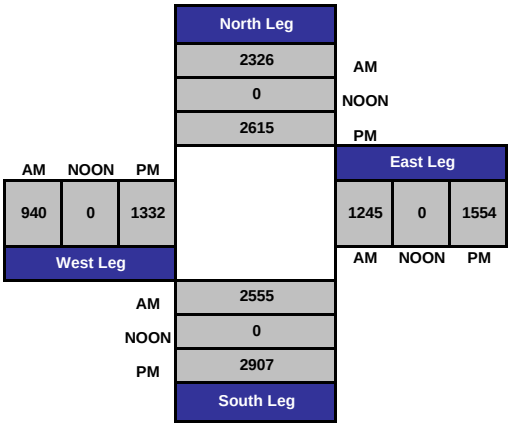


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-9059-004 **Day:** Tuesday

City: Sandy Springs **Date:** 3/3/2015

AM

NS/EW Streets:	Boylston Dr_Business Dwy			Boylston Dr_Business Dwy			Hammond Dr			Hammond Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
7:00 AM	0	0	0	1	0	4	5	165	0	0	51	5	231
7:15 AM	0	0	0	5	0	9	13	169	0	0	64	4	264
7:30 AM	0	0	0	8	0	14	20	185	0	0	79	7	313
7:45 AM	0	1	0	8	0	12	10	205	2	0	63	5	306
8:00 AM	0	0	1	6	0	10	8	212	0	1	75	5	318
8:15 AM	0	0	0	11	0	13	11	215	0	0	72	6	328
8:30 AM	0	0	0	11	0	12	10	247	2	2	77	4	365
8:45 AM	0	0	0	4	0	15	11	194	4	1	76	4	309
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	1	54	0	89	88	1592	8	4	557	40	2434
APPROACH %'s :	0.00%	50.00%	50.00%	37.76%	0.00%	62.24%	5.21%	94.31%	0.47%	0.67%	92.68%	6.66%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	1	32	0	50	40	868	6	4	300	19	1320
PEAK HR FACTOR :		0.250			0.854			0.882			0.973		0.904

NB Uturns	SB Uturns	EB Uturns	WB Uturns
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-9059-004 **Day:** Tuesday

City: Sandy Springs **Date:** 3/3/2015

PM

NS/EW Streets:	Boylston Dr_Business Dwy			Boylston Dr_Business Dwy			Hammond Dr			Hammond Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
4:00 PM	0	0	1	12	0	38	23	132	1	0	183	17	407
4:15 PM	2	0	0	8	0	20	8	124	1	0	185	13	361
4:30 PM	1	1	0	16	0	30	14	123	0	0	218	5	408
4:45 PM	3	0	2	10	0	28	14	133	2	0	205	7	404
5:00 PM	2	1	0	7	0	35	22	120	2	1	173	4	367
5:15 PM	0	0	0	6	0	36	23	175	2	0	185	8	435
5:30 PM	1	1	1	6	0	28	16	206	1	1	195	9	465
5:45 PM	0	1	0	9	0	45	25	191	0	3	182	6	462
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	9	4	4	74	0	260	145	1204	9	5	1526	69	3309
APPROACH %'s :	52.94%	23.53%	23.53%	22.16%	0.00%	77.84%	10.68%	88.66%	0.66%	0.31%	95.38%	4.31%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	3	3	1	28	0	144	86	692	5	5	735	27	1729
PEAK HR FACTOR :	0.583			0.796			0.878			0.935			0.930

NB Uturns	SB Uturns	EB Uturns	WB Uturns
0	0	0	0

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Boylston Dr_Business Dwy and Hammond Dr , Sandy Springs

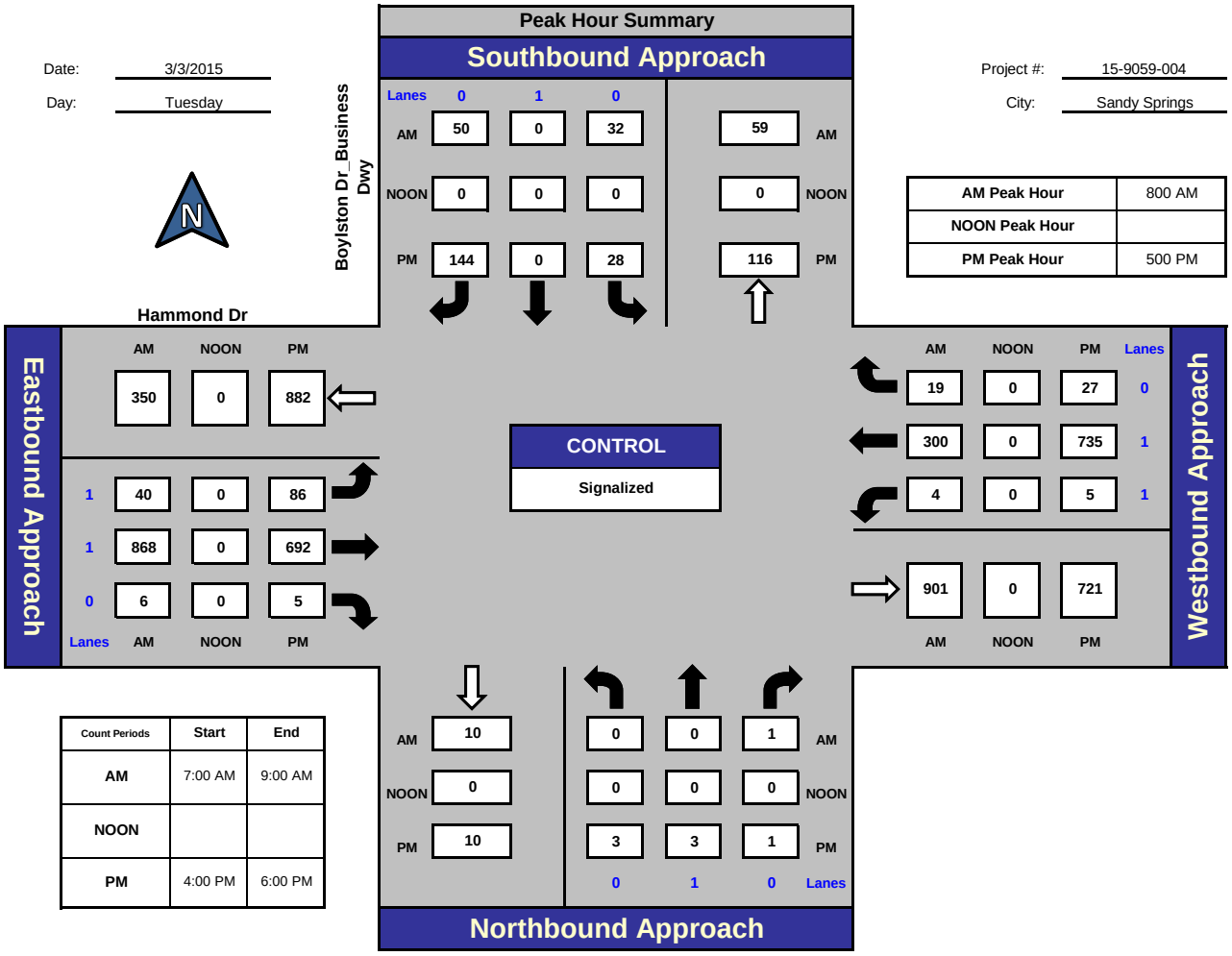
Date: 3/3/2015

Day: Tuesday

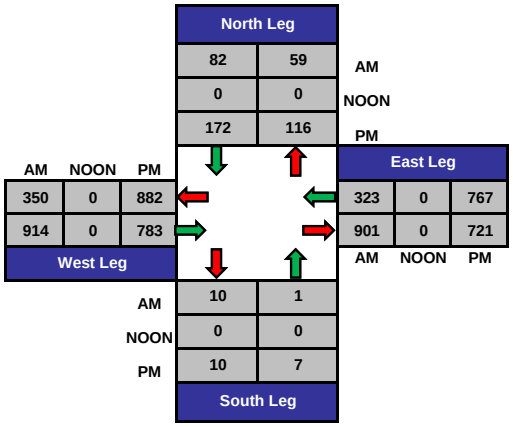
Project #: 15-9059-004

City: Sandy Springs

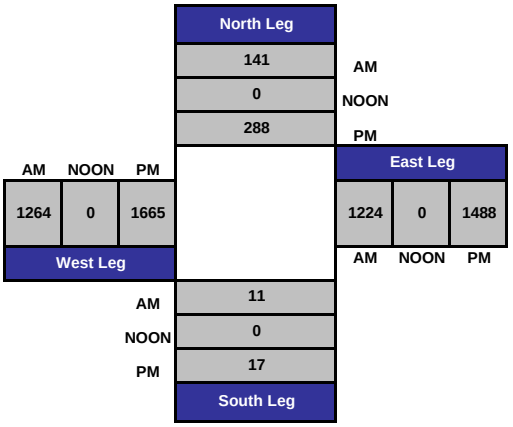
AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Total Ins & Outs



Total Volume Per Leg



Greater Traffic Company

File Name : site 3
Site Code : 00000003
Start Date : 4/27/2016
Page No : 1

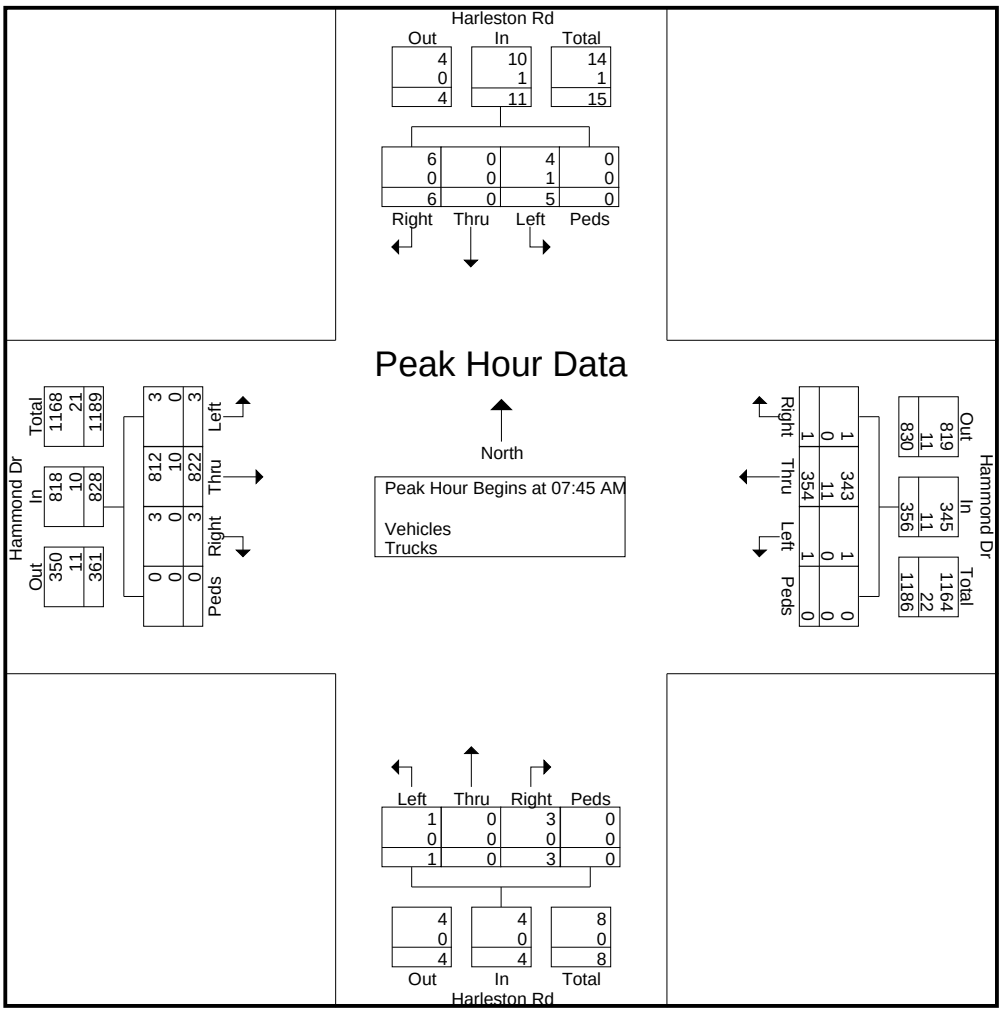
Groups Printed- Vehicles - Trucks

	Harleston Rd Northbound					Harleston Rd Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	0	1	0	5	1	0	0	0	1	1	139	1	0	141	0	53	0	0	53	200
07:15 AM	1	0	2	0	3	1	0	2	0	3	0	160	1	0	161	0	79	0	0	79	246
07:30 AM	2	0	3	0	5	0	0	3	0	3	3	192	0	0	195	0	85	0	0	85	288
07:45 AM	0	0	2	0	2	2	0	4	0	6	0	201	2	0	203	0	98	0	0	98	309
Total	7	0	8	0	15	4	0	9	0	13	4	692	4	0	700	0	315	0	0	315	1043
08:00 AM	1	0	0	0	1	1	0	0	0	1	1	190	0	0	191	1	83	1	0	85	278
08:15 AM	0	0	0	0	0	2	0	0	0	2	1	212	1	0	214	0	88	0	0	88	304
08:30 AM	0	0	1	0	1	0	0	2	0	2	1	219	0	0	220	0	85	0	0	85	308
08:45 AM	1	0	0	0	1	1	0	2	0	3	1	203	1	0	205	0	99	0	0	99	308
Total	2	0	1	0	3	4	0	4	0	8	4	824	2	0	830	1	355	1	0	357	1198
*** BREAK ***																					
04:30 PM	0	1	1	0	2	1	0	5	0	6	1	128	0	0	129	0	168	0	0	168	305
04:45 PM	1	0	2	0	3	0	0	22	0	22	2	142	1	0	145	0	131	2	0	133	303
Total	1	1	3	0	5	1	0	27	0	28	3	270	1	0	274	0	299	2	0	301	608
05:00 PM	1	0	0	0	1	0	0	18	0	18	2	134	1	0	137	1	141	0	0	142	298
05:15 PM	0	0	0	0	0	0	0	34	0	34	0	150	1	0	151	0	156	0	0	156	341
05:30 PM	0	0	0	0	0	0	0	23	0	23	2	130	1	0	133	0	133	0	0	133	289
05:45 PM	0	0	1	0	1	0	0	23	0	23	0	132	1	0	133	0	150	3	0	153	310
Total	1	0	1	0	2	0	0	98	0	98	4	546	4	0	554	1	580	3	0	584	1238
06:00 PM	0	0	0	0	0	0	0	12	0	12	1	142	0	0	143	1	122	0	0	123	278
06:15 PM	1	0	1	0	2	0	0	12	0	12	1	113	1	0	115	0	168	0	0	168	297
Grand Total	12	1	14	0	27	9	0	162	0	171	17	2587	12	0	2616	3	1839	6	0	1848	4662
Apprch %	44.4	3.7	51.9	0		5.3	0	94.7	0		0.6	98.9	0.5	0		0.2	99.5	0.3	0		
Total %	0.3	0	0.3	0	0.6	0.2	0	3.5	0	3.7	0.4	55.5	0.3	0	56.1	0.1	39.4	0.1	0	39.6	
Vehicles	11	1	14	0	26	7	0	161	0	168	17	2553	11	0	2581	3	1812	6	0	1821	4596
% Vehicles	91.7	100	100	0	96.3	77.8	0	99.4	0	98.2	100	98.7	91.7	0	98.7	100	98.5	100	0	98.5	98.6
Trucks	1	0	0	0	1	2	0	1	0	3	0	34	1	0	35	0	27	0	0	27	66
% Trucks	8.3	0	0	0	3.7	22.2	0	0.6	0	1.8	0	1.3	8.3	0	1.3	0	1.5	0	0	1.5	1.4

Greater Traffic Company

File Name : site 3
Site Code : 00000003
Start Date : 4/27/2016
Page No : 2

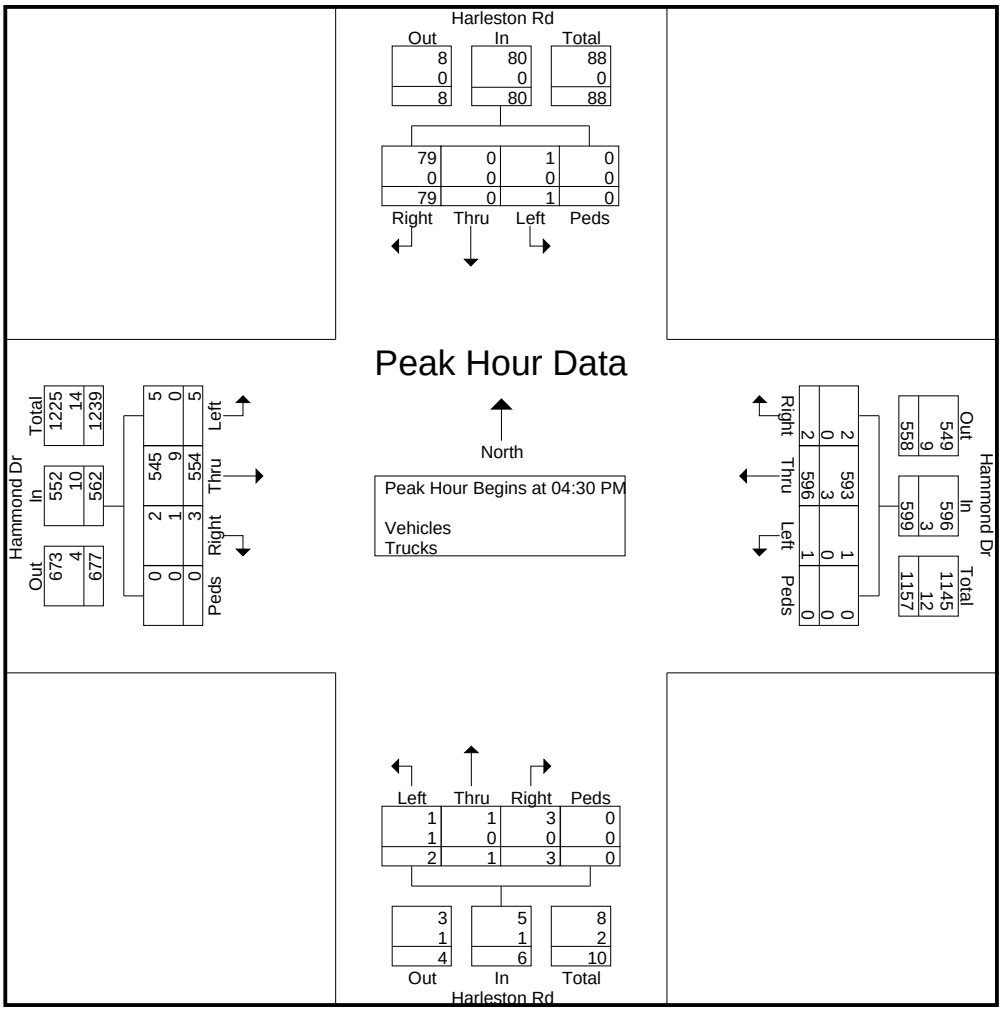
	Harleston Rd Northbound					Harleston Rd Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	**2**	0	**2**	**2**	0	**4**	0	**6**	0	201	**2**	0	203	0	**98**	0	0	**98**	**309**
08:00 AM	**1**	0	0	0	1	1	0	0	0	1	**1**	190	0	0	191	**1**	83	**1**	0	85	278
08:15 AM	0	0	0	0	0	2	0	0	0	2	1	212	1	0	214	0	88	0	0	88	304
08:30 AM	0	0	1	0	1	0	0	2	0	2	1	**219**	0	0	**220**	0	85	0	0	85	308
Total Volume	1	0	3	0	4	5	0	6	0	11	3	822	3	0	828	1	354	1	0	356	1199
% App. Total	25	0	75	0		45.5	0	54.5	0		0.4	99.3	0.4	0		0.3	99.4	0.3	0		
PHF	.250	.000	.375	.000	.500	.625	.000	.375	.000	.458	.750	.938	.375	.000	.941	.250	.903	.250	.000	.908	.970
Vehicles	1	0	3	0	4	4	0	6	0	10	3	812	3	0	818	1	343	1	0	345	1177
% Vehicles																					
Trucks	0	0	0	0	0	1	0	0	0	1	0	10	0	0	10	0	11	0	0	11	22
% Trucks	0	0	0	0	0	20.0	0	0	0	9.1	0	1.2	0	0	1.2	0	3.1	0	0	3.1	1.8



Greater Traffic Company

File Name : site 3
Site Code : 00000003
Start Date : 4/27/2016
Page No : 3

	Harleston Rd Northbound					Harleston Rd Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	**1**	1	0	2	**1**	0	5	0	6	1	128	0	0	129	0	**168**	0	0	**168**	305
04:45 PM	**1**	0	**2**	0	**3**	0	0	22	0	22	**2**	142	**1**	0	145	0	131	**2**	0	133	303
05:00 PM	1	0	0	0	1	0	0	18	0	18	2	134	1	0	137	**1**	141	0	0	142	298
05:15 PM	0	0	0	0	0	0	0	**34**	0	**34**	0	**150**	1	0	**151**	0	156	0	0	156	**341**
Total Volume	2	1	3	0	6	1	0	79	0	80	5	554	3	0	562	1	596	2	0	599	1247
% App. Total	33.3	16.7	50	0		1.2	0	98.8	0		0.9	98.6	0.5	0		0.2	99.5	0.3	0		
PHF	.500	.250	.375	.000	.500	.250	.000	.581	.000	.588	.625	.923	.750	.000	.930	.250	.887	.250	.000	.891	.914
Vehicles	1	1	3	0	5	1	0	79	0	80	5	545	2	0	552	1	593	2	0	596	1233
% Vehicles																					
Trucks	1	0	0	0	1	0	0	0	0	0	0	9	1	0	10	0	3	0	0	3	14
% Trucks	50.0	0	0	0	16.7	0	0	0	0	0	0	1.6	33.3	0	1.8	0	0.5	0	0	0.5	1.1



Greater Traffic Company

File Name : site 4
Site Code : 00000004
Start Date : 4/27/2016
Page No : 1

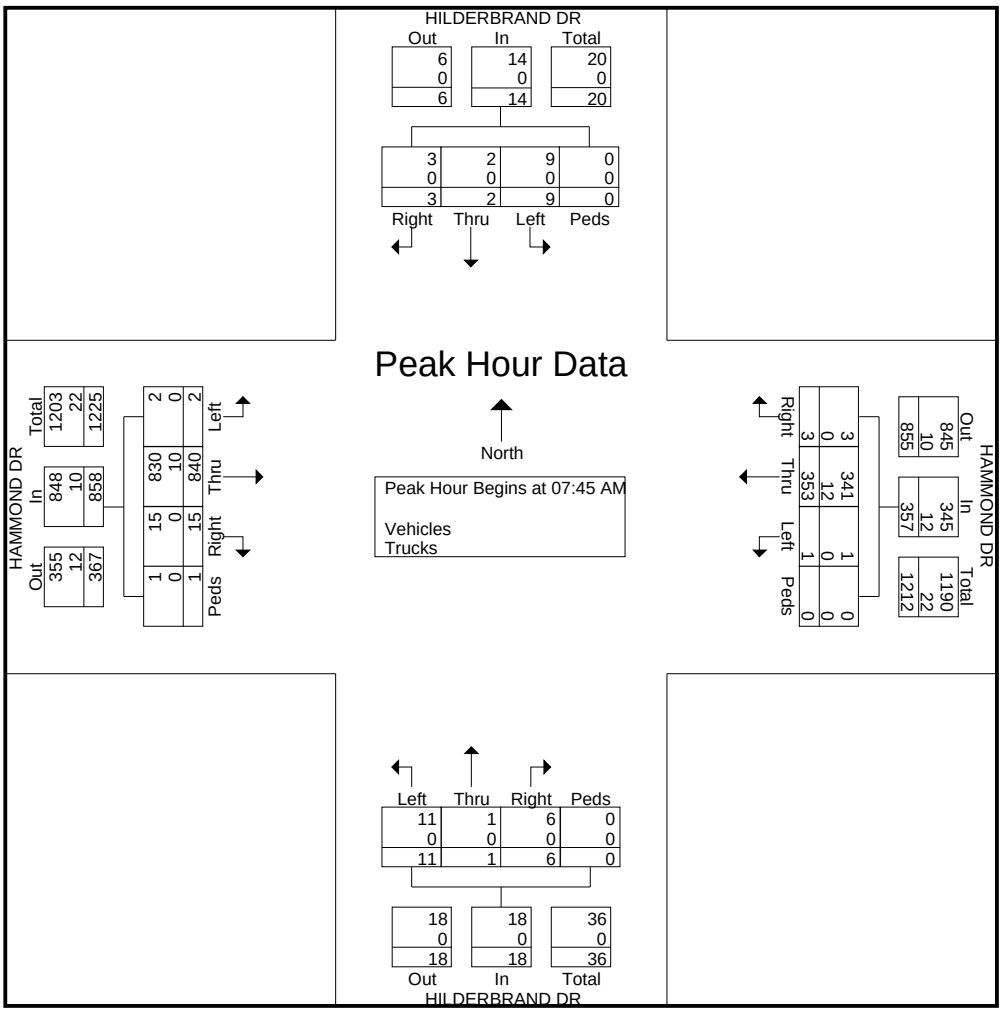
Groups Printed- Vehicles - Trucks

	HILDERBRAND DR Northbound					HILDERBRAND DR Southbound					HAMMOND DR Eastbound					HAMMOND DR Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	0	0	1	1	1	0	0	2	0	133	2	0	135	0	47	1	1	49	187
07:15 AM	2	0	0	0	2	1	1	0	0	2	0	168	1	0	169	0	80	0	0	80	253
07:30 AM	4	0	3	0	7	2	1	0	0	3	1	201	5	1	208	0	96	2	1	99	317
07:45 AM	1	0	4	0	5	1	0	1	0	2	0	212	4	0	216	0	90	1	0	91	314
Total	8	0	7	0	15	5	3	1	0	9	1	714	12	1	728	0	313	4	2	319	1071
08:00 AM	1	1	2	0	4	3	0	0	0	3	1	202	7	1	211	0	88	0	0	88	306
08:15 AM	3	0	0	0	3	2	1	0	0	3	1	207	1	0	209	1	86	0	0	87	302
08:30 AM	6	0	0	0	6	3	1	2	0	6	0	219	3	0	222	0	89	2	0	91	325
08:45 AM	4	0	1	0	5	3	0	0	0	3	1	203	1	0	205	1	83	2	0	86	299
Total	14	1	3	0	18	11	2	2	0	15	3	831	12	1	847	2	346	4	0	352	1232
*** BREAK ***																					
04:30 PM	1	4	1	2	8	1	1	0	0	2	0	119	7	2	128	0	172	2	0	174	312
04:45 PM	6	14	2	0	22	1	0	0	0	1	1	142	2	0	145	0	118	2	0	120	288
Total	7	18	3	2	30	2	1	0	0	3	1	261	9	2	273	0	290	4	0	294	600
05:00 PM	6	8	1	0	15	0	0	0	0	0	2	129	4	0	135	0	141	6	1	148	298
05:15 PM	7	16	0	0	23	0	0	0	0	0	0	153	3	0	156	0	147	3	1	151	330
05:30 PM	4	16	0	0	20	0	0	1	0	1	0	127	0	0	127	1	132	4	0	137	285
05:45 PM	9	9	0	0	18	3	2	0	0	5	0	130	4	0	134	0	135	0	0	135	292
Total	26	49	1	0	76	3	2	1	0	6	2	539	11	0	552	1	555	13	2	571	1205
06:00 PM	5	3	2	0	10	2	1	1	1	5	1	138	0	1	140	0	116	3	0	119	274
06:15 PM	8	7	0	0	15	2	2	0	0	4	1	107	4	0	112	0	160	4	0	164	295
Grand Total	68	78	16	2	164	25	11	5	1	42	9	2590	48	5	2652	3	1780	32	4	1819	4677
Apprch %	41.5	47.6	9.8	1.2		59.5	26.2	11.9	2.4		0.3	97.7	1.8	0.2		0.2	97.9	1.8	0.2		
Total %	1.5	1.7	0.3	0	3.5	0.5	0.2	0.1	0	0.9	0.2	55.4	1	0.1	56.7	0.1	38.1	0.7	0.1	38.9	
Vehicles	68	78	16	2	164	25	11	5	1	42	9	2554	48	5	2616	3	1750	32	4	1789	4611
% Vehicles	100	100	100	100	100	100	100	100	100	100	100	98.6	100	100	98.6	100	98.3	100	100	98.4	98.6
Trucks	0	0	0	0	0	0	0	0	0	0	0	36	0	0	36	0	30	0	0	30	66
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.4	0	0	1.4	0	1.7	0	0	1.6	1.4

Greater Traffic Company

File Name : site 4
Site Code : 00000004
Start Date : 4/27/2016
Page No : 2

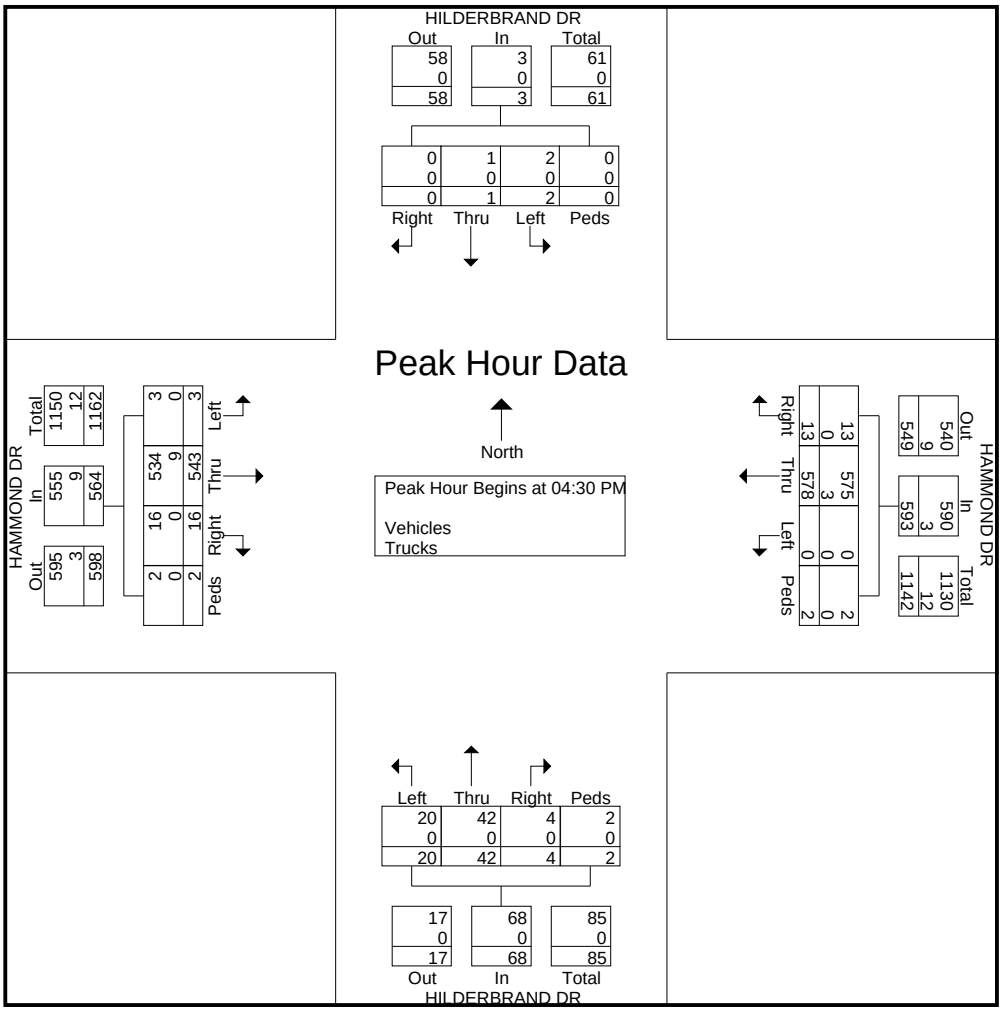
	HILDERBRAND DR Northbound					HILDERBRAND DR Southbound					HAMMOND DR Eastbound					HAMMOND DR Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	0	**4**	0	5	1	0	1	0	2	0	212	4	0	216	0	**90**	1	0	**91**	314
08:00 AM	1	**1**	2	0	4	**3**	0	0	0	3	**1**	202	**7**	**1**	211	0	88	0	0	88	306
08:15 AM	3	0	0	0	3	2	**1**	0	0	3	1	207	1	0	209	**1**	86	0	0	87	302
08:30 AM	**6**	0	0	0	**6**	3	1	**2**	0	**6**	0	**219**	3	0	**222**	0	89	**2**	0	91	**325**
Total Volume	11	1	6	0	18	9	2	3	0	14	2	840	15	1	858	1	353	3	0	357	1247
% App. Total	61.1	5.6	33.3	0		64.3	14.3	21.4	0		0.2	97.9	1.7	0.1		0.3	98.9	0.8	0		
PHF	.458	.250	.375	.000	.750	.750	.500	.375	.000	.583	.500	.959	.536	.250	.966	.250	.981	.375	.000	.981	.959
Vehicles	11	1	6	0	18	9	2	3	0	14	2	830	15	1	848	1	341	3	0	345	1225
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	12	0	0	12	22
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.2	0	0	1.2	0	3.4	0	0	3.4	1.8



Greater Traffic Company

File Name : site 4
Site Code : 00000004
Start Date : 4/27/2016
Page No : 3

	HILDERBRAND DR Northbound					HILDERBRAND DR Southbound					HAMMOND DR Eastbound					HAMMOND DR Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	4	1	**2**	8	**1**	**1**	0	0	**2**	0	119	**7**	**2**	128	0	**172**	2	0	**174**	312
04:45 PM	6	14	**2**	0	22	1	0	0	0	1	1	142	2	0	145	0	118	2	0	120	288
05:00 PM	6	8	1	0	15	0	0	0	0	0	**2**	129	4	0	135	0	141	**6**	**1**	148	298
05:15 PM	**7**	**16**	0	0	**23**	0	0	0	0	0	0	**153**	3	0	**156**	0	147	3	1	151	**330**
Total Volume	20	42	4	2	68	2	1	0	0	3	3	543	16	2	564	0	578	13	2	593	1228
% App. Total	29.4	61.8	5.9	2.9		66.7	33.3	0	0		0.5	96.3	2.8	0.4		0	97.5	2.2	0.3		
PHF	.714	.656	.500	.250	.739	.500	.250	.000	.000	.375	.375	.887	.571	.250	.904	.000	.840	.542	.500	.852	.930
Vehicles	20	42	4	2	68	2	1	0	0	3	3	534	16	2	555	0	575	13	2	590	1216
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	3	0	0	3	12
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0	1.6	0	0.5	0	0	0.5	1.0



Greater Traffic Company

File Name : site 5
Site Code : 00000005
Start Date : 4/27/2016
Page No : 1

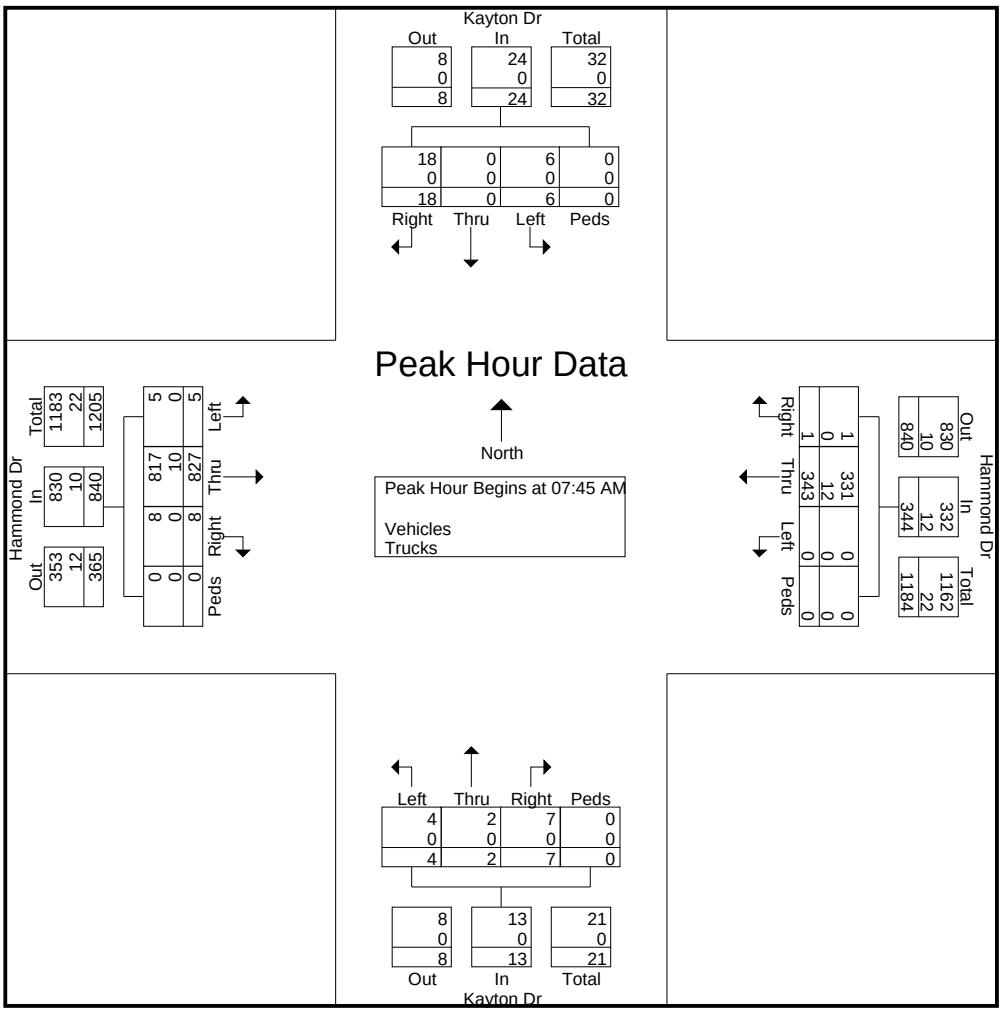
Groups Printed- Vehicles - Trucks

	Kayton Dr Northbound					Kayton Dr Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	1	0	1	1	0	0	0	1	1	130	0	0	131	1	43	0	0	44	177
07:15 AM	4	0	3	0	7	1	0	1	0	2	0	168	0	0	168	0	75	0	0	75	252
07:30 AM	7	0	1	0	8	0	0	3	0	3	0	202	1	0	203	0	84	0	0	84	298
07:45 AM	0	1	3	0	4	1	0	5	0	6	0	207	1	0	208	0	82	0	0	82	300
Total	11	1	8	0	20	3	0	9	0	12	1	707	2	0	710	1	284	0	0	285	1027
08:00 AM	3	0	1	0	4	1	0	4	0	5	3	197	2	0	202	0	86	1	0	87	298
08:15 AM	0	0	1	0	1	2	0	4	0	6	2	209	4	0	215	0	82	0	0	82	304
08:30 AM	1	1	2	0	4	2	0	5	0	7	0	214	1	0	215	0	93	0	0	93	319
08:45 AM	1	1	1	0	3	0	0	4	0	4	0	200	3	0	203	0	78	0	0	78	288
Total	5	2	5	0	12	5	0	17	0	22	5	820	10	0	835	0	339	1	0	340	1209
*** BREAK ***																					
04:30 PM	1	2	0	0	3	0	1	1	0	2	4	104	4	0	112	1	163	1	0	165	282
04:45 PM	0	1	1	0	2	1	1	1	0	3	2	144	2	0	148	2	122	0	0	124	277
Total	1	3	1	0	5	1	2	2	0	5	6	248	6	0	260	3	285	1	0	289	559
05:00 PM	3	3	0	0	6	0	0	3	0	3	2	128	0	0	130	1	136	2	0	139	278
05:15 PM	2	0	2	0	4	1	0	4	0	5	4	145	2	0	151	0	141	1	0	142	302
05:30 PM	4	1	1	0	6	1	0	1	0	2	1	122	3	0	126	0	133	2	0	135	269
05:45 PM	4	2	1	0	7	1	0	6	0	7	1	125	2	0	128	1	129	2	0	132	274
Total	13	6	4	0	23	3	0	14	0	17	8	520	7	0	535	2	539	7	0	548	1123
06:00 PM	3	1	2	0	6	0	0	1	0	1	2	138	2	0	142	0	113	0	0	113	262
06:15 PM	6	1	0	0	7	0	0	1	0	1	1	95	1	0	97	0	161	2	0	163	268
Grand Total	39	14	20	0	73	12	2	44	0	58	23	2528	28	0	2579	6	1721	11	0	1738	4448
Apprch %	53.4	19.2	27.4	0		20.7	3.4	75.9	0		0.9	98	1.1	0		0.3	99	0.6	0		
Total %	0.9	0.3	0.4	0	1.6	0.3	0	1	0	1.3	0.5	56.8	0.6	0	58	0.1	38.7	0.2	0	39.1	
Vehicles	38	14	20	0	72	12	2	44	0	58	23	2491	28	0	2542	6	1692	11	0	1709	4381
% Vehicles	97.4	100	100	0	98.6	100	100	100	0	100	100	98.5	100	0	98.6	100	98.3	100	0	98.3	98.5
Trucks	1	0	0	0	1	0	0	0	0	0	0	37	0	0	37	0	29	0	0	29	67
% Trucks	2.6	0	0	0	1.4	0	0	0	0	0	0	1.5	0	0	1.4	0	1.7	0	0	1.7	1.5

Greater Traffic Company

File Name : site 5
Site Code : 00000005
Start Date : 4/27/2016
Page No : 2

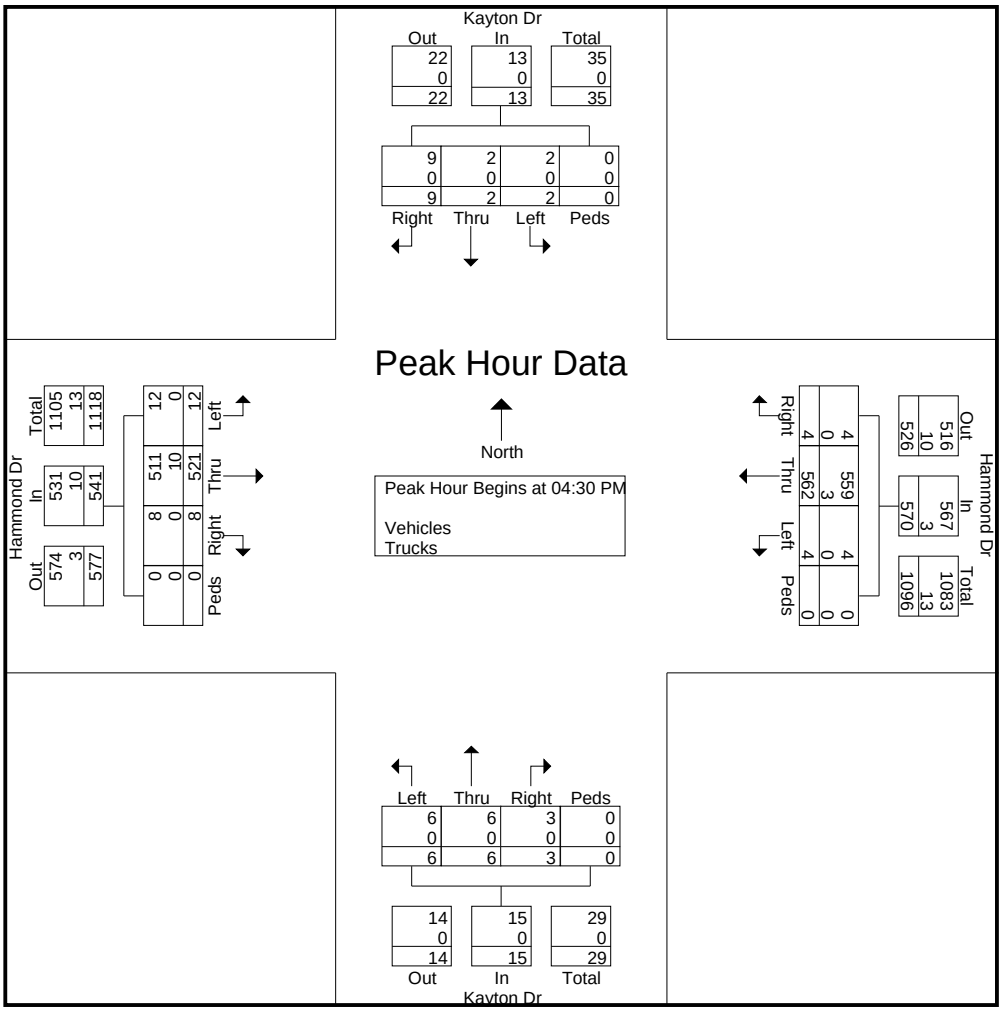
	Kayton Dr Northbound					Kayton Dr Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**1**	**3**	0	**4**	1	0	**5**	0	6	0	207	1	0	208	0	82	0	0	82	300
08:00 AM	**3**	0	1	0	4	1	0	4	0	5	**3**	197	2	0	202	0	86	**1**	0	87	298
08:15 AM	0	0	1	0	1	**2**	0	4	0	6	2	209	**4**	0	**215**	0	82	0	0	82	304
08:30 AM	1	1	2	0	4	2	0	5	0	**7**	0	**214**	1	0	215	0	**93**	0	0	**93**	**319**
Total Volume	4	2	7	0	13	6	0	18	0	24	5	827	8	0	840	0	343	1	0	344	1221
% App. Total	30.8	15.4	53.8	0		25	0	75	0		0.6	98.5	1	0		0	99.7	0.3	0		
PHF	.333	.500	.583	.000	.813	.750	.000	.900	.000	.857	.417	.966	.500	.000	.977	.000	.922	.250	.000	.925	.957
Vehicles	4	2	7	0	13	6	0	18	0	24	5	817	8	0	830	0	331	1	0	332	1199
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	12	0	0	12	22
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.2	0	0	1.2	0	3.5	0	0	3.5	1.8



Greater Traffic Company

File Name : site 5
Site Code : 00000005
Start Date : 4/27/2016
Page No : 3

	Kayton Dr Northbound					Kayton Dr Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	2	0	0	3	0	**1**	1	0	2	**4**	104	**4**	0	112	1	**163**	1	0	**165**	282
04:45 PM	0	1	1	0	2	**1**	1	1	0	3	2	144	2	0	148	**2**	122	0	0	124	277
05:00 PM	**3**	**3**	0	0	**6**	0	0	3	0	3	2	128	0	0	130	1	136	**2**	0	139	278
05:15 PM	2	0	**2**	0	4	1	0	**4**	0	**5**	4	**145**	2	0	**151**	0	141	1	0	142	**302**
Total Volume	6	6	3	0	15	2	2	9	0	13	12	521	8	0	541	4	562	4	0	570	1139
% App. Total	40	40	20	0		15.4	15.4	69.2	0		2.2	96.3	1.5	0		0.7	98.6	0.7	0		
PHF	.500	.500	.375	.000	.625	.500	.500	.563	.000	.650	.750	.898	.500	.000	.896	.500	.862	.500	.000	.864	.943
Vehicles	6	6	3	0	15	2	2	9	0	13	12	511	8	0	531	4	559	4	0	567	1126
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	3	0	0	3	13
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.9	0	0	1.8	0	0.5	0	0	0.5	1.1



Greater Traffic Company

File Name : site 6
Site Code : 6
Start Date : 4/27/2016
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Groups Printed- Vehicles - Trucks

	Hammond Dr Northbound					Lorell Terrace Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	135	0	0	135	0	46	0	0	46	181
07:15 AM	0	0	0	0	0	3	0	1	0	4	0	178	0	0	178	0	71	0	0	71	253
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	206	0	0	206	0	82	1	0	83	289
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	207	0	0	207	0	83	0	0	83	291
Total	0	0	0	0	0	4	0	1	0	5	0	726	0	0	726	0	282	1	0	283	1014
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	201	0	0	201	0	86	0	0	86	288
08:15 AM	0	0	0	0	0	2	0	1	0	3	0	217	0	0	217	0	86	0	0	86	306
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	215	0	0	215	0	91	0	0	91	306
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	204	0	0	204	0	72	0	0	72	277
Total	0	0	0	0	0	4	0	1	0	5	0	837	0	0	837	0	335	0	0	335	1177
*** BREAK ***																					
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	100	0	0	100	0	160	4	0	164	265
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	140	0	0	140	0	129	3	0	132	272
Total	0	0	0	0	0	1	0	0	0	1	0	240	0	0	240	0	289	7	0	296	537
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	128	0	0	128	0	132	2	1	135	263
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	142	0	0	142	0	140	4	0	144	287
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	128	0	0	128	0	135	4	0	139	267
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	125	0	0	125	0	130	2	0	132	257
Total	0	0	0	0	0	1	0	0	0	1	0	523	0	0	523	0	537	12	1	550	1074
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	135	0	0	135	0	117	5	0	122	257
06:15 PM	0	0	0	0	0	0	0	0	0	0	1	100	0	0	101	0	159	2	0	161	262
Grand Total	0	0	0	0	0	10	0	2	0	12	1	2561	0	0	2562	0	1719	27	1	1747	4321
Apprch %	0	0	0	0		83.3	0	16.7	0		0	100	0	0		0	98.4	1.5	0.1		
Total %	0	0	0	0	0	0.2	0	0	0	0.3	0	59.3	0	0	59.3	0	39.8	0.6	0	40.4	
Vehicles	0	0	0	0	0	9	0	2	0	11	1	2523	0	0	2524	0	1691	27	1	1719	4254
% Vehicles	0	0	0	0	0	90	0	100	0	91.7	100	98.5	0	0	98.5	0	98.4	100	100	98.4	98.4
Trucks	0	0	0	0	0	1	0	0	0	1	0	38	0	0	38	0	28	0	0	28	67
% Trucks	0	0	0	0	0	10	0	0	0	8.3	0	1.5	0	0	1.5	0	1.6	0	0	1.6	1.6

Greater Traffic Company

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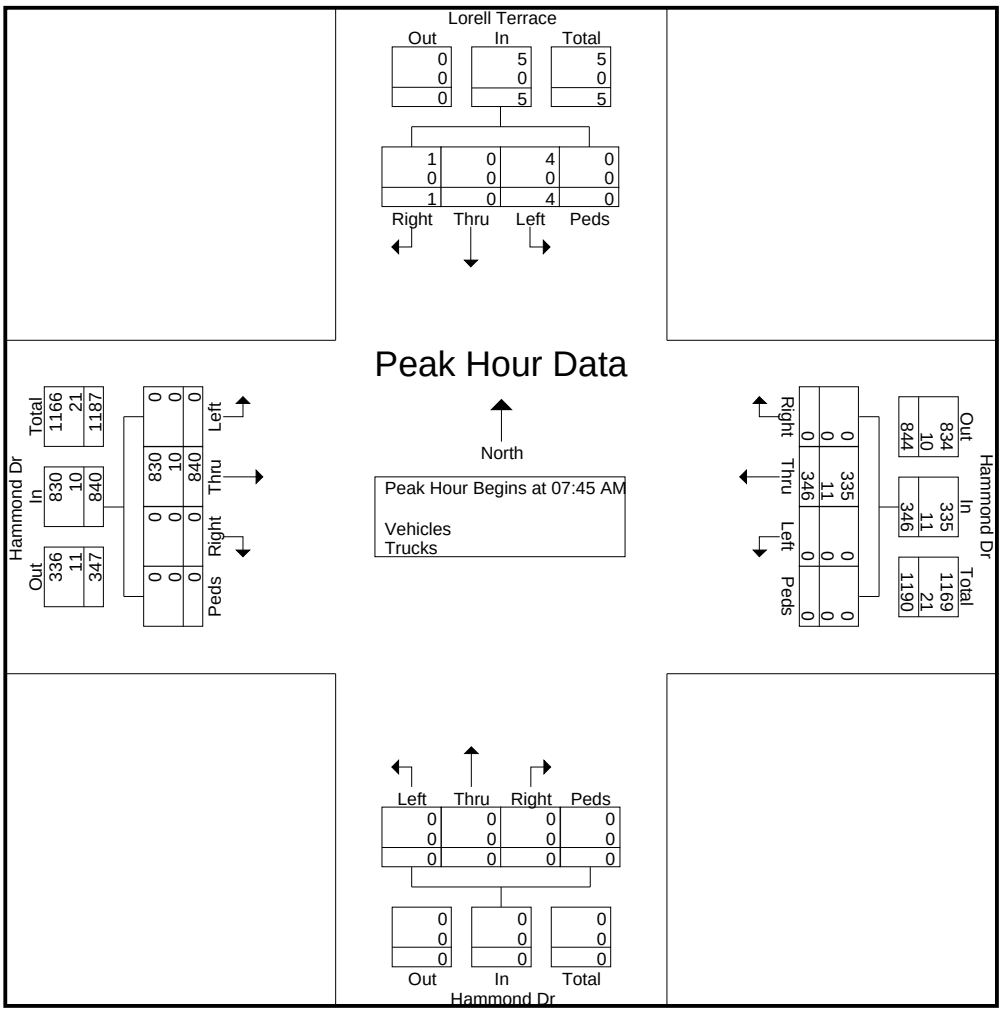
	Hammond Dr Northbound					Lorell Terrace Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	207	0	0	207	0	83	0	0	83	291
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	201	0	0	201	0	86	0	0	86	288
08:15 AM	0	0	0	0	0	**2**	0	**1**	0	**3**	0	**217**	0	0	**217**	0	86	0	0	86	**306**
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	215	0	0	215	0	**91**	0	0	**91**	306
Total Volume	0	0	0	0	0	4	0	1	0	5	0	840	0	0	840	0	346	0	0	346	1191
% App. Total	0	0	0	0		80	0	20	0		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.250	.000	.417	.000	.968	.000	.000	.968	.000	.951	.000	.000	.951	.973
Vehicles	0	0	0	0	0	4	0	1	0	5	0	830	0	0	830	0	335	0	0	335	1170
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	11	0	0	11	21
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.2	0	0	1.2	0	3.2	0	0	3.2	1.8



Greater Traffic Company

File Name : site 6
Site Code : 6
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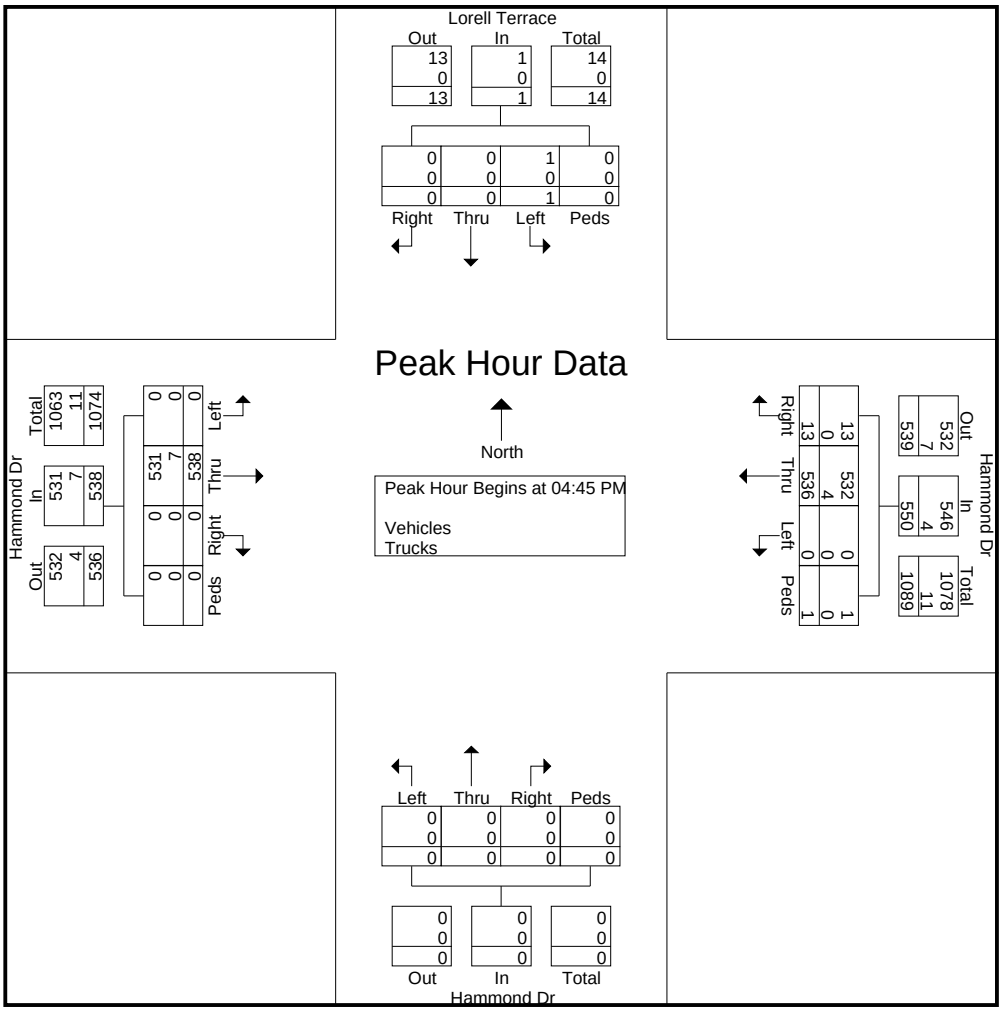
	Hammond Dr Northbound					Lorell Terrace Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	140	0	0	140	0	129	3	0	132	272
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	128	0	0	128	0	132	2	**1**	135	263
05:15 PM	0	0	0	0	0	**1**	0	0	0	**1**	0	**142**	0	0	**142**	0	**140**	**4**	0	**144**	**287**
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	128	0	0	128	0	135	4	0	139	267
Total Volume	0	0	0	0	0	1	0	0	0	1	0	538	0	0	538	0	536	13	1	550	1089
% App. Total	0	0	0	0		100	0	0	0		0	100	0	0		0	97.5	2.4	0.2		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.947	.000	.000	.947	.000	.957	.813	.250	.955	.949
Vehicles	0	0	0	0	0	1	0	0	0	1	0	531	0	0	531	0	532	13	1	546	1078
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	4	0	0	4	11
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0	1.3	0	0.7	0	0	0.7	1.0



Greater Traffic Company

File Name : site 7
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Groups Printed- Vehicles - Trucks

	Brookgreen Rd Northbound					Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	4	0	5	0	0	0	0	0	0	134	0	0	134	0	47	0	0	47	186
07:15 AM	0	0	5	0	5	0	0	0	0	0	0	179	0	0	179	1	75	0	0	76	260
07:30 AM	0	0	4	0	4	0	0	0	0	0	0	209	0	0	209	1	82	0	0	83	296
07:45 AM	1	0	2	0	3	0	0	0	0	0	0	205	0	0	205	0	87	0	0	87	295
Total	2	0	15	0	17	0	0	0	0	0	0	727	0	0	727	2	291	0	0	293	1037
08:00 AM	1	0	3	0	4	0	0	0	0	0	0	204	0	0	204	0	85	0	0	85	293
08:15 AM	0	0	3	0	3	0	0	0	0	0	0	216	1	0	217	1	87	0	0	88	308
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	213	3	0	216	1	82	0	0	83	299
08:45 AM	1	0	2	0	3	0	0	0	0	0	0	198	0	0	198	1	75	0	0	76	277
Total	2	0	8	0	10	0	0	0	0	0	0	831	4	0	835	3	329	0	0	332	1177
*** BREAK ***																					
04:30 PM	1	0	2	0	3	0	0	0	0	0	0	91	3	0	94	2	169	0	0	171	268
04:45 PM	2	0	3	0	5	0	0	0	0	0	0	138	0	0	138	1	134	0	0	135	278
Total	3	0	5	0	8	0	0	0	0	0	0	229	3	0	232	3	303	0	0	306	546
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	129	1	0	130	1	130	0	0	131	262
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	141	0	0	141	1	141	0	0	142	284
05:30 PM	0	0	2	0	2	0	0	0	0	0	0	125	2	0	127	0	139	0	0	139	268
05:45 PM	0	0	3	0	3	0	0	0	0	0	0	121	2	0	123	2	127	0	0	129	255
Total	2	0	5	0	7	0	0	0	0	0	0	516	5	0	521	4	537	0	0	541	1069
06:00 PM	0	0	2	0	2	0	0	0	0	0	0	133	2	0	135	0	124	0	0	124	261
06:15 PM	0	0	5	0	5	0	0	0	0	0	0	101	2	0	103	1	158	0	0	159	267
Grand Total	9	0	40	0	49	0	0	0	0	0	0	2537	16	0	2553	13	1742	0	0	1755	4357
Apprch %	18.4	0	81.6	0		0	0	0	0		0	99.4	0.6	0		0.7	99.3	0	0		
Total %	0.2	0	0.9	0	1.1	0	0	0	0	0	0	58.2	0.4	0	58.6	0.3	40	0	0	40.3	
Vehicles	9	0	40	0	49	0	0	0	0	0	0	2498	16	0	2514	13	1714	0	0	1727	4290
% Vehicles	100	0	100	0	100	0	0	0	0	0	0	98.5	100	0	98.5	100	98.4	0	0	98.4	98.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	39	0	0	39	0	28	0	0	28	67
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	1.5	0	1.6	0	0	1.6	1.5

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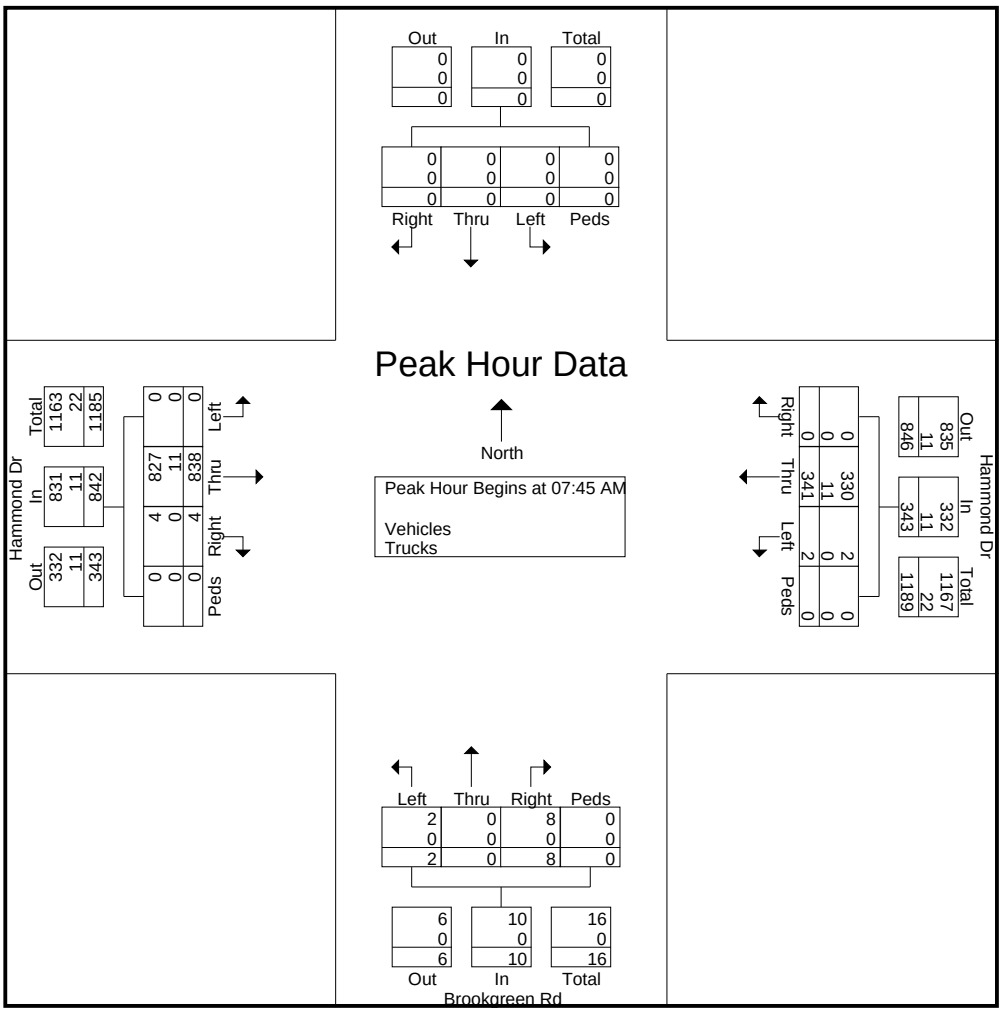
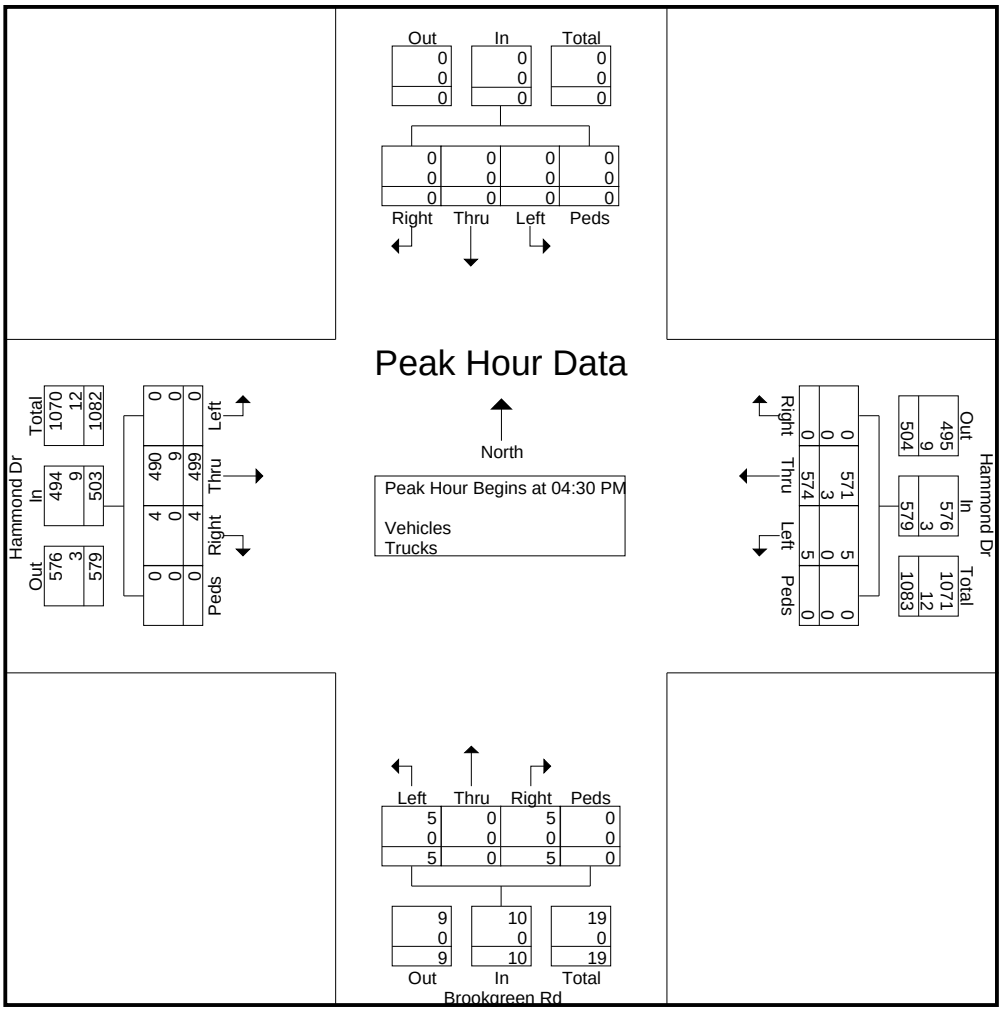
	Brookgreen Rd Northbound					Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**1**	0	2	0	3	0	0	0	0	0	0	205	0	0	205	0	**87**	0	0	87	295
08:00 AM	1	0	**3**	0	**4**	0	0	0	0	0	0	204	0	0	204	0	85	0	0	85	293
08:15 AM	0	0	3	0	3	0	0	0	0	0	0	**216**	1	0	**217**	**1**	87	0	0	**88**	**308**
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	213	**3**	0	216	1	82	0	0	83	299
Total Volume	2	0	8	0	10	0	0	0	0	0	0	838	4	0	842	2	341	0	0	343	1195
% App. Total	20	0	80	0		0	0	0	0		0	99.5	0.5	0		0.6	99.4	0	0		
PHF	.500	.000	.667	.000	.625	.000	.000	.000	.000	.000	.000	.970	.333	.000	.970	.500	.980	.000	.000	.974	.970
Vehicles	2	0	8	0	10	0	0	0	0	0	0	827	4	0	831	2	330	0	0	332	1173
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	11	0	0	11	22
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0	1.3	0	3.2	0	0	3.2	1.8



Greater Traffic Company

File Name : site 7
Site Code : 7
Start Date : 4/27/2016
Page No : 3

	Brookgreen Rd Northbound					Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	0	2	0	3	0	0	0	0	0	0	91	**3**	0	94	**2**	**169**	0	0	**171**	268
04:45 PM	**2**	0	**3**	0	**5**	0	0	0	0	0	0	138	0	0	138	1	134	0	0	135	278
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	129	1	0	130	1	130	0	0	131	262
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	**141**	0	0	**141**	1	141	0	0	142	**284**
Total Volume	5	0	5	0	10	0	0	0	0	0	0	499	4	0	503	5	574	0	0	579	1092
% App. Total	50	0	50	0		0	0	0	0		0	99.2	0.8	0		0.9	99.1	0	0		
PHF	.625	.000	.417	.000	.500	.000	.000	.000	.000	.000	.000	.885	.333	.000	.892	.625	.849	.000	.000	.846	.961
Vehicles	5	0	5	0	10	0	0	0	0	0	0	490	4	0	494	5	571	0	0	576	1080
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	3	0	0	3	12
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.8	0	0	1.8	0	0.5	0	0	0.5	1.1



Greater Traffic Company

File Name : site 8
Site Code : 00000008
Start Date : 4/27/2016
Page No : 1

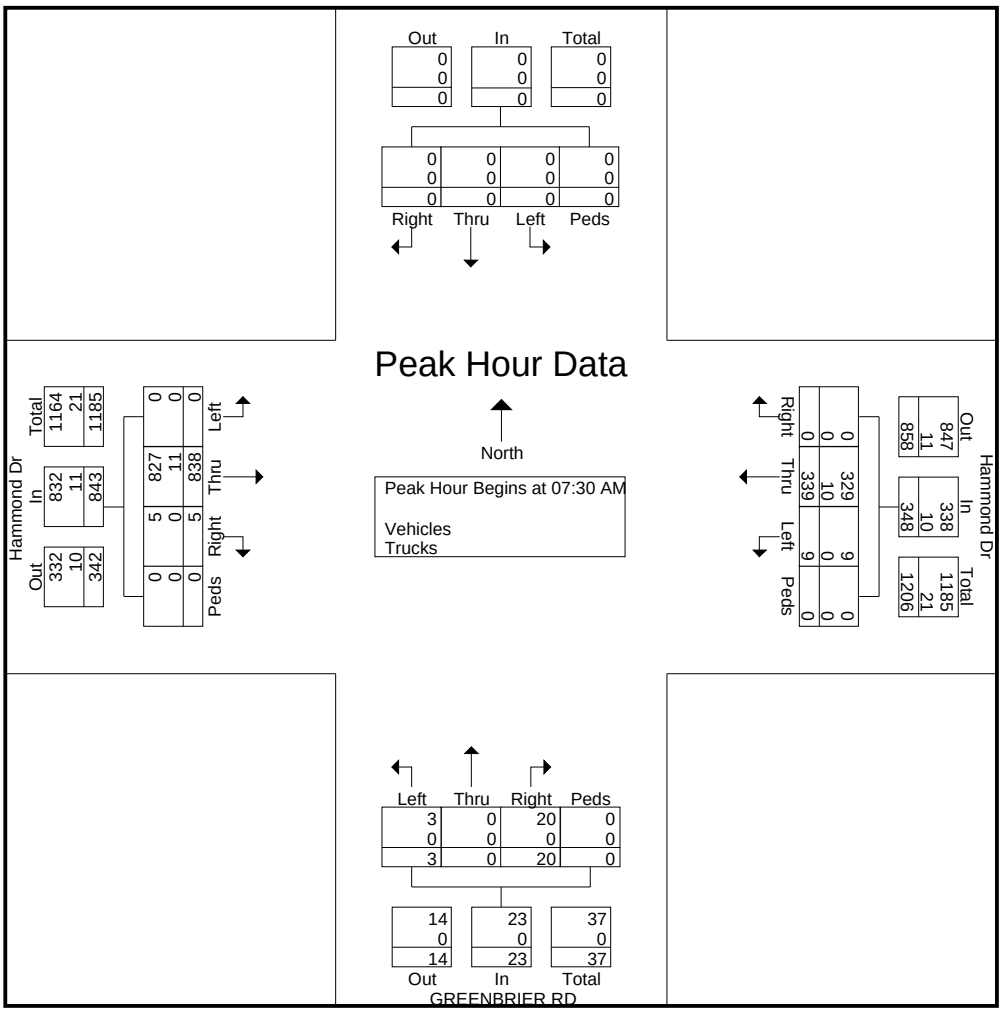
Groups Printed- Vehicles - Trucks

	GREENBRIER RD Northbound					Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	0	5	0	7	0	0	0	0	0	0	133	0	0	133	2	49	0	0	51	191
07:15 AM	1	0	1	0	2	0	0	0	0	0	0	186	1	0	187	1	74	0	0	75	264
07:30 AM	0	0	3	0	3	0	0	0	0	0	0	211	0	0	211	3	82	0	0	85	299
07:45 AM	1	0	6	0	7	0	0	0	0	0	0	207	0	0	207	4	90	0	0	94	308
Total	4	0	15	0	19	0	0	0	0	0	0	737	1	0	738	10	295	0	0	305	1062
08:00 AM	1	0	1	0	2	0	0	0	0	0	0	204	4	0	208	1	81	0	0	82	292
08:15 AM	1	0	10	0	11	0	0	0	0	0	0	216	1	0	217	1	86	0	0	87	315
08:30 AM	1	0	5	0	6	0	0	0	0	0	0	215	0	0	215	2	74	0	0	76	297
08:45 AM	1	0	4	0	5	0	0	0	0	0	0	208	0	0	208	3	79	0	0	82	295
Total	4	0	20	0	24	0	0	0	0	0	0	843	5	0	848	7	320	0	0	327	1199
*** BREAK ***																					
04:30 PM	3	0	6	0	9	0	0	0	0	0	0	98	2	0	100	7	162	0	0	169	278
04:45 PM	2	0	4	0	6	0	0	0	0	0	0	134	3	0	137	26	138	0	0	164	307
Total	5	0	10	0	15	0	0	0	0	0	0	232	5	0	237	33	300	0	0	333	585
05:00 PM	0	0	11	0	11	0	0	0	0	0	0	127	2	0	129	13	123	0	0	136	276
05:15 PM	1	0	5	0	6	0	0	0	0	0	0	136	3	0	139	26	135	0	0	161	306
05:30 PM	2	0	14	0	16	0	0	0	0	0	0	124	3	0	127	15	137	0	0	152	295
05:45 PM	2	0	8	0	10	0	0	0	0	0	0	127	2	0	129	8	122	0	0	130	269
Total	5	0	38	0	43	0	0	0	0	0	0	514	10	0	524	62	517	0	0	579	1146
06:00 PM	0	0	4	0	4	0	0	0	0	0	0	131	2	0	133	16	130	0	0	146	283
06:15 PM	0	0	5	0	5	0	0	0	0	0	0	99	1	0	100	7	153	0	0	160	265
Grand Total	18	0	92	0	110	0	0	0	0	0	0	2556	24	0	2580	135	1715	0	0	1850	4540
Apprch %	16.4	0	83.6	0		0	0	0	0		0	99.1	0.9	0		7.3	92.7	0	0		
Total %	0.4	0	2	0	2.4	0	0	0	0	0	0	56.3	0.5	0	56.8	3	37.8	0	0	40.7	
Vehicles	17	0	91	0	108	0	0	0	0	0	0	2518	23	0	2541	134	1687	0	0	1821	4470
% Vehicles	94.4	0	98.9	0	98.2	0	0	0	0	0	0	98.5	95.8	0	98.5	99.3	98.4	0	0	98.4	98.5
Trucks	1	0	1	0	2	0	0	0	0	0	0	38	1	0	39	1	28	0	0	29	70
% Trucks	5.6	0	1.1	0	1.8	0	0	0	0	0	0	1.5	4.2	0	1.5	0.7	1.6	0	0	1.6	1.5

Greater Traffic Company

File Name : site 8
Site Code : 00000008
Start Date : 4/27/2016
Page No : 2

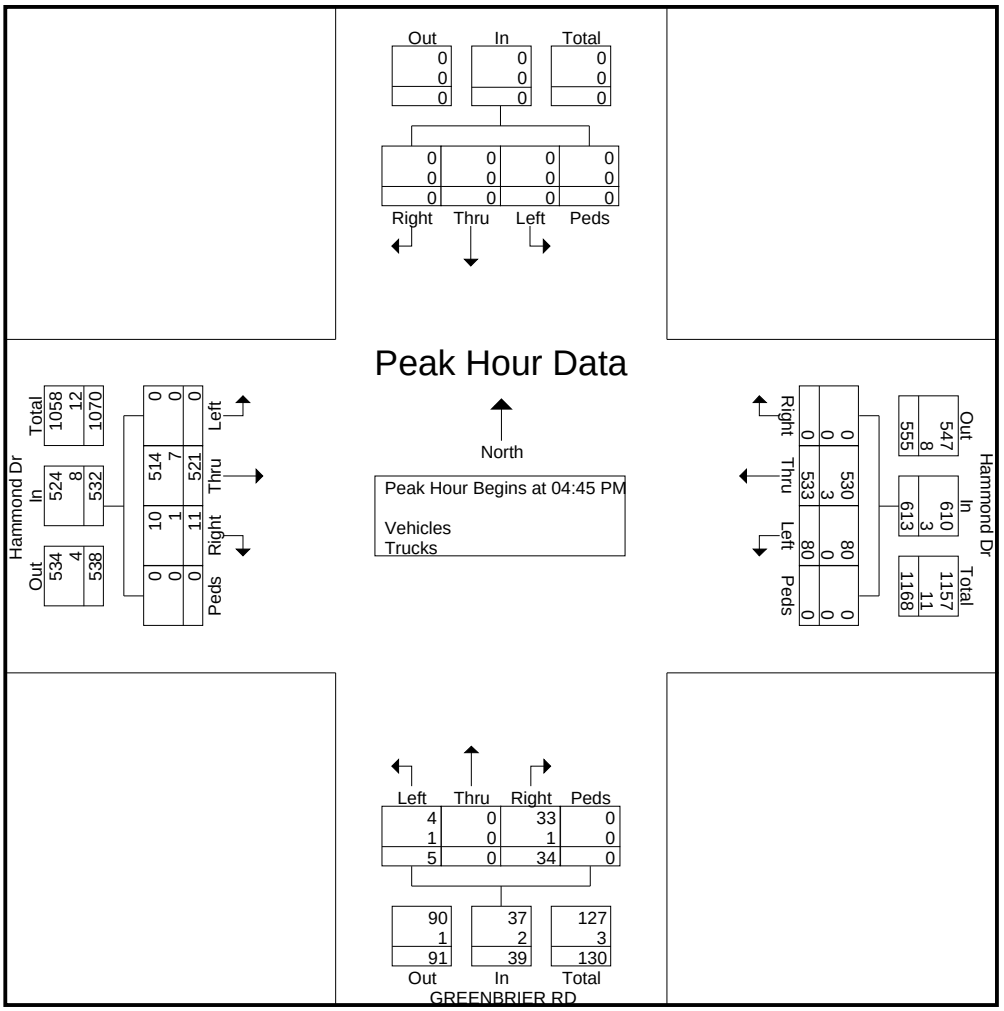
	GREENBRIER RD Northbound					Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	3	0	3	0	0	0	0	0	0	211	0	0	211	3	82	0	0	85	299
07:45 AM	**1**	0	6	0	7	0	0	0	0	0	0	207	0	0	207	**4**	**90**	0	0	**94**	308
08:00 AM	1	0	1	0	2	0	0	0	0	0	0	204	**4**	0	208	1	81	0	0	82	292
08:15 AM	1	0	**10**	0	**11**	0	0	0	0	0	0	**216**	1	0	**217**	1	86	0	0	87	**315**
Total Volume	3	0	20	0	23	0	0	0	0	0	0	838	5	0	843	9	339	0	0	348	1214
% App. Total	13	0	87	0		0	0	0	0		0	99.4	0.6	0		2.6	97.4	0	0		
PHF	.750	.000	.500	.000	.523	.000	.000	.000	.000	.000	.000	.970	.313	.000	.971	.563	.942	.000	.000	.926	.963
Vehicles	3	0	20	0	23	0	0	0	0	0	0	827	5	0	832	9	329	0	0	338	1193
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	10	0	0	10	21
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.3	0	0	1.3	0	2.9	0	0	2.9	1.7



Greater Traffic Company

File Name : site 8
Site Code : 00000008
Start Date : 4/27/2016
Page No : 3

	GREENBRIER RD Northbound					Southbound					Hammond Dr Eastbound					Hammond Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**2**	0	4	0	6	0	0	0	0	0	0	134	**3**	0	137	**26**	**138**	0	0	**164**	**307**
05:00 PM	0	0	11	0	11	0	0	0	0	0	0	127	2	0	129	13	123	0	0	136	276
05:15 PM	1	0	5	0	6	0	0	0	0	0	0	**136**	3	0	**139**	26	135	0	0	161	306
05:30 PM	2	0	**14**	0	**16**	0	0	0	0	0	0	124	3	0	127	15	137	0	0	152	295
Total Volume	5	0	34	0	39	0	0	0	0	0	0	521	11	0	532	80	533	0	0	613	1184
% App. Total	12.8	0	87.2	0		0	0	0	0		0	97.9	2.1	0		13.1	86.9	0	0		
PHF	.625	.000	.607	.000	.609	.000	.000	.000	.000	.000	.000	.958	.917	.000	.957	.769	.966	.000	.000	.934	.964
Vehicles	4	0	33	0	37	0	0	0	0	0	0	514	10	0	524	80	530	0	0	610	1171
% Vehicles																					
Trucks	1	0	1	0	2	0	0	0	0	0	0	7	1	0	8	0	3	0	0	3	13
% Trucks	20.0	0	2.9	0	5.1	0	0	0	0	0	0	1.3	9.1	0	1.5	0	0.6	0	0	0.5	1.1



Greater Traffic Company

File Name : SITE 9
Site Code : 00000009
Start Date : 4/27/2016
Page No : 1

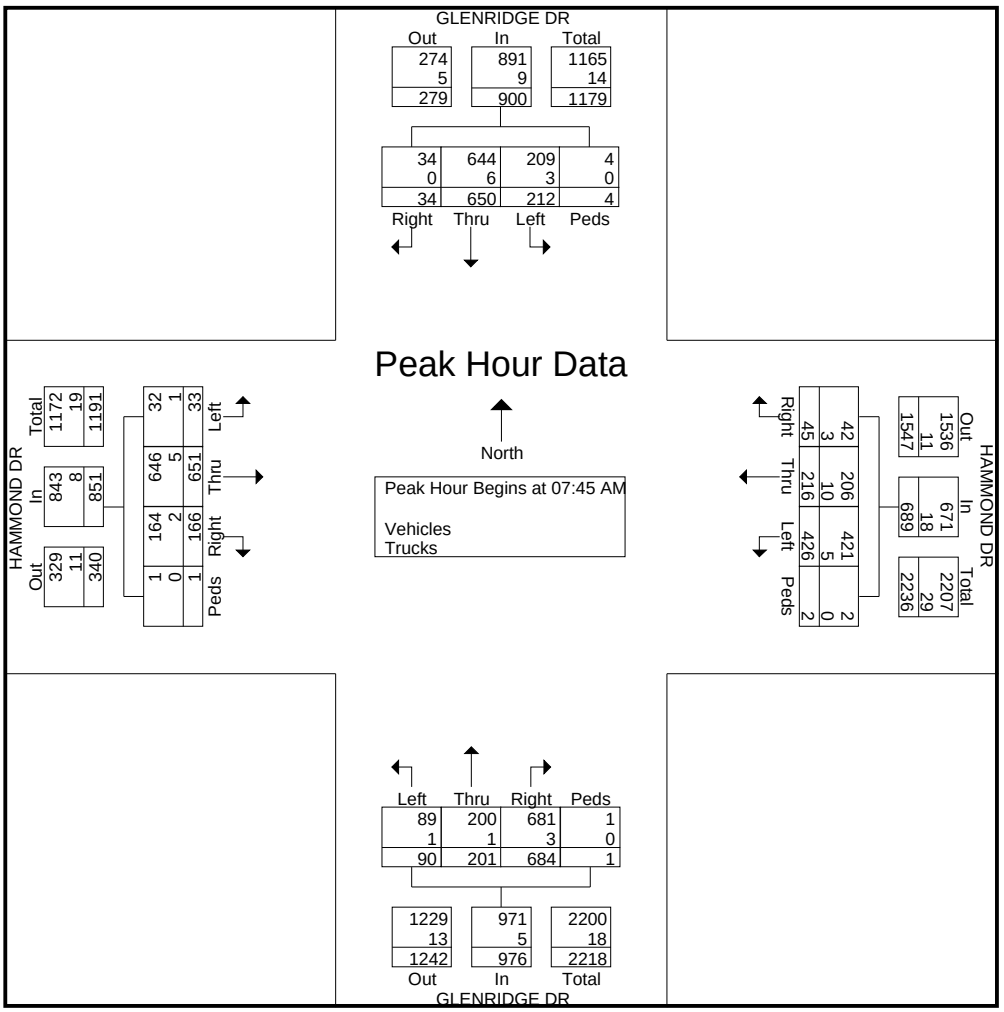
Groups Printed- Vehicles - Trucks

	GLENRIDGE DR Northbound					GLENRIDGE DR Southbound					HAMMOND DR Eastbound					HAMMOND DR Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	8	20	94	0	122	37	83	2	0	122	3	106	25	0	134	81	44	7	0	132	510
07:15 AM	15	50	104	0	169	44	141	7	0	192	4	144	35	0	183	63	52	13	1	129	673
07:30 AM	17	58	117	0	192	52	168	3	0	223	5	157	44	1	207	82	65	18	0	165	787
07:45 AM	26	80	171	0	277	48	151	7	1	207	6	165	38	0	209	89	63	20	0	172	865
Total	66	208	486	0	760	181	543	19	1	744	18	572	142	1	733	315	224	58	1	598	2835
08:00 AM	21	47	180	1	249	61	154	11	1	227	6	149	39	0	194	114	48	12	0	174	844
08:15 AM	23	36	174	0	233	47	160	8	2	217	7	165	58	1	231	108	52	8	2	170	851
08:30 AM	20	38	159	0	217	56	185	8	0	249	14	172	31	0	217	115	53	5	0	173	856
08:45 AM	10	31	180	0	221	53	171	8	2	234	7	156	50	0	213	102	65	11	0	178	846
Total	74	152	693	1	920	217	670	35	5	927	34	642	178	1	855	439	218	36	2	695	3397
*** BREAK ***																					
04:30 PM	22	163	161	0	346	17	90	9	0	116	6	91	14	1	112	163	129	45	0	337	911
04:45 PM	19	137	168	0	324	18	77	5	0	100	12	116	11	1	140	177	142	34	0	353	917
Total	41	300	329	0	670	35	167	14	0	216	18	207	25	2	252	340	271	79	0	690	1828
05:00 PM	38	142	166	0	346	24	68	6	1	99	16	103	22	1	142	155	102	38	0	295	882
05:15 PM	38	151	158	0	347	17	71	12	2	102	8	114	14	0	136	159	118	56	0	333	918
05:30 PM	33	153	171	0	357	11	57	10	0	78	14	109	14	0	137	159	112	42	0	313	885
05:45 PM	26	155	131	0	312	13	79	9	1	102	8	106	19	0	133	163	95	55	1	314	861
Total	135	601	626	0	1362	65	275	37	4	381	46	432	69	1	548	636	427	191	1	1255	3546
06:00 PM	27	135	156	1	319	18	88	10	0	116	15	89	30	1	135	179	104	46	1	330	900
06:15 PM	30	143	141	1	315	21	68	6	0	95	12	85	14	1	112	168	120	46	1	335	857
Grand Total	373	1539	2431	3	4346	537	1811	121	10	2479	143	2027	458	7	2635	2077	1364	456	6	3903	13363
Apprch %	8.6	35.4	55.9	0.1		21.7	73.1	4.9	0.4		5.4	76.9	17.4	0.3		53.2	34.9	11.7	0.2		
Total %	2.8	11.5	18.2	0	32.5	4	13.6	0.9	0.1	18.6	1.1	15.2	3.4	0.1	19.7	15.5	10.2	3.4	0	29.2	
Vehicles	372	1533	2418	3	4326	521	1802	120	10	2453	141	2000	453	7	2601	2062	1336	441	6	3845	13225
% Vehicles	99.7	99.6	99.5	100	99.5	97	99.5	99.2	100	99	98.6	98.7	98.9	100	98.7	99.3	97.9	96.7	100	98.5	99
Trucks	1	6	13	0	20	16	9	1	0	26	2	27	5	0	34	15	28	15	0	58	138
% Trucks	0.3	0.4	0.5	0	0.5	3	0.5	0.8	0	1	1.4	1.3	1.1	0	1.3	0.7	2.1	3.3	0	1.5	1

Greater Traffic Company

File Name : SITE 9
Site Code : 00000009
Start Date : 4/27/2016
Page No : 2

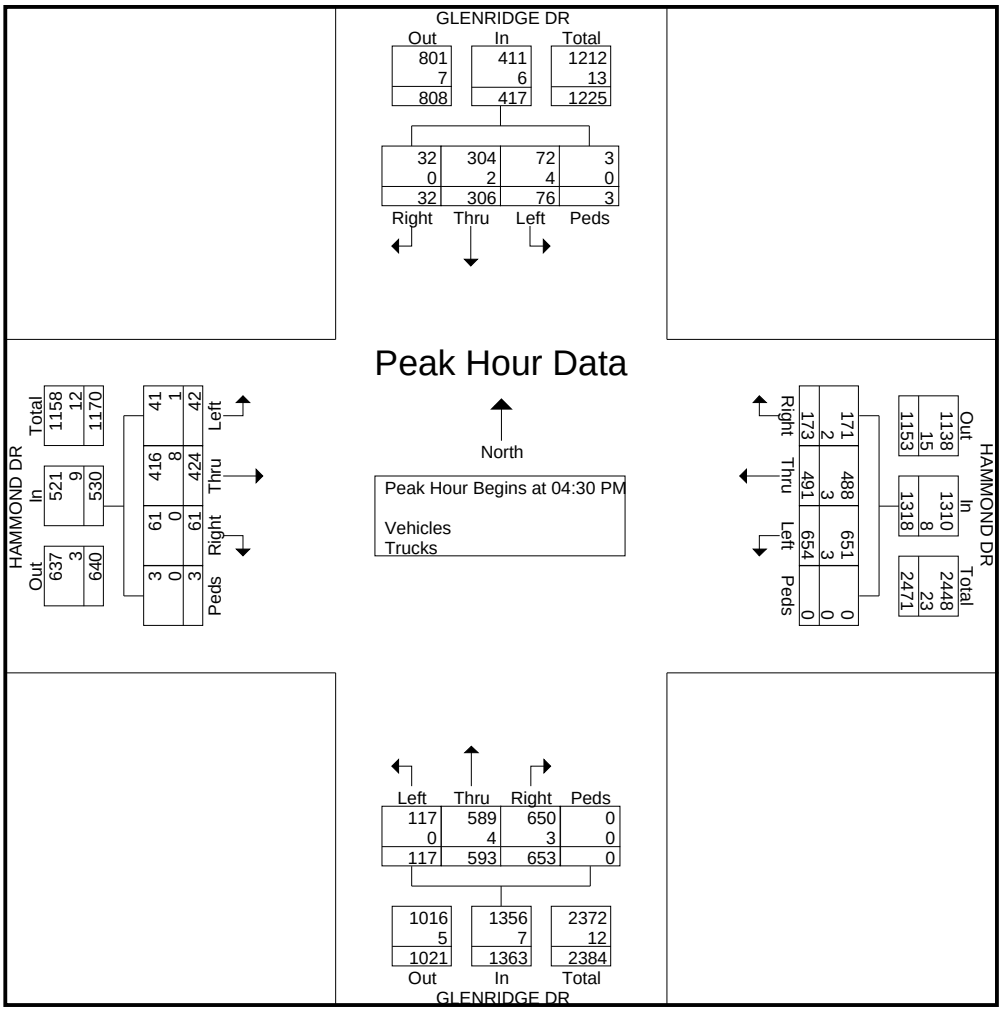
	GLENRIDGE DR Northbound					GLENRIDGE DR Southbound					HAMMOND DR Eastbound					HAMMOND DR Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**26**	**80**	171	0	**277**	48	151	7	1	207	6	165	38	0	209	89	**63**	**20**	0	172	**865**
08:00 AM	21	47	**180**	**1**	249	**61**	154	**11**	1	227	6	149	39	0	194	114	48	12	0	**174**	844
08:15 AM	23	36	174	0	233	47	160	8	**2**	217	7	165	**58**	**1**	**231**	108	52	8	**2**	170	851
08:30 AM	20	38	159	0	217	56	**185**	8	0	**249**	**14**	**172**	31	0	217	**115**	53	5	0	173	856
Total Volume	90	201	684	1	976	212	650	34	4	900	33	651	166	1	851	426	216	45	2	689	3416
% App. Total	9.2	20.6	70.1	0.1		23.6	72.2	3.8	0.4		3.9	76.5	19.5	0.1		61.8	31.3	6.5	0.3		
PHF	.865	.628	.950	.250	.881	.869	.878	.773	.500	.904	.589	.946	.716	.250	.921	.926	.857	.563	.250	.990	.987
Vehicles	89	200	681	1	971	209	644	34	4	891	32	646	164	1	843	421	206	42	2	671	3376
% Vehicles																					
Trucks	1	1	3	0	5	3	6	0	0	9	1	5	2	0	8	5	10	3	0	18	40
% Trucks	1.1	0.5	0.4	0	0.5	1.4	0.9	0	0	1.0	3.0	0.8	1.2	0	0.9	1.2	4.6	6.7	0	2.6	1.2



Greater Traffic Company

File Name : SITE 9
Site Code : 00000009
Start Date : 4/27/2016
Page No : 3

	GLENRIDGE DR Northbound					GLENRIDGE DR Southbound					HAMMOND DR Eastbound					HAMMOND DR Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	22	**163**	161	0	346	17	**90**	9	0	**116**	6	91	14	**1**	112	163	129	45	0	337	911
04:45 PM	19	137	**168**	0	324	18	77	5	0	100	12	**116**	11	1	140	**177**	**142**	34	0	**353**	917
05:00 PM	**38**	142	166	0	346	**24**	68	6	1	99	**16**	103	**22**	1	**142**	155	102	38	0	295	882
05:15 PM	38	151	158	0	**347**	17	71	**12**	**2**	102	8	114	14	0	136	159	118	**56**	0	333	**918**
Total Volume	117	593	653	0	1363	76	306	32	3	417	42	424	61	3	530	654	491	173	0	1318	3628
% App. Total	8.6	43.5	47.9	0		18.2	73.4	7.7	0.7		7.9	80	11.5	0.6		49.6	37.3	13.1	0		
PHF	.770	.910	.972	.000	.982	.792	.850	.667	.375	.899	.656	.914	.693	.750	.933	.924	.864	.772	.000	.933	.988
Vehicles	117	589	650	0	1356	72	304	32	3	411	41	416	61	3	521	651	488	171	0	1310	3598
% Vehicles																					
Trucks	0	4	3	0	7	4	2	0	0	6	1	8	0	0	9	3	3	2	0	8	30
% Trucks	0	0.7	0.5	0	0.5	5.3	0.7	0	0	1.4	2.4	1.9	0	0	1.7	0.5	0.6	1.2	0	0.6	0.8



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-9059-104 **Day:** Tuesday

City: Sandy Springs **Date:** 3/3/2015

AM

NS/EW Streets:	Boylston Dr_Business Dwy			Boylston Dr_Business Dwy			Hammond Dr			Hammond Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
7:00 AM	3	0	1	0	0	0	0	0	4	0	0	0	8
7:15 AM	1	0	0	0	0	0	0	0	1	0	0	0	2
7:30 AM	1	0	0	0	1	0	0	0	0	1	0	0	3
7:45 AM	0	1	0	0	0	0	0	0	5	0	0	0	6
8:00 AM	1	1	1	0	2	0	0	0	2	1	0	0	8
8:15 AM	5	0	1	0	0	0	0	0	3	0	0	0	9
8:30 AM	1	2	1	0	1	0	0	0	3	2	0	0	10
8:45 AM	1	0	1	0	0	0	0	0	8	2	0	0	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	13	4	5	0	4	0	0	0	26	6	0	0	58
APPROACH %'s :	59.09%	18.18%	22.73%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	8	3	4	0	3	0	0	0	16	5	0	0	39
PEAK HR FACTOR :		0.625			0.375			0.500			0.625		0.813

NB Uturns	SB Uturns	EB Uturns	WB Uturns
0	0	0	0

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-9059-104 **Day:** Tuesday

City: Sandy Springs **Date:** 3/3/2015

PM

NS/EW Streets:	Boylston Dr_Business Dwy			Boylston Dr_Business Dwy			Hammond Dr			Hammond Dr			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
4:00 PM	1	2	2	0	0	0	0	0	2	1	0	0	8
4:15 PM	2	0	0	0	0	0	0	0	2	1	0	0	5
4:30 PM	2	1	4	0	0	0	0	0	3	1	0	0	11
4:45 PM	6	0	1	0	1	0	0	0	2	1	0	0	11
5:00 PM	5	4	0	0	0	0	0	0	3	1	0	0	13
5:15 PM	2	1	1	0	0	0	0	0	4	1	0	0	9
5:30 PM	3	3	1	0	0	0	0	0	2	1	0	0	10
5:45 PM	0	2	1	0	0	0	0	0	0	4	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	21	13	10	0	1	0	0	0	18	11	0	0	74
APPROACH %'s :	47.73%	29.55%	22.73%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%	0.00%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	15	6	6	0	1	0	0	0	12	4	0	0	44
PEAK HR FACTOR :		0.750			0.250			0.750			1.000		0.846

NB Uturns	SB Uturns	EB Uturns	WB Uturns
0	0	0	0

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Boylston Dr_Business Dwy and Hammond Dr , Sandy Springs

Date: 3/3/2015

Day: Tuesday

Project #: 15-9059-104

City: Sandy Springs

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Peak Hour Summary

Southbound Approach (Boylston Dr_Business Dwy)

	Lanes 0	1	0	
AM	0	3	0	3 AM
NOON	0	0	0	0 NOON
PM	0	1	0	6 PM

Eastbound Approach (Hammond Dr)

Lanes	AM	NOON	PM
	8	0	15
1	0	0	0
1	0	0	0
0	16	0	12

Westbound Approach

Lanes	AM	NOON	PM
0	0	0	0
1	0	0	0
1	5	0	4
	4	0	6

CONTROL: Signalized

Northbound Approach

Lanes 0	1	0	
24	8	3	4 AM
0	0	0	0 NOON
17	15	6	6 PM

Total Ins & Outs

	AM	NOON	PM
North Leg	3	0	1
East Leg	5	0	4
South Leg	24	0	17
West Leg	8	0	15
East Leg	4	0	6
North Leg	3	0	6
South Leg	15	0	27
West Leg	16	0	12

Total Volume Per Leg

	AM	NOON	PM
North Leg	6	0	7
East Leg	9	0	10
South Leg	39	0	44
West Leg	24	0	27

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Tuesday
Date: 3/3/2015

City: Sandy Springs
Project #: GA15_9060_013e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	6	1	0	0	0	0	0	0	0	0	0	0	7
00:15	0	6	0	1	0	0	0	0	0	0	0	0	0	7
00:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
00:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5
01:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:30	0	3	0	0	0	0	0	0	1	0	0	0	0	4
03:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
04:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
04:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
05:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
05:15	0	6	1	0	0	0	0	0	0	0	0	0	0	7
05:30	0	13	0	2	2	0	0	0	0	0	0	0	0	17
05:45	0	23	1	0	0	0	0	0	0	0	0	0	0	24
06:00	0	27	2	1	1	0	0	0	0	0	0	0	0	31
06:15	0	40	4	2	4	0	0	0	0	0	0	0	0	50
06:30	0	85	5	0	3	0	0	0	0	0	0	0	0	93
06:45	0	110	5	1	6	0	0	0	0	0	0	0	0	122
07:00	0	142	6	1	3	0	0	0	0	0	0	0	0	152
07:15	0	165	5	3	4	0	0	0	0	0	0	0	0	177
07:30	0	189	8	2	4	0	0	0	0	0	0	0	0	203
07:45	0	202	15	1	5	0	0	0	0	0	0	0	0	223
08:00	0	189	6	3	6	0	0	0	1	0	0	0	0	205
08:15	0	210	11	3	6	0	0	0	0	0	0	0	0	230
08:30	0	241	7	2	4	1	0	0	0	0	0	0	0	255
08:45	0	206	9	1	3	2	0	0	0	0	0	0	0	221
09:00	0	209	7	1	5	0	0	0	0	0	0	0	0	222
09:15	0	160	5	1	4	0	0	1	0	0	0	0	0	171
09:30	0	156	8	2	6	1	0	1	0	0	0	0	0	174
09:45	0	108	11	1	6	0	0	0	0	0	0	0	0	126
10:00	0	98	6	0	4	1	0	0	0	0	0	0	0	109
10:15	0	89	10	0	3	0	0	0	0	0	0	0	0	102
10:30	1	91	7	2	2	0	0	0	0	0	0	0	0	103
10:45	0	122	9	1	8	0	0	0	1	0	0	0	0	141
11:00	0	102	13	1	2	0	0	0	0	0	0	0	0	118
11:15	0	123	5	1	6	0	0	0	1	0	0	0	0	136
11:30	0	106	16	1	4	0	0	1	0	0	0	0	0	128
11:45	0	123	13	0	3	0	0	0	0	0	0	0	0	139
12:00 PM	0	100	10	1	2	0	0	1	0	0	0	0	0	114
12:15	0	123	9	1	4	0	0	0	0	0	0	0	0	137
12:30	0	145	11	4	7	0	0	0	0	0	0	0	0	167
12:45	0	165	4	2	4	0	0	0	0	0	0	0	0	175
13:00	0	156	14	0	4	0	0	0	0	0	0	0	0	174
13:15	0	182	8	2	6	0	0	0	0	0	0	0	0	198
13:30	0	153	11	1	3	0	0	0	0	0	0	0	0	168
13:45	0	147	8	1	1	1	0	0	0	0	0	0	0	158
14:00	0	128	10	1	7	0	0	0	0	0	0	0	0	146
14:15	0	121	2	1	4	0	0	0	0	0	0	0	0	128
14:30	0	102	8	1	2	1	0	0	0	0	0	0	0	114
14:45	0	107	7	1	2	0	0	1	0	0	0	0	0	118
15:00	0	121	10	1	3	0	0	0	0	0	0	0	0	135
15:15	0	119	5	2	4	0	0	0	0	0	0	0	0	130
15:30	0	97	13	0	7	0	0	0	0	0	0	0	0	117
15:45	0	113	7	5	3	0	0	0	0	0	0	0	0	128
16:00	0	139	12	0	1	0	0	0	0	0	0	0	0	152
16:15	0	113	6	2	4	0	0	0	0	0	0	0	0	125
16:30	0	101	15	0	7	3	0	0	0	0	0	0	0	126
16:45	0	127	8	1	3	0	0	0	0	0	0	0	0	139
17:00	0	102	12	1	3	0	0	0	0	0	0	0	0	118
17:15	0	150	14	0	5	0	0	0	0	0	0	0	0	169
17:30	0	170	15	2	6	0	0	0	0	0	0	0	0	193
17:45	0	156	13	0	2	0	1	1	0	0	0	0	0	173
18:00	0	100	4	1	2	0	0	1	0	0	0	0	0	108
18:15	0	86	7	1	5	1	0	0	0	0	0	0	0	100
18:30	0	144	13	0	3	0	0	0	0	0	0	0	0	160
18:45	0	143	8	2	2	0	0	0	0	0	0	0	0	155
19:00	0	123	5	1	6	0	0	0	0	0	0	0	0	135
19:15	0	96	6	0	1	0	0	0	0	0	0	0	0	103
19:30	0	80	4	0	2	0	0	0	0	0	0	0	0	86
19:45	0	68	3	1	3	0	0	0	0	0	0	0	0	75
20:00	0	91	3	0	1	0	0	0	0	0	0	0	0	95
20:15	0	59	4	0	1	0	0	0	0	0	0	0	0	64
20:30	0	66	5	1	3	0	0	0	0	0	0	0	0	75
20:45	0	46	2	0	0	0	0	0	0	0	0	0	0	48
21:00	0	46	6	0	2	0	0	0	0	0	0	0	0	54
21:15	0	49	1	1	5	0	0	0	0	0	0	0	0	56
21:30	0	46	2	0	1	0	0	0	0	0	0	0	0	49
21:45	0	33	1	0	1	0	0	0	0	0	0	0	0	35
22:00	0	27	1	0	0	0	0	0	0	0	0	0	0	28
22:15	0	25	1	0	0	0	0	0	0	0	0	0	0	26
22:30	0	18	2	0	0	0	0	0	0	0	0	0	0	20
22:45	0	10	2	0	0	0	0	0	0	0	0	0	0	12
23:00	0	13	2	0	1	0	0	0	0	0	0	0	0	16
23:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
23:30	0	10	1	1	0	0	0	0	0	0	0	0	0	12
23:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11
Totals	**1**	**7941**	**516**	**73**	**238**	**11**	**1**	**7**	**4**					**8792**
% of Totals	0%	90%	6%	1%	3%	0%	0%	0%	0%					100%

AM Volumes	1	3406	200	34	105	5	0	3	4	0	0	0	0	3758
% AM	0%	39%	2%	0%	1%	0%		0%	0%					43%
AM Peak Hour	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15
Volume		866	34	7	18	3								928
PM Volumes	0	4535	316	39	133	6	1	4	0	0	0	0	0	5034
% PM		52%	4%	0%	2%	0%	0%	0%						57%
PM Peak Hour	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45
Volume		656	37	5	17									715

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1666	⟷	19%	1291	⟷	15%	1195	⟷	14%	4640	⟷	53%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Tuesday
Date: 3/3/2015

City: Sandy Springs
Project #: GA15_9060_013w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	6	0	0	0	0	0	0	0	0	0	0	0	6
00:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6
00:30	0	6	1	1	0	0	0	0	0	0	0	0	0	8
00:45	0	1	1	0	1	0	0	0	0	0	0	0	0	3
01:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4
01:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
01:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:15	0	3	3	0	0	0	0	0	0	0	0	0	0	6
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
04:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:45	0	9	0	0	1	0	0	0	0	0	0	0	0	10
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:15	0	3	0	1	0	0	0	0	0	0	0	0	0	4
05:30	1	9	1	1	0	0	0	0	0	0	0	0	0	12
05:45	0	10	1	2	0	0	0	0	0	0	0	0	0	13
06:00	0	17	1	1	0	0	0	0	0	0	0	0	0	19
06:15	0	16	1	0	2	0	0	0	0	0	0	0	0	19
06:30	0	33	3	1	3	0	0	0	0	0	0	0	0	40
06:45	0	24	2	0	1	0	0	0	0	0	0	0	0	27
07:00	0	38	4	2	6	1	0	0	0	0	0	0	0	51
07:15	0	53	4	1	7	1	0	0	0	0	0	0	0	66
07:30	0	64	3	2	1	0	0	0	0	0	0	0	0	70
07:45	0	52	1	3	1	0	0	0	0	0	0	0	0	57
08:00	0	64	3	1	4	0	0	2	0	0	0	0	0	74
08:15	0	59	4	1	1	1	0	1	1	0	0	0	0	68
08:30	0	67	4	1	3	1	0	1	0	0	0	0	0	77
08:45	0	60	7	3	2	1	0	0	0	0	0	0	0	73
09:00	0	69	6	0	1	0	0	0	0	0	0	0	0	76
09:15	0	64	9	0	1	0	0	0	0	0	0	0	0	74
09:30	0	46	8	2	5	0	0	0	0	0	0	0	0	61
09:45	0	77	10	0	4	0	0	0	0	0	0	0	0	91
10:00	0	70	9	1	2	0	0	0	0	0	0	0	0	82
10:15	0	67	6	0	1	0	0	0	0	0	0	0	0	74
10:30	0	98	4	2	5	1	0	0	0	0	0	0	0	110
10:45	0	81	5	1	3	0	0	0	0	0	0	0	0	90
11:00	0	115	13	0	3	1	0	0	0	0	0	0	0	132
11:15	0	107	11	1	1	0	0	0	1	0	0	0	0	121
11:30	0	133	8	0	2	0	0	0	0	0	0	0	0	143
11:45	0	160	8	1	5	0	0	0	0	0	0	0	0	174
12:00 PM	0	156	6	1	4	0	0	0	0	0	0	0	0	167
12:15	0	147	14	0	5	0	0	0	0	0	0	0	0	166
12:30	0	132	10	2	4	0	0	0	0	0	0	0	0	148
12:45	0	118	6	0	3	0	0	0	0	0	0	0	0	127
13:00	0	120	5	0	1	0	0	0	0	0	0	0	0	126
13:15	0	106	8	1	2	0	0	1	0	0	0	0	0	118
13:30	0	103	10	0	2	1	0	0	0	0	0	0	0	116
13:45	0	103	10	2	5	0	0	0	0	0	0	0	0	120
14:00	0	91	5	0	1	0	0	0	0	0	0	0	0	97
14:15	0	130	6	1	3	0	0	1	0	0	0	0	0	141
14:30	0	101	10	1	1	0	0	0	0	0	0	0	0	113
14:45	0	136	7	2	2	1	0	0	0	0	0	0	0	148
15:00	0	124	6	2	0	0	0	0	0	0	0	0	0	132
15:15	0	127	10	1	1	0	0	0	0	0	0	0	0	139
15:30	0	145	10	1	4	0	0	0	0	0	0	0	0	160
15:45	0	168	10	0	9	0	0	0	0	0	0	0	0	187
16:00	0	175	8	0	5	1	0	0	0	0	0	0	0	189
16:15	0	195	7	2	7	0	0	0	0	0	0	0	0	211
16:30	0	204	11	1	4	0	0	0	1	0	0	0	0	221
16:45	0	188	14	2	4	1	1	0	1	0	0	0	0	211
17:00	0	180	14	1	4	1	0	1	0	0	0	0	0	201
17:15	2	155	8	2	3	1	0	2	1	0	0	0	0	174
17:30	3	157	13	2	4	1	1	1	2	0	0	0	0	184
17:45	1	151	12	1	3	0	0	1	0	0	0	0	0	169
18:00	1	158	9	2	3	1	0	2	1	0	0	0	0	177
18:15	1	146	11	2	4	1	1	2	1	0	0	0	0	169
18:30	0	172	10	1	2	0	0	0	0	0	0	0	0	185
18:45	0	136	10	1	1	0	0	0	0	0	0	0	0	148
19:00	0	114	7	1	2	0	0	0	0	0	0	0	0	124
19:15	0	87	3	1	0	0	0	0	0	0	0	0	0	91
19:30	0	87	7	0	2	0	0	0	0	0	0	0	0	96
19:45	0	61	3	0	1	0	0	0	0	0	0	0	0	65
20:00	0	57	1	1	2	0	0	0	0	0	0	0	0	61
20:15	0	55	5	1	3	0	0	0	0	0	0	0	0	64
20:30	0	51	1	1	1	0	0	0	0	0	0	0	0	54
20:45	0	45	3	0	1	0	0	0	0	0	0	0	0	49
21:00	0	45	2	1	2	0	0	0	0	0	0	0	0	50
21:15	0	46	2	0	0	0	0	0	0	0	0	0	0	48
21:30	0	37	1	0	0	0	0	0	0	0	0	0	0	38
21:45	0	26	4	0	1	0	0	0	0	0	0	0	0	31
22:00	0	24	3	0	0	0	0	0	0	0	0	0	0	27
22:15	0	23	0	0	0	0	0	0	0	0	0	0	0	23
22:30	0	15	1	0	1	0	0	0	0	0	0	0	0	17
22:45	0	15	2	0	0	0	0	0	0	0	0	0	0	17
23:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
23:15	0	11	1	0	0	0	0	0	0	0	0	0	0	12
23:30	0	11	0	0	0	0	0	0	0	0	0	0	0	11
23:45	0	9	0	0	1	0	0	0	0	0	0	0	0	10
Totals	**9**	**6583**	**451**	**66**	**175**	**16**	**3**	**15**	**9**					**7327**
% of Totals	0%	90%	6%	1%	2%	0%	0%	0%	0%					100%

AM Volumes	1	1724	145	29	67	7	0	4	2	0	0	0	0	1979
% AM	0%	24%	2%	0%	1%	0%		0%	0%					27%
AM Peak Hour	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45
Volume		595	38	4	18									655
PM Volumes	8	4859	306	37	108	9	3	11	7	0	0	0	0	5348
% PM	0%	66%	4%	1%	1%	0%	0%	0%	0%					73%
PM Peak Hour	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15
Volume		767	46	6	19	2	1	1	2					844

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	536	⟷	7%	1088	⟷	15%	1560	⟷	21%	4143	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
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4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
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10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
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13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Tuesday
Date: 3/3/2015

City: Sandy Springs
Project #: GA15_9060_013

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	12	1	0	0	0	0	0	0	0	0	0	0	13
00:15	0	11	1	1	0	0	0	0	0	0	0	0	0	13
00:30	0	10	2	1	0	0	0	0	0	0	0	0	0	13
00:45	0	5	2	0	1	0	0	0	0	0	0	0	0	8
01:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
01:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5
01:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9
01:45	0	12	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
02:15	0	6	3	0	0	0	0	0	0	0	0	0	0	9
02:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4
03:30	0	4	0	0	0	0	0	0	1	0	0	0	0	5
03:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	5	1	0	2	0	0	0	0	0	0	0	0	8
04:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
04:30	0	6	1	0	0	0	0	0	0	0	0	0	0	7
04:45	0	15	0	0	1	0	0	0	0	0	0	0	0	16
05:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
05:15	0	9	1	1	0	0	0	0	0	0	0	0	0	11
05:30	1	22	1	3	2	0	0	0	0	0	0	0	0	29
05:45	0	33	2	2	0	0	0	0	0	0	0	0	0	37
06:00	0	44	3	2	1	0	0	0	0	0	0	0	0	50
06:15	0	56	5	2	6	0	0	0	0	0	0	0	0	69
06:30	0	118	8	1	6	0	0	0	0	0	0	0	0	133
06:45	0	134	7	1	7	0	0	0	0	0	0	0	0	149
07:00	0	180	10	3	9	1	0	0	0	0	0	0	0	203
07:15	0	218	9	4	11	1	0	0	0	0	0	0	0	243
07:30	0	253	11	4	5	0	0	0	0	0	0	0	0	273
07:45	0	254	16	4	6	0	0	0	0	0	0	0	0	280
08:00	0	253	9	4	10	0	0	2	1	0	0	0	0	279
08:15	0	269	15	4	7	1	0	1	1	0	0	0	0	298
08:30	0	308	11	3	7	2	0	1	0	0	0	0	0	332
08:45	0	266	16	4	5	3	0	0	0	0	0	0	0	294
09:00	0	278	13	1	6	0	0	0	0	0	0	0	0	298
09:15	0	224	14	1	5	0	0	1	0	0	0	0	0	245
09:30	0	202	16	4	11	1	0	1	0	0	0	0	0	235
09:45	0	185	21	1	10	0	0	0	0	0	0	0	0	217
10:00	0	168	15	1	6	1	0	0	0	0	0	0	0	191
10:15	0	156	16	0	4	0	0	0	0	0	0	0	0	176
10:30	1	189	11	4	7	1	0	0	0	0	0	0	0	213
10:45	0	203	14	2	11	0	0	0	1	0	0	0	0	231
11:00	0	217	26	1	5	1	0	0	0	0	0	0	0	250
11:15	0	230	16	2	7	0	0	0	2	0	0	0	0	257
11:30	0	239	24	1	6	0	0	1	0	0	0	0	0	271
11:45	0	283	21	1	8	0	0	0	0	0	0	0	0	313
12:00 PM	0	256	16	2	6	0	0	1	0	0	0	0	0	281
12:15	0	270	23	1	9	0	0	0	0	0	0	0	0	303
12:30	0	277	21	6	11	0	0	0	0	0	0	0	0	315
12:45	0	283	10	2	7	0	0	0	0	0	0	0	0	302
13:00	0	276	19	0	5	0	0	0	0	0	0	0	0	300
13:15	0	288	16	3	8	0	0	1	0	0	0	0	0	316
13:30	0	256	21	1	5	1	0	0	0	0	0	0	0	284
13:45	0	250	18	3	6	1	0	0	0	0	0	0	0	278
14:00	0	219	15	1	8	0	0	0	0	0	0	0	0	243
14:15	0	251	8	2	7	0	0	1	0	0	0	0	0	269
14:30	0	203	18	2	3	1	0	0	0	0	0	0	0	227
14:45	0	243	14	3	4	1	0	1	0	0	0	0	0	266
15:00	0	245	16	3	3	0	0	0	0	0	0	0	0	267
15:15	0	246	15	3	5	0	0	0	0	0	0	0	0	269
15:30	0	242	23	1	11	0	0	0	0	0	0	0	0	277
15:45	0	281	17	5	12	0	0	0	0	0	0	0	0	315
16:00	0	314	20	0	6	1	0	0	0	0	0	0	0	341
16:15	0	308	13	4	11	0	0	0	0	0	0	0	0	336
16:30	0	305	26	1	11	3	0	0	1	0	0	0	0	347
16:45	0	315	22	3	7	1	1	0	1	0	0	0	0	350
17:00	0	282	26	2	7	1	0	1	0	0	0	0	0	319
17:15	2	305	22	2	8	1	0	2	1	0	0	0	0	343
17:30	3	327	28	4	10	1	1	1	2	0	0	0	0	377
17:45	1	307	25	1	5	0	1	2	0	0	0	0	0	342
18:00	1	258	13	3	5	1	0	3	1	0	0	0	0	285
18:15	1	232	18	3	9	2	1	2	1	0	0	0	0	269
18:30	0	316	23	1	5	0	0	0	0	0	0	0	0	345
18:45	0	279	18	3	3	0	0	0	0	0	0	0	0	303
19:00	0	237	12	2	8	0	0	0	0	0	0	0	0	259
19:15	0	183	9	1	1	0	0	0	0	0	0	0	0	194
19:30	0	167	11	0	4	0	0	0	0	0	0	0	0	182
19:45	0	129	6	1	4	0	0	0	0	0	0	0	0	140
20:00	0	148	4	1	3	0	0	0	0	0	0	0	0	156
20:15	0	114	9	1	4	0	0	0	0	0	0	0	0	128
20:30	0	117	6	2	4	0	0	0	0	0	0	0	0	129
20:45	0	91	5	0	1	0	0	0	0	0	0	0	0	97
21:00	0	91	8	1	4	0	0	0	0	0	0	0	0	104
21:15	0	95	3	1	5	0	0	0	0	0	0	0	0	104
21:30	0	83	3	0	1	0	0	0	0	0	0	0	0	87
21:45	0	59	5	0	2	0	0	0	0	0	0	0	0	66
22:00	0	51	4	0	0	0	0	0	0	0	0	0	0	55
22:15	0	48	1	0	0	0	0	0	0	0	0	0	0	49
22:30	0	33	3	0	1	0	0	0	0	0	0	0	0	37
22:45	0	25	4	0	0	0	0	0	0	0	0	0	0	29
23:00	0	29	2	0	1	0	0	0	0	0	0	0	0	32
23:15	0	19	2	0	0	0	0	0	0	0	0	0	0	21
23:30	0	21	1	1	0	0	0	0	0	0	0	0	0	23
23:45	0	20	0	0	1	0	0	0	0	0	0	0	0	21
Totals	**10**	**14524**	**967**	**139**	**413**	**27**	**4**	**22**	**13**					**16119**
% of Totals	0%	90%	6%	1%	3%	0%	0%	0%	0%					100%

AM Volumes	2	5130	345	63	172	12	0	7	6	0	0	0	0	5737
% AM	0%	32%	2%	0%	1%	0%		0%	0%					36%
AM Peak Hour	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15
Volume		1121	55	12	25	6		2	1					1222
PM Volumes	8	9394	622	76	241	15	4	15	7	0	0	0	0	10382
% PM	0%	58%	4%	0%	1%	0%	0%	0%	0%					64%
PM Peak Hour	16:45	16:45	16:45	16:45	16:45	16:45	16:45	16:45	16:45	16:45	16:45	16:45	16:45	16:45
Volume	5	1229	98	11	32	4	2	4	4					1389

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2202	⟷	14%	2379	⟷	15%	2755	⟷	17%	8783	⟷	54%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Tuesday
Date: 3/3/2015

City: Sandy Springs
Project #: GA15_9060_013e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	20	3	1	0	0	0	0	0	0	0	0	0	24
01:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
02:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
03:00	0	6	1	0	0	0	0	0	1	0	0	0	0	8
04:00	0	14	1	0	1	0	0	0	0	0	0	0	0	16
05:00	0	48	2	2	2	0	0	0	0	0	0	0	0	54
06:00	0	262	16	4	14	0	0	0	0	0	0	0	0	296
07:00	0	698	34	7	16	0	0	0	0	0	0	0	0	755
08:00	0	846	33	9	19	3	0	0	1	0	0	0	0	911
09:00	0	633	31	5	21	1	0	2	0	0	0	0	0	693
10:00	1	400	32	3	17	1	0	0	1	0	0	0	0	455
11:00	0	454	47	3	15	0	0	1	1	0	0	0	0	521
12:00 PM	0	533	34	8	17	0	0	1	0	0	0	0	0	593
13:00	0	638	41	4	14	1	0	0	0	0	0	0	0	698
14:00	0	458	27	4	15	1	0	1	0	0	0	0	0	506
15:00	0	450	35	8	17	0	0	0	0	0	0	0	0	510
16:00	0	480	41	3	15	3	0	0	0	0	0	0	0	542
17:00	0	578	54	3	16	0	1	1	0	0	0	0	0	653
18:00	0	473	32	4	12	1	0	1	0	0	0	0	0	523
19:00	0	367	18	2	12	0	0	0	0	0	0	0	0	399
20:00	0	262	14	1	5	0	0	0	0	0	0	0	0	282
21:00	0	174	10	1	9	0	0	0	0	0	0	0	0	194
22:00	0	80	6	0	0	0	0	0	0	0	0	0	0	86
23:00	0	42	4	1	1	0	0	0	0	0	0	0	0	48
Totals	1	7941	516	73	238	11	1	7	4					8792
% of Totals	0%	90%	6%	1%	3%	0%	0%	0%	0%					100%

AM Volumes	1	3406	200	34	105	5	0	3	4	0	0	0	0	3758
% AM	0%	39%	2%	0%	1%	0%		0%	0%					43%
AM Peak Hour	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00
Volume		846	33	9	19	3			1					911
PM Volumes	0	4535	316	39	133	6	1	4	0	0	0	0	0	5034
% PM		52%	4%	0%	2%	0%	0%	0%						57%
PM Peak Hour	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00
Volume														698

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1666	↔	19%	1291	↔	15%	1195	↔	14%	4640	↔	53%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Tuesday
Date: 3/3/2015

City: Sandy Springs
Project #: GA15_9060_013w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	18	3	1	1	0	0	0	0	0	0	0	0	23
01:00	0	17	1	0	0	0	0	0	0	0	0	0	0	18
02:00	0	9	4	0	0	0	0	0	0	0	0	0	0	13
03:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	16	1	0	2	0	0	0	0	0	0	0	0	19
05:00	1	24	2	4	0	0	0	0	0	0	0	0	0	31
06:00	0	90	7	2	6	0	0	0	0	0	0	0	0	105
07:00	0	207	12	8	15	2	0	0	0	0	0	0	0	244
08:00	0	250	18	6	10	3	0	4	1	0	0	0	0	292
09:00	0	256	33	2	11	0	0	0	0	0	0	0	0	302
10:00	0	316	24	4	11	1	0	0	0	0	0	0	0	356
11:00	0	515	40	2	11	1	0	0	1	0	0	0	0	570
12:00 PM	0	553	36	3	16	0	0	0	0	0	0	0	0	608
13:00	0	432	33	3	10	1	0	1	0	0	0	0	0	480
14:00	0	458	28	4	7	1	0	1	0	0	0	0	0	499
15:00	0	564	36	4	14	0	0	0	0	0	0	0	0	618
16:00	0	762	40	5	20	2	1	0	2	0	0	0	0	832
17:00	6	643	47	6	14	3	1	5	3	0	0	0	0	728
18:00	2	612	40	6	10	2	1	4	2	0	0	0	0	679
19:00	0	349	20	2	5	0	0	0	0	0	0	0	0	376
20:00	0	208	10	3	7	0	0	0	0	0	0	0	0	228
21:00	0	154	9	1	3	0	0	0	0	0	0	0	0	167
22:00	0	77	6	0	1	0	0	0	0	0	0	0	0	84
23:00	0	47	1	0	1	0	0	0	0	0	0	0	0	49
Totals	9	6583	451	66	175	16	3	15	9					7327
% of Totals	0%	90%	6%	1%	2%	0%	0%	0%	0%					100%

AM Volumes	1	1724	145	29	67	7	0	4	2	0	0	0	0	1979
% AM	0%	24%	2%	0%	1%	0%		0%	0%					27%
AM Peak Hour	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00
Volume		515	40	2	11	1			1					570
PM Volumes	8	4859	306	37	108	9	3	11	7	0	0	0	0	5348
% PM	0%	66%	4%	1%	1%	0%	0%	0%	0%					73%
PM Peak Hour	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00
Volume														832

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%
	536		7%	1088		15%	1560		21%	4143		57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Tuesday
Date: 3/3/2015

City: Sandy Springs
Project #: GA15_9060_013

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	38	6	2	1	0	0	0	0	0	0	0	0	47
01:00	0	33	1	0	0	0	0	0	0	0	0	0	0	34
02:00	0	18	4	0	0	0	0	0	0	0	0	0	0	22
03:00	0	12	1	0	0	0	0	0	1	0	0	0	0	14
04:00	0	30	2	0	3	0	0	0	0	0	0	0	0	35
05:00	1	72	4	6	2	0	0	0	0	0	0	0	0	85
06:00	0	352	23	6	20	0	0	0	0	0	0	0	0	401
07:00	0	905	46	15	31	2	0	0	0	0	0	0	0	999
08:00	0	1096	51	15	29	6	0	4	2	0	0	0	0	1203
09:00	0	889	64	7	32	1	0	2	0	0	0	0	0	995
10:00	1	716	56	7	28	2	0	0	1	0	0	0	0	811
11:00	0	969	87	5	26	1	0	1	2	0	0	0	0	1091
12:00 PM	0	1086	70	11	33	0	0	1	0	0	0	0	0	1201
13:00	0	1070	74	7	24	2	0	1	0	0	0	0	0	1178
14:00	0	916	55	8	22	2	0	2	0	0	0	0	0	1005
15:00	0	1014	71	12	31	0	0	0	0	0	0	0	0	1128
16:00	0	1242	81	8	35	5	1	0	2	0	0	0	0	1374
17:00	6	1221	101	9	30	3	2	6	3	0	0	0	0	1381
18:00	2	1085	72	10	22	3	1	5	2	0	0	0	0	1202
19:00	0	716	38	4	17	0	0	0	0	0	0	0	0	775
20:00	0	470	24	4	12	0	0	0	0	0	0	0	0	510
21:00	0	328	19	2	12	0	0	0	0	0	0	0	0	361
22:00	0	157	12	0	1	0	0	0	0	0	0	0	0	170
23:00	0	89	5	1	2	0	0	0	0	0	0	0	0	97
Totals	10	14524	967	139	413	27	4	22	13					16119
% of Totals	0%	90%	6%	1%	3%	0%	0%	0%	0%					100%

AM Volumes	2	5130	345	63	172	12	0	7	6	0	0	0	0	5737
% AM	0%	32%	2%	0%	1%	0%		0%	0%					36%
AM Peak Hour	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00
Volume		1096	51	15	29	6		4	2					1203
PM Volumes	8	9394	622	76	241	15	4	15	7	0	0	0	0	10382
% PM	0%	58%	4%	0%	1%	0%	0%	0%	0%					64%
PM Peak Hour	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00
Volume														1381

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	2202		14%	2379		15%	2755		17%	8783		54%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	8,792	7,327	16,

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	7		6		13		12:00	0	0	114		167		281
00:15	0	0	7		6		13		12:15	0	0	137		166		303
00:30	0	0	5		8		13		12:30	0	0	167		148		315
00:45	0	0	5	24	3	23	8	47	12:45	0	0	175	593	127	608	302
01:00	0	0	4		4		8		13:00	0	0	174		126		300
01:15	0	0	1		4		5		13:15	0	0	198		118		316
01:30	0	0	4		5		9		13:30	0	0	168		116		284
01:45	0	0	7	16	5	18	12	34	13:45	0	0	158	698	120	480	278
02:00	0	0	3		4		7		14:00	0	0	146		97		243
02:15	0	0	3		6		9		14:15	0	0	128		141		269
02:30	0	0	1		0		1		14:30	0	0	114		113		227
02:45	0	0	2	9	3	13	5	22	14:45	0	0	118	506	148	499	266
03:00	0	0	2		1		3		15:00	0	0	135		132		267
03:15	0	0	1		3		4		15:15	0	0	130		139		269
03:30	0	0	4		1		5		15:30	0	0	117		160		277
03:45	0	0	1	8	1	6	2	14	15:45	0	0	128	510	187	618	315
04:00	0	0	3		5		8		16:00	0	0	152		189		341
04:15	0	0	2		2		4		16:15	0	0	125		211		336
04:30	0	0	5		2		7		16:30	0	0	126		221		347
04:45	0	0	6	16	10	19	16	35	16:45	0	0	139	542	211	832	350
05:00	0	0	6		2		8		17:00	0	0	118		201		319
05:15	0	0	7		4		11		17:15	0	0	169		174		343
05:30	0	0	17		12		29		17:30	0	0	193		184		377
05:45	0	0	24	54	13	31	37	85	17:45	0	0	173	653	169	728	342
06:00	0	0	31		19		50		18:00	0	0	108		177		285
06:15	0	0	50		19		69		18:15	0	0	100		169		269
06:30	0	0	93		40		133		18:30	0	0	160		185		345
06:45	0	0	122	296	27	105	149	401	18:45	0	0	155	523	148	679	303
07:00	0	0	152		51		203		19:00	0	0	135		124		259
07:15	0	0	177		66		243		19:15	0	0	103		91		194
07:30	0	0	203		70		273		19:30	0	0	86		96		182
07:45	0	0	223	755	57	244	280	999	19:45	0	0	75	399	65	376	140
08:00	0	0	205		74		279		20:00	0	0	95		61		156
08:15	0	0	230		68		298		20:15	0	0	64		64		128
08:30	0	0	255		77		332		20:30	0	0	75		54		129
08:45	0	0	221	911	73	292	294	1203	20:45	0	0	48	282	49	228	97
09:00	0	0	222		76		298		21:00	0	0	54		50		104
09:15	0	0	171		74		245		21:15	0	0	56		48		104
09:30	0	0	174		61		235		21:30	0	0	49		38		87
09:45	0	0	126	693	91	302	217	995	21:45	0	0	35	194	31	167	66
10:00	0	0	109		82		191		22:00	0	0	28		27		55
10:15	0	0	102		74		176		22:15	0	0	26		23		49
10:30	0	0	103		110		213		22:30	0	0	20		17		37
10:45	0	0	141	455	90	356	231	811	22:45	0	0	12	86	17	84	29
11:00	0	0	118		132		250		23:00	0	0	16		16		32
11:15	0	0	136		121		257		23:15	0	0	9		12		21
11:30	0	0	128		143		271		23:30	0	0	12		11		23
11:45	0	0	139	521	174	570	313	1091	23:45	0	0	11	48	10	49	21
TOTALS				3758		1979		5737	TOTALS				5034		5348	
SPLIT %				65.5%		34.5%		35.6%	SPLIT %				48.5%		51.5%	

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	8,792	7,327	16,

AM Peak Hour			08:15	11:45	08:15	PM Peak Hour			13:15	16:45
AM Pk Volume			928	655	1222	PM Pk Volume			670	844
Pk Hr Factor			0.910	0.941	0.920	Pk Hr Factor			0.846	0.912
7 - 9 Volume	0	0	1666	536	2202	4 - 6 Volume	0	0	1195	1560
7 - 9 Peak Hour			07:45	08:00	08:00	4 - 6 Peak Hour			17:00	16:15
7 - 9 Pk Volume	0	0	913	292	1203	4 - 6 Pk Volume	0	0	653	844
Pk Hr Factor	0.000	0.000	0.895	0.948	0.906	Pk Hr Factor	0.000	0.000	0.846	0.955

Prepared by NDS/ATD

Project #: GA15_9060_013 **City:** Sandy Springs

Location: Hammond Dr Bet. Kayron Dr & Lorell **Date:** 3/3/2015

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Wednesday
Date: 3/4/2015

City: Sandy Springs
Project #: GA15_9060_013e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	7	0	0	0	0	0	0	0	0	0	0	0	7
00:15	0	6	0	1	1	0	0	0	0	0	0	0	0	8
00:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8
00:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5
01:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
01:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	4	0	0	0	0	0	0	1	0	0	0	0	5
02:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:45	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8
05:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
05:15	0	9	0	1	0	0	0	0	0	0	0	0	0	10
05:30	0	14	1	1	1	0	0	0	0	0	0	0	0	17
05:45	0	18	1	0	0	0	0	0	0	0	0	0	0	19
06:00	0	31	3	1	1	0	0	0	0	0	0	0	0	36
06:15	0	50	6	1	3	0	0	0	0	0	0	0	0	60
06:30	0	78	1	0	4	0	0	0	0	0	0	0	0	83
06:45	0	111	4	2	1	0	0	0	0	0	0	0	0	118
07:00	0	115	10	0	4	0	0	0	0	0	0	0	0	129
07:15	0	166	10	1	9	1	0	0	0	0	0	0	0	187
07:30	0	188	7	1	6	0	0	0	0	0	0	0	0	202
07:45	0	206	9	1	5	0	0	0	0	0	0	0	0	221
08:00	0	132	8	3	7	0	0	0	0	0	0	0	0	150
08:15	0	209	7	2	7	0	0	0	0	0	0	0	0	225
08:30	0	219	14	6	3	0	0	0	0	0	0	0	0	242
08:45	0	209	11	2	2	0	0	0	0	0	0	0	0	224
09:00	0	170	18	2	5	0	0	0	0	0	0	0	0	195
09:15	0	166	11	1	5	1	0	0	0	0	0	0	0	184
09:30	0	180	10	1	5	1	0	0	0	0	0	0	0	197
09:45	0	124	10	1	8	0	0	0	0	0	0	0	0	143
10:00	0	95	8	0	1	0	0	1	0	0	0	0	0	105
10:15	0	106	3	1	3	0	0	1	0	0	0	0	0	114
10:30	0	85	5	2	6	0	0	1	0	0	0	0	0	99
10:45	0	81	7	1	6	0	0	0	0	0	0	0	0	95
11:00	0	90	7	0	5	2	0	0	0	0	0	0	0	104
11:15	0	114	3	1	3	0	0	0	1	0	0	0	0	122
11:30	0	107	5	2	3	0	0	1	0	0	0	0	0	118
11:45	0	115	6	1	2	0	0	0	0	0	0	0	0	124
12:00 PM	0	134	12	0	2	2	0	0	0	0	0	0	0	150
12:15	0	106	8	0	7	0	0	0	0	0	0	0	0	121
12:30	0	134	12	1	4	1	0	0	0	0	0	0	0	152
12:45	0	164	16	2	4	0	0	0	0	0	0	0	0	186
13:00	0	183	11	0	6	0	0	0	0	0	0	0	0	200
13:15	0	169	9	1	9	0	0	0	0	0	0	0	0	188
13:30	0	163	11	0	4	0	0	0	0	0	0	0	0	178
13:45	0	147	13	1	1	0	0	0	0	0	0	0	0	162
14:00	0	119	17	1	7	0	0	0	0	0	0	0	0	144
14:15	0	120	12	0	2	0	0	0	0	0	0	0	0	134
14:30	0	97	8	1	2	0	0	0	0	0	0	0	0	108
14:45	0	102	11	1	5	0	0	0	0	0	0	0	0	119
15:00	0	118	4	1	2	0	0	0	0	0	0	0	0	125
15:15	1	111	4	2	1	0	0	1	0	0	0	0	0	120
15:30	0	103	12	1	4	0	0	0	0	0	0	0	0	120
15:45	0	99	6	4	2	0	0	0	0	0	0	0	0	111
16:00	0	124	10	1	6	0	0	0	0	0	0	0	0	141
16:15	0	139	7	2	8	0	0	0	0	0	0	0	0	156
16:30	0	150	6	1	8	0	0	1	0	0	0	0	0	166
16:45	0	136	8	1	4	0	0	0	0	0	0	0	0	149
17:00	0	128	6	2	3	1	0	0	1	0	0	0	0	141
17:15	0	115	7	1	2	0	0	0	0	0	0	0	0	125
17:30	1	126	11	1	3	0	0	0	0	0	0	0	0	142
17:45	0	122	4	1	5	0	0	0	0	0	0	0	0	132
18:00	0	103	2	2	4	0	0	0	0	0	0	0	0	111
18:15	0	107	6	0	4	0	0	1	0	0	0	0	0	118
18:30	0	108	4	2	5	0	0	0	0	0	0	0	0	119
18:45	0	97	6	1	3	0	0	0	0	0	0	0	0	107
19:00	1	104	5	1	2	0	0	0	0	0	0	0	0	113
19:15	0	70	10	0	2	0	0	0	0	0	0	0	0	82
19:30	0	69	3	1	2	0	0	0	0	0	0	0	0	75
19:45	0	71	2	2	2	0	0	0	0	0	0	0	0	77
20:00	0	73	7	0	3	0	0	0	0	0	0	0	0	83
20:15	0	64	7	1	1	0	0	0	0	0	0	0	0	73
20:30	0	65	4	1	0	0	0	0	0	0	0	0	0	70
20:45	0	63	1	0	0	0	0	1	0	0	0	0	0	65
21:00	0	65	0	0	1	0	0	0	0	0	0	0	0	66
21:15	0	43	4	1	1	0	0	0	0	0	0	0	0	49
21:30	0	49	3	0	4	0	0	0	0	0	0	0	0	56
21:45	0	31	1	0	0	0	0	0	0	0	0	0	0	32
22:00	0	33	1	0	2	0	0	0	0	0	0	0	0	36
22:15	0	29	2	0	2	0	0	0	0	0	0	0	0	33
22:30	0	28	1	0	1	0	0	0	0	0	0	0	0	30
22:45	0	22	0	0	1	0	0	0	0	0	0	0	0	23
23:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14
23:15	0	14	0	0	0	0	0	0	0	0	0	0	0	14
23:30	0	10	1	1	1	0	0	0	0	0	0	0	0	13
23:45	0	11	1	0	0	0	0	0	0	0	0	0	0	12
Totals	**3**	**7710**	**484**	**75**	**248**	**9**		**8**	**3**					**8540**
% of Totals	0%	90%	6%	1%	3%	0%		0%	0%					100%

AM Volumes	0	3258	188	36	106	5	0	4	2	0	0	0	0	3599
% AM		38%	2%	0%	1%	0%		0%	0%					42%
AM Peak Hour	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15	08:15
Volume		807	50	12	17									886
PM Volumes	3	4452	296	39	142	4	0	4	1	0	0	0	0	4941
% PM	0%	52%	3%	0%	2%	0%		0%	0%					58%
PM Peak Hour	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45	12:45
Volume		679	47	3	23									752

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1580		19%	1337		16%	1152		13%	4471		52%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Wednesday
Date: 3/4/2015

City: Sandy Springs
Project #: GA15_9060_013w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	13	2	0	0	0	0	0	0	0	0	0	0	15
00:15	0	11	0	0	0	0	0	0	0	0	0	0	0	11
00:30	0	3	1	1	0	0	0	0	0	0	0	0	0	5
00:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
01:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
01:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
01:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
02:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:30	0	2	0	0	0	0	0	1	0	0	0	0	0	3
03:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
04:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:45	0	6	1	0	1	0	0	0	0	0	0	0	0	8
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
05:15	0	3	0	1	0	0	0	0	0	0	0	0	0	4
05:30	0	10	1	1	0	0	0	0	0	0	0	0	0	12
05:45	0	12	0	2	0	0	0	0	0	0	0	0	0	14
06:00	0	17	1	1	0	0	0	0	0	0	0	0	0	19
06:15	0	19	1	0	3	0	0	0	0	0	0	0	0	23
06:30	0	26	5	1	2	0	0	0	0	0	0	0	0	34
06:45	0	32	4	1	0	0	0	0	0	0	0	0	0	37
07:00	0	35	3	1	2	1	0	0	0	0	0	0	0	42
07:15	0	58	5	2	2	0	0	0	0	0	0	0	0	67
07:30	0	55	6	2	1	1	0	0	0	0	0	0	0	65
07:45	0	59	6	6	3	0	0	0	0	0	0	0	0	74
08:00	0	75	1	1	1	0	0	0	0	0	0	0	0	78
08:15	0	78	4	0	4	0	0	0	0	0	0	0	0	86
08:30	0	46	6	2	1	1	0	1	0	0	0	0	0	57
08:45	0	72	9	1	2	0	0	0	0	0	0	0	0	84
09:00	0	65	5	0	2	0	0	0	0	0	0	0	0	72
09:15	0	57	9	2	4	0	0	0	0	0	0	0	0	72
09:30	0	67	8	0	2	0	0	0	0	0	0	0	0	77
09:45	0	81	5	0	3	0	0	1	0	0	0	0	0	90
10:00	0	82	8	1	3	0	0	0	0	0	0	0	0	94
10:15	0	86	4	0	5	0	0	0	0	0	0	0	0	95
10:30	0	86	2	2	8	1	0	0	0	0	0	0	0	99
10:45	0	85	12	1	4	0	0	0	0	0	0	0	0	102
11:00	0	115	12	0	2	0	0	0	0	0	0	0	0	129
11:15	0	114	8	1	1	1	0	0	0	0	0	0	0	125
11:30	0	143	4	1	4	0	0	0	0	0	0	0	0	152
11:45	0	178	12	2	7	0	0	0	0	0	0	0	0	199
12:00 PM	0	165	17	0	7	0	0	0	0	0	0	0	0	189
12:15	0	194	14	1	3	0	0	0	0	0	0	0	0	212
12:30	0	152	13	1	5	0	0	0	0	0	0	0	0	171
12:45	0	137	8	0	6	0	0	1	0	0	0	0	0	152
13:00	0	130	13	1	4	0	0	0	0	0	0	0	0	148
13:15	0	141	8	1	4	0	0	0	0	0	0	0	0	154
13:30	0	106	11	0	5	0	0	0	0	0	0	0	0	122
13:45	0	133	11	2	2	0	0	0	0	0	0	0	0	148
14:00	0	104	6	0	3	0	0	1	0	0	0	0	0	114
14:15	0	111	8	2	4	0	0	1	0	0	0	0	0	126
14:30	0	115	4	1	1	1	0	0	0	0	0	0	0	122
14:45	0	116	11	1	3	0	0	0	0	0	0	0	0	131
15:00	0	123	11	1	2	0	0	0	0	0	0	0	0	137
15:15	0	134	9	1	3	0	0	0	0	0	0	0	0	147
15:30	0	123	7	1	3	0	0	0	0	0	0	0	0	134
15:45	0	125	8	1	6	1	0	0	0	0	0	0	0	141
16:00	0	159	7	0	2	1	0	0	1	0	0	0	0	170
16:15	1	191	11	1	5	0	0	0	0	0	0	0	0	209
16:30	0	206	15	1	3	1	0	0	2	0	0	0	0	228
16:45	2	173	8	3	6	1	0	1	3	0	0	0	0	197
17:00	0	182	7	1	2	1	0	0	0	0	0	0	0	193
17:15	0	194	11	2	6	2	1	0	0	0	0	0	0	216
17:30	0	170	11	1	3	0	2	0	1	0	0	0	0	188
17:45	1	184	13	1	5	1	0	0	1	0	0	0	0	206
18:00	0	162	12	1	4	0	0	0	1	0	0	0	0	180
18:15	1	177	8	0	4	0	0	0	0	0	0	0	0	190
18:30	0	156	11	1	4	0	0	0	0	0	0	0	0	172
18:45	0	121	8	0	0	0	0	0	0	0	0	0	0	129
19:00	0	116	7	2	2	0	0	0	0	0	0	0	0	127
19:15	0	83	7	1	0	0	0	0	0	0	0	0	0	91
19:30	0	103	9	0	1	0	0	0	0	0	0	0	0	113
19:45	0	74	6	1	1	0	0	0	0	0	0	0	0	82
20:00	0	72	3	1	2	0	0	0	0	0	0	0	0	78
20:15	1	57	6	1	2	0	0	0	0	0	0	0	0	67
20:30	0	66	5	1	1	0	0	0	0	0	0	0	0	73
20:45	0	57	2	0	1	0	0	0	0	0	0	0	0	60
21:00	0	54	2	1	2	0	0	0	0	0	0	0	0	59
21:15	1	47	2	0	1	0	0	0	0	0	0	0	0	51
21:30	0	41	0	1	0	0	0	0	0	0	0	0	0	42
21:45	1	21	3	0	0	0	0	0	0	0	0	0	0	25
22:00	0	26	0	0	0	0	0	0	0	0	0	0	0	26
22:15	0	28	2	0	0	0	0	0	0	0	0	0	0	30
22:30	0	35	1	0	1	0	0	0	0	0	0	0	0	37
22:45	0	21	2	0	3	0	0	0	0	0	0	0	0	26
23:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
23:15	0	10	1	0	0	0	0	0	0	0	0	0	0	11
23:30	0	10	3	0	0	0	0	0	0	0	0	0	0	13
23:45	0	10	0	1	1	0	0	0	0	0	0	0	0	12
Totals	**8**	**6976**	**495**	**69**	**190**	**14**	**3**	**7**	**9**					**7771**
% of Totals	0%	90%	6%	1%	2%	0%	0%	0%	0%					100%

AM Volumes	0	1836	150	33	67	5	0	3	0	0	0	0	0	2094
% AM		24%	2%	0%	1%	0%		0%						27%
AM Peak Hour	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45
Volume		689	56	4	22									771
PM Volumes	8	5140	345	36	123	9	3	4	9	0	0	0	0	5677
% PM	0%	66%	4%	0%	2%	0%	0%	0%	0%					73%
PM Peak Hour	16:30	16:30	16:30	16:30	16:30	16:30	16:30	16:30	16:30	16:30	16:30	16:30	16:30	16:30
Volume	2	755	41	7	17	5	1	1	5					834

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	553		7%	1296		17%	1607		21%	4315		56%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Wednesday
Date: 3/4/2015

City: Sandy Springs
Project #: GA15_9060_013

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	20	2	0	0	0	0	0	0	0	0	0	0	22
00:15	0	17	0	1	1	0	0	0	0	0	0	0	0	19
00:30	0	11	1	1	0	0	0	0	0	0	0	0	0	13
00:45	0	9	1	0	0	0	0	0	0	0	0	0	0	10
01:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
01:15	0	12	1	0	0	0	0	0	0	0	0	0	0	13
01:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
02:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:30	0	5	0	0	0	0	0	0	1	0	0	0	0	6
02:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:30	0	5	0	0	0	0	0	1	0	0	0	0	0	6
03:45	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
04:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
04:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4
04:45	0	14	1	0	1	0	0	0	0	0	0	0	0	16
05:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
05:15	0	12	0	2	0	0	0	0	0	0	0	0	0	14
05:30	0	24	2	2	1	0	0	0	0	0	0	0	0	29
05:45	0	30	1	2	0	0	0	0	0	0	0	0	0	33
06:00	0	48	4	2	1	0	0	0	0	0	0	0	0	55
06:15	0	69	7	1	6	0	0	0	0	0	0	0	0	83
06:30	0	104	6	1	6	0	0	0	0	0	0	0	0	117
06:45	0	143	8	3	1	0	0	0	0	0	0	0	0	155
07:00	0	150	13	1	6	1	0	0	0	0	0	0	0	171
07:15	0	224	15	3	11	1	0	0	0	0	0	0	0	254
07:30	0	243	13	3	7	1	0	0	0	0	0	0	0	267
07:45	0	265	15	7	8	0	0	0	0	0	0	0	0	295
08:00	0	207	9	4	8	0	0	0	0	0	0	0	0	228
08:15	0	287	11	2	11	0	0	0	0	0	0	0	0	311
08:30	0	265	20	8	4	1	0	1	0	0	0	0	0	299
08:45	0	281	20	3	4	0	0	0	0	0	0	0	0	308
09:00	0	235	23	2	7	0	0	0	0	0	0	0	0	267
09:15	0	223	20	3	9	1	0	0	0	0	0	0	0	256
09:30	0	247	18	1	7	1	0	0	0	0	0	0	0	274
09:45	0	205	15	1	11	0	0	1	0	0	0	0	0	233
10:00	0	177	16	1	4	0	0	1	0	0	0	0	0	199
10:15	0	192	7	1	8	0	0	1	0	0	0	0	0	209
10:30	0	171	7	4	14	1	0	1	0	0	0	0	0	198
10:45	0	166	19	2	10	0	0	0	0	0	0	0	0	197
11:00	0	205	19	0	7	2	0	0	0	0	0	0	0	233
11:15	0	228	11	2	4	1	0	0	1	0	0	0	0	247
11:30	0	250	9	3	7	0	0	1	0	0	0	0	0	270
11:45	0	293	18	3	9	0	0	0	0	0	0	0	0	323
12:00 PM	0	299	29	0	9	2	0	0	0	0	0	0	0	339
12:15	0	300	22	1	10	0	0	0	0	0	0	0	0	333
12:30	0	286	25	2	9	1	0	0	0	0	0	0	0	323
12:45	0	301	24	2	10	0	0	1	0	0	0	0	0	338
13:00	0	313	24	1	10	0	0	0	0	0	0	0	0	348
13:15	0	310	17	2	13	0	0	0	0	0	0	0	0	342
13:30	0	269	22	0	9	0	0	0	0	0	0	0	0	300
13:45	0	280	24	3	3	0	0	0	0	0	0	0	0	310
14:00	0	223	23	1	10	0	0	1	0	0	0	0	0	258
14:15	0	231	20	2	6	0	0	1	0	0	0	0	0	260
14:30	0	212	12	2	3	1	0	0	0	0	0	0	0	230
14:45	0	218	22	2	8	0	0	0	0	0	0	0	0	250
15:00	0	241	15	2	4	0	0	0	0	0	0	0	0	262
15:15	1	245	13	3	4	0	0	1	0	0	0	0	0	267
15:30	0	226	19	2	7	0	0	0	0	0	0	0	0	254
15:45	0	224	14	5	8	1	0	0	0	0	0	0	0	252
16:00	0	283	17	1	8	1	0	0	1	0	0	0	0	311
16:15	1	330	18	3	13	0	0	0	0	0	0	0	0	365
16:30	0	356	21	2	11	1	0	1	2	0	0	0	0	394
16:45	2	309	16	4	10	1	0	1	3	0	0	0	0	346
17:00	0	310	13	3	5	2	0	0	1	0	0	0	0	334
17:15	0	309	18	3	8	2	1	0	0	0	0	0	0	341
17:30	1	296	22	2	6	0	2	0	1	0	0	0	0	330
17:45	1	306	17	2	10	1	0	0	1	0	0	0	0	338
18:00	0	265	14	3	8	0	0	0	1	0	0	0	0	291
18:15	1	284	14	0	8	0	0	1	0	0	0	0	0	308
18:30	0	264	15	3	9	0	0	0	0	0	0	0	0	291
18:45	0	218	14	1	3	0	0	0	0	0	0	0	0	236
19:00	1	220	12	3	4	0	0	0	0	0	0	0	0	240
19:15	0	153	17	1	2	0	0	0	0	0	0	0	0	173
19:30	0	172	12	1	3	0	0	0	0	0	0	0	0	188
19:45	0	145	8	3	3	0	0	0	0	0	0	0	0	159
20:00	0	145	10	1	5	0	0	0	0	0	0	0	0	161
20:15	1	121	13	2	3	0	0	0	0	0	0	0	0	140
20:30	0	131	9	2	1	0	0	0	0	0	0	0	0	143
20:45	0	120	3	0	1	0	0	1	0	0	0	0	0	125
21:00	0	119	2	1	3	0	0	0	0	0	0	0	0	125
21:15	1	90	6	1	2	0	0	0	0	0	0	0	0	100
21:30	0	90	3	1	4	0	0	0	0	0	0	0	0	98
21:45	1	52	4	0	0	0	0	0	0	0	0	0	0	57
22:00	0	59	1	0	2	0	0	0	0	0	0	0	0	62
22:15	0	57	4	0	2	0	0	0	0	0	0	0	0	63
22:30	0	63	2	0	2	0	0	0	0	0	0	0	0	67
22:45	0	43	2	0	4	0	0	0	0	0	0	0	0	49
23:00	0	39	3	0	0	0	0	0	0	0	0	0	0	42
23:15	0	24	1	0	0	0	0	0	0	0	0	0	0	25
23:30	0	20	4	1	1	0	0	0	0	0	0	0	0	26
23:45	0	21	1	1	1	0	0	0	0	0	0	0	0	24
Totals	**11**	**14686**	**979**	**144**	**438**	**23**	**3**	**15**	**12**					**16311**
% of Totals	0%	90%	6%	1%	3%	0%	0%	0%	0%					100%

AM Volumes	0	5094	338	69	173	10	0	7	2	0	0	0	0	5693
% AM		31%	2%	0%	1%	0%		0%	0%					35%
AM Peak Hour	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45	11:45
Volume		1178	94	6	37	3								1318
PM Volumes	11	9592	641	75	265	13	3	8	10	0	0	0	0	10618
% PM	0%	59%	4%	0%	2%	0%	0%	0%	0%					65%
PM Peak Hour	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15	16:15
Volume	3	1305	68	12	39	4		2	6					1439

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2133	⟷	13%	2633	⟷	16%	2759	⟷	17%	8786	⟷	54%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Wednesday
Date: 3/4/2015

City: Sandy Springs
Project #: GA15_9060_013e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	25	1	1	1	0	0	0	0	0	0	0	0	28
01:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
02:00	0	9	0	0	0	0	0	0	1	0	0	0	0	10
03:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
04:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
05:00	0	47	2	2	1	0	0	0	0	0	0	0	0	52
06:00	0	270	14	4	9	0	0	0	0	0	0	0	0	297
07:00	0	675	36	3	24	1	0	0	0	0	0	0	0	739
08:00	0	769	40	13	19	0	0	0	0	0	0	0	0	841
09:00	0	640	49	5	23	2	0	0	0	0	0	0	0	719
10:00	0	367	23	4	16	0	0	3	0	0	0	0	0	413
11:00	0	426	21	4	13	2	0	1	1	0	0	0	0	468
12:00 PM	0	538	48	3	17	3	0	0	0	0	0	0	0	609
13:00	0	662	44	2	20	0	0	0	0	0	0	0	0	728
14:00	0	438	48	3	16	0	0	0	0	0	0	0	0	505
15:00	1	431	26	8	9	0	0	1	0	0	0	0	0	476
16:00	0	549	31	5	26	0	0	1	0	0	0	0	0	612
17:00	1	491	28	5	13	1	0	0	1	0	0	0	0	540
18:00	0	415	18	5	16	0	0	1	0	0	0	0	0	455
19:00	1	314	20	4	8	0	0	0	0	0	0	0	0	347
20:00	0	265	19	2	4	0	0	1	0	0	0	0	0	291
21:00	0	188	8	1	6	0	0	0	0	0	0	0	0	203
22:00	0	112	4	0	6	0	0	0	0	0	0	0	0	122
23:00	0	49	2	1	1	0	0	0	0	0	0	0	0	53
Totals	3	7710	484	75	248	9		8	3					8540
% of Totals	0%	90%	6%	1%	3%	0%		0%	0%					100%

AM Volumes	0	3258	188	36	106	5	0	4	2	0	0	0	0	3599
% AM		38%	2%	0%	1%	0%		0%	0%					42%
AM Peak Hour	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00
Volume		769	40	13	19									841
PM Volumes	3	4452	296	39	142	4	0	4	1	0	0	0	0	4941
% PM	0%	52%	3%	0%	2%	0%		0%	0%					58%
PM Peak Hour	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00	13:00
Volume														728

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1580		19%	1337		16%	1152		13%	4471		52%

Classification Definitions

1 Motorcycles	**4** Buses	**7** > =4-Axle Single Units	**10** >=6-Axle Single Trailers	**13** >=7-Axle Multi-Trailers
2 Passenger Cars	**5** 2-Axle, 6-Tire Single Units	**8** <=4-Axle Single Trailers	**11** <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	**6** 3-Axle Single Units	**9** 5-Axle Single Trailers	**12** 6-Axle Multi-Trailers	

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Wednesday
Date: 3/4/2015

City: Sandy Springs
Project #: GA15_9060_013w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	32	3	1	0	0	0	0	0	0	0	0	0	36
01:00	0	22	1	0	0	0	0	0	0	0	0	0	0	23
02:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
03:00	0	6	0	0	0	0	0	1	0	0	0	0	0	7
04:00	0	11	3	0	1	0	0	0	0	0	0	0	0	15
05:00	0	27	2	4	0	0	0	0	0	0	0	0	0	33
06:00	0	94	11	3	5	0	0	0	0	0	0	0	0	113
07:00	0	207	20	11	8	2	0	0	0	0	0	0	0	248
08:00	0	271	20	4	8	1	0	1	0	0	0	0	0	305
09:00	0	270	27	2	11	0	0	1	0	0	0	0	0	311
10:00	0	339	26	4	20	1	0	0	0	0	0	0	0	390
11:00	0	550	36	4	14	1	0	0	0	0	0	0	0	605
12:00 PM	0	648	52	2	21	0	0	1	0	0	0	0	0	724
13:00	0	510	43	4	15	0	0	0	0	0	0	0	0	572
14:00	0	446	29	4	11	1	0	2	0	0	0	0	0	493
15:00	0	505	35	4	14	1	0	0	0	0	0	0	0	559
16:00	3	729	41	5	16	3	0	1	6	0	0	0	0	804
17:00	1	730	42	5	16	4	3	0	2	0	0	0	0	803
18:00	1	616	39	2	12	0	0	0	1	0	0	0	0	671
19:00	0	376	29	4	4	0	0	0	0	0	0	0	0	413
20:00	1	252	16	3	6	0	0	0	0	0	0	0	0	278
21:00	2	163	7	2	3	0	0	0	0	0	0	0	0	177
22:00	0	110	5	0	4	0	0	0	0	0	0	0	0	119
23:00	0	55	7	1	1	0	0	0	0	0	0	0	0	64
Totals	8	6976	495	69	190	14	3	7	9					7771
% of Totals	0%	90%	6%	1%	2%	0%	0%	0%	0%					100%

AM Volumes	0	1836	150	33	67	5	0	3	0	0	0	0	0	2094
% AM		24%	2%	0%	1%	0%		0%						27%
AM Peak Hour	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00
Volume		550	36	4	14	1								605
PM Volumes	8	5140	345	36	123	9	3	4	9	0	0	0	0	5677
% PM	0%	66%	4%	0%	2%	0%	0%	0%	0%					73%
PM Peak Hour	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00
Volume														804

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%	Volume	⟷	%
	553		7%	1296		17%	1607		21%	4315		56%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Hammond Dr Bet. Kayron Dr & Lorell Terrace

Day: Wednesday
Date: 3/4/2015

City: Sandy Springs
Project #: GA15_9060_013

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	57	4	2	1	0	0	0	0	0	0	0	0	64
01:00	0	33	2	0	0	0	0	0	0	0	0	0	0	35
02:00	0	16	1	0	0	0	0	0	1	0	0	0	0	18
03:00	0	12	1	0	0	0	0	1	0	0	0	0	0	14
04:00	0	24	3	0	1	0	0	0	0	0	0	0	0	28
05:00	0	74	4	6	1	0	0	0	0	0	0	0	0	85
06:00	0	364	25	7	14	0	0	0	0	0	0	0	0	410
07:00	0	882	56	14	32	3	0	0	0	0	0	0	0	987
08:00	0	1040	60	17	27	1	0	1	0	0	0	0	0	1146
09:00	0	910	76	7	34	2	0	1	0	0	0	0	0	1030
10:00	0	706	49	8	36	1	0	3	0	0	0	0	0	803
11:00	0	976	57	8	27	3	0	1	1	0	0	0	0	1073
12:00 PM	0	1186	100	5	38	3	0	1	0	0	0	0	0	1333
13:00	0	1172	87	6	35	0	0	0	0	0	0	0	0	1300
14:00	0	884	77	7	27	1	0	2	0	0	0	0	0	998
15:00	1	936	61	12	23	1	0	1	0	0	0	0	0	1035
16:00	3	1278	72	10	42	3	0	2	6	0	0	0	0	1416
17:00	2	1221	70	10	29	5	3	0	3	0	0	0	0	1343
18:00	1	1031	57	7	28	0	0	1	1	0	0	0	0	1126
19:00	1	690	49	8	12	0	0	0	0	0	0	0	0	760
20:00	1	517	35	5	10	0	0	1	0	0	0	0	0	569
21:00	2	351	15	3	9	0	0	0	0	0	0	0	0	380
22:00	0	222	9	0	10	0	0	0	0	0	0	0	0	241
23:00	0	104	9	2	2	0	0	0	0	0	0	0	0	117
Totals	11	14686	979	144	438	23	3	15	12					16311
% of Totals	0%	90%	6%	1%	3%	0%	0%	0%	0%					100%

AM Volumes	0	5094	338	69	173	10	0	7	2	0	0	0	0	5693
% AM		31%	2%	0%	1%	0%		0%	0%					35%
AM Peak Hour	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00
Volume		1040	60	17	27	1		1						1146
PM Volumes	11	9592	641	75	265	13	3	8	10	0	0	0	0	10618
% PM	0%	59%	4%	0%	2%	0%	0%	0%	0%					65%
PM Peak Hour	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00
Volume														1416

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	2133		13%	2633		16%	2759		17%	8786		54%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	8,540	7,771	16,

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	7		15		22		12:00	0	0	150		189		339
00:15	0	0	8		11		19		12:15	0	0	121		212		333
00:30	0	0	8		5		13		12:30	0	0	152		171		323
00:45	0	0	5	28	5	36	10	64	12:45	0	0	186	609	152	724	338
01:00	0	0	5		8		13		13:00	0	0	200		148		348
01:15	0	0	4		9		13		13:15	0	0	188		154		342
01:30	0	0	2		1		3		13:30	0	0	178		122		300
01:45	0	0	1	12	5	23	6	35	13:45	0	0	162	728	148	572	310
02:00	0	0	3		3		6		14:00	0	0	144		114		258
02:15	0	0	0		2		2		14:15	0	0	134		126		260
02:30	0	0	5		1		6		14:30	0	0	108		122		230
02:45	0	0	2	10	2	8	4	18	14:45	0	0	119	505	131	493	250
03:00	0	0	1		0		1		15:00	0	0	125		137		262
03:15	0	0	1		3		4		15:15	0	0	120		147		267
03:30	0	0	3		3		6		15:30	0	0	120		134		254
03:45	0	0	2	7	1	7	3	14	15:45	0	0	111	476	141	559	252
04:00	0	0	0		4		4		16:00	0	0	141		170		311
04:15	0	0	3		1		4		16:15	0	0	156		209		365
04:30	0	0	2		2		4		16:30	0	0	166		228		394
04:45	0	0	8	13	8	15	16	28	16:45	0	0	149	612	197	804	346
05:00	0	0	6		3		9		17:00	0	0	141		193		334
05:15	0	0	10		4		14		17:15	0	0	125		216		341
05:30	0	0	17		12		29		17:30	0	0	142		188		330
05:45	0	0	19	52	14	33	33	85	17:45	0	0	132	540	206	803	338
06:00	0	0	36		19		55		18:00	0	0	111		180		291
06:15	0	0	60		23		83		18:15	0	0	118		190		308
06:30	0	0	83		34		117		18:30	0	0	119		172		291
06:45	0	0	118	297	37	113	155	410	18:45	0	0	107	455	129	671	236
07:00	0	0	129		42		171		19:00	0	0	113		127		240
07:15	0	0	187		67		254		19:15	0	0	82		91		173
07:30	0	0	202		65		267		19:30	0	0	75		113		188
07:45	0	0	221	739	74	248	295	987	19:45	0	0	77	347	82	413	159
08:00	0	0	150		78		228		20:00	0	0	83		78		161
08:15	0	0	225		86		311		20:15	0	0	73		67		140
08:30	0	0	242		57		299		20:30	0	0	70		73		143
08:45	0	0	224	841	84	305	308	1146	20:45	0	0	65	291	60	278	125
09:00	0	0	195		72		267		21:00	0	0	66		59		125
09:15	0	0	184		72		256		21:15	0	0	49		51		100
09:30	0	0	197		77		274		21:30	0	0	56		42		98
09:45	0	0	143	719	90	311	233	1030	21:45	0	0	32	203	25	177	57
10:00	0	0	105		94		199		22:00	0	0	36		26		62
10:15	0	0	114		95		209		22:15	0	0	33		30		63
10:30	0	0	99		99		198		22:30	0	0	30		37		67
10:45	0	0	95	413	102	390	197	803	22:45	0	0	23	122	26	119	49
11:00	0	0	104		129		233		23:00	0	0	14		28		42
11:15	0	0	122		125		247		23:15	0	0	14		11		25
11:30	0	0	118		152		270		23:30	0	0	13		13		26
11:45	0	0	124	468	199	605	323	1073	23:45	0	0	12	53	12	64	24
TOTALS				3599		2094		**5693**	**TOTALS**				4941		5677	
SPLIT %				63.2%		36.8%		**34.9%**	**SPLIT %**				46.5%		53.5%	

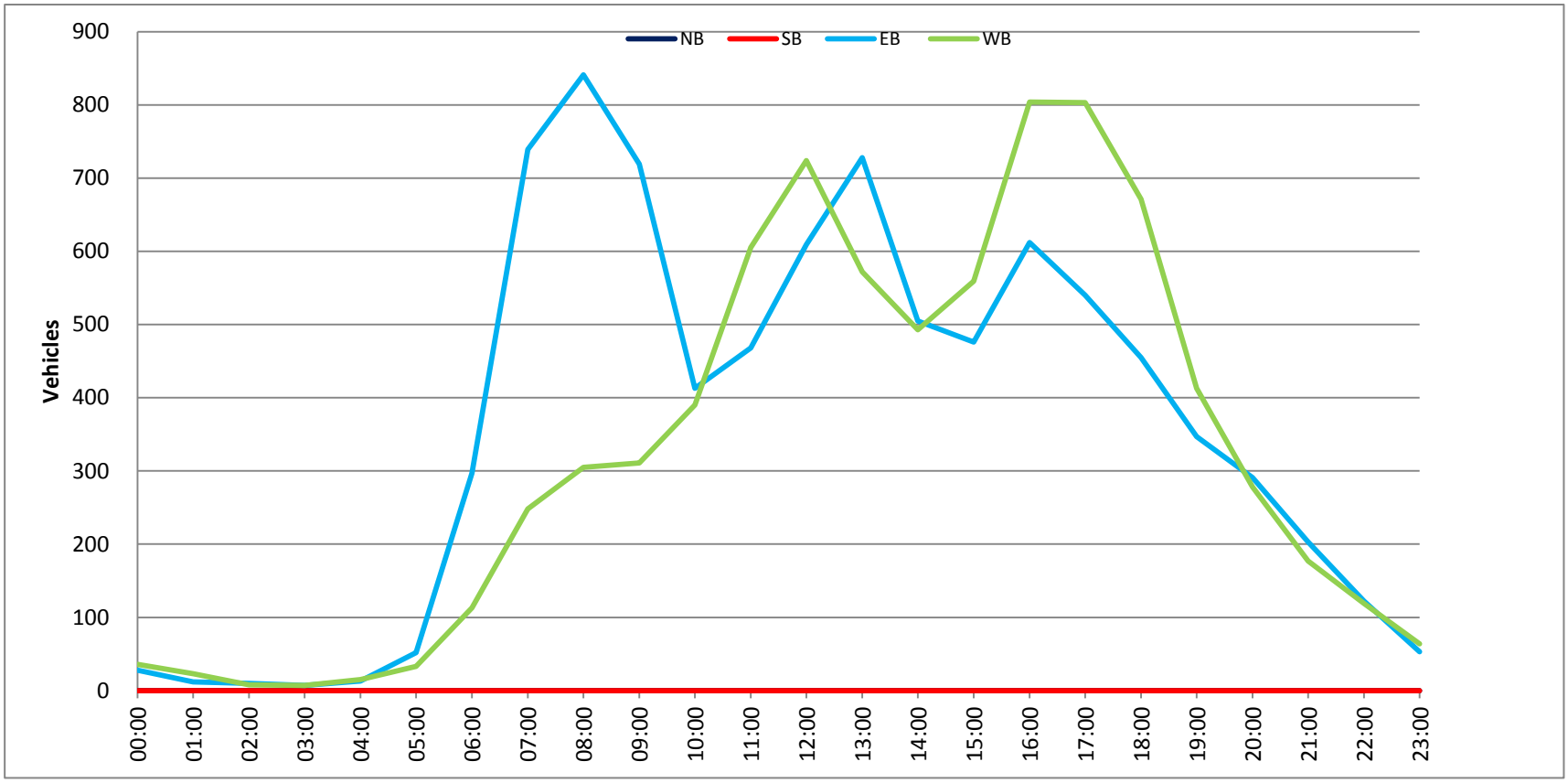
DAILY TOTALS	NB	SB	EB	WB	To
	0	0	8,540	7,771	16,

AM Peak Hour			08:15	11:45	**11:45**	**PM Peak Hour**			12:45	16:30	
AM Pk Volume			886	771	**1318**	**PM Pk Volume**			672	834	
Pk Hr Factor			0.915	0.487	**0.488**	**Pk Hr Factor**			0.894	0.929	
7 - 9 Volume	0	0	1580	553	**2133**	**4 - 6 Volume**	0	0	1152	1607	
7 - 9 Peak Hour			08:00	08:00	**08:00**	**4 - 6 Peak Hour**			16:00	16:30	
7 - 9 Pk Volume	0	0	841	305	**1146**	**4 - 6 Pk Volume**	0	0	612	834	
Pk Hr Factor	0.000	0.000	0.869	0.887	**0.921**	**Pk Hr Factor**	0.000	0.000	0.922	0.914	

Prepared by NDS/ATD

Project #: GA15_9060_013 **City:** Sandy Springs

Location: Hammond Dr Bet. Kayron Dr & Lorell **Date:** 3/4/2015



APPENDIX B – Hammond Drive Corridor Study by GS&P, April 2015.

HAMMOND DRIVE CORRIDOR STUDY

PRELIMINARY TRAFFIC ANALYSIS TECHNICAL MEMORANDUM

INTRODUCTION

Gresham, Smith and Partners has prepared a Technical Memorandum to support the 2014 TIP Project Solicitation (Study Application) for the Hammond Drive Corridor Study. The information presented in this Technical Memorandum is based on the Preliminary Traffic Analysis conducted along the Hammond Drive Corridor. The Study Application is to analyze and justify the transportation improvements needed along Hammond Drive roadway between Roswell Road (SR 9) and Barfield Road. In particular, the transportation improvement analyzed in this Preliminary Traffic Analysis is the widening of Hammond Drive from a two-lane facility to a four lane roadway between Roswell Road (SR 9) and Barfield Road.

PRELIMINARY TRAFFIC ANALYSIS

The Preliminary Traffic Analysis was conducted to estimate the future transportation improvements needed along the Hammond Drive Corridor. The limits of this Preliminary Traffic Analysis along Hammond Drive extends from Roswell Road (SR 9) on the west to Barfield Road on the east. These limits were chosen because Hammond Drive is two lanes between these limits and four lanes east and west of these limits.

EXISTING CONDITIONS

The existing conditions along the Hammond Drive Corridor was established by estimating Average Annual Daily Traffic (AADT) volumes within the analysis limits. Two-Day bi-directional counts were collected at four locations along the corridor. The count location were chosen such that one location was west of the analysis limit, one east of the analysis limit and two within the analysis limits. The Two-Day bi-directional counts were normalized to obtain AADT volumes by applying daily, monthly, and axle factors as applicable. The daily, monthly, and axle factors were obtained from Georgia Department of Transportation's (GDOT) website. The AADT volumes are shown in **Table 1**.

FUTURE CONDITIONS

To estimate the future transportation improvements needed along the Hammond Drive Corridor, AADT volumes were forecasted based on the existing condition AADTs and anticipated future growth in traffic along the corridor.

This traffic forecasting was conducted for the anticipated opening and design years for the proposed transportation improvements. The opening year for the proposed transportation improvements was based on anticipated concept development, environmental, ROW

acquisition and construction times and was assumed to be year 2027. The design year was based on a 20-year design horizon after the proposed transportation improvements are completed and open to traffic and therefore chosen as year 2047.
The expected annual growth in traffic was based on the historical data obtained from GDOT traffic count locations, the future traffic growth as predicted by the Atlanta Regional Commission's Travel Demand Model and population growth estimates obtained from ARC. Based on these data sources an annual growth rate of 1.0% was used in this forecasting effort.

Based on the existing condition AADTs and the 1.0% annual growth in traffic, the future condition AADTs along the Hammond Drive Corridor were calculated and are included in **Table 1**.

NEEDS ASSESSMENT

The traffic operations along the Hammond Drive Corridor were determined by analyzing the existing condition AADTs and the future condition AADTs. This analysis was based on methodologies outlined in the 2010 Highway Capacity Manual (HCM) and summarized in FDOT's 2012 Quality/Level of Service Handbook.

Based on this analysis letter grade levels of service (LOS) were calculated to represent the traffic operations along the Hammond Drive Corridor. These letter grade LOS range from A to F, with LOS A representing "Free Flow" traffic conditions and LOS F representing "Over Capacity" or "Stop and Go" traffic conditions. These LOS letter grades are the primary measure of traffic operations and congestion used by the GDOT to determine future transportation improvements along a roadway corridor. For the Hammond Drive Corridor, an Urban Collector Roadway, an LOS grade of D is considered desirable and grades of E, or F is considered undesirable.

The existing conditions along the Hammond Drive Corridor (with the analysis limits and beyond the analysis limits) were analyzed based on the existing condition AADTs and the existing two-lane roadway geometry. The future conditions were analyzed based on the future condition AADTs under both the existing two-lane geometry with no improvements and an improved four-lane geometry along Hammond Drive between Roswell Road (SR 9) and Barfield Road. The results of the traffic operations analysis is also included in **Table 1**.

Table 1. Roadway Segment Traffic Operations Analysis

Hammond Drive Corridor Roadway Segment	AADT			Level of Service				
				No Improvements			With Improvements	
				2015	2027	2047	2027	2047
	Existing Year 2015	Opening Year 2027	Design Year 2047	2-Lane[1]	2-Lane[1]	2-Lane[1]	4-Lane[1]	4-Lane[1]
Hammond Dr W/O	13,350	15,050	20,700	C	C	C	C	C

SR 9[1]								
Hammond Dr E/O SR 9	15,050	16,950	23,300	C	D	F	C	C
Hammond Dr W/O Barfield Rd	14,700	16,550	22,750	C	C	F	C	C
Hammond Dr E/O Barfield Rd[1]	24,700	27,850	38,300	C	C	C	C	D

As shown in **Table 1,** Hammond Drive within the analysis limits operates at LOS C under the existing conditions and at LOS F under the future conditions (design year 2047) if no improvements are made. Additionally, it was also determined that based on the increase in traffic Hammond Drive would reach undesirable levels of operation (LOS F) by the year 2032. This undesirable operational condition can be improved to an LOS C, if Hammond Drive is improved by widening to a four lane roadway between Roswell Road (SR 9) and Barfield Road.

CONCLUSION

Based on the Preliminary Traffic Analysis presented in this Technical Memorandum, widening of the Hammond Drive Corridor from a two-lane facility to a four lane roadway between Roswell Road (SR 9) and Barfield Road is justified to maintain desirable traffic operations.

[1] Hammond Drive is two lanes between Roswell Road (SR 9) and Barfield Road; west of Roswell Road (SR 9) and east of Barfield Road, Hammond Drive is four lanes wide.

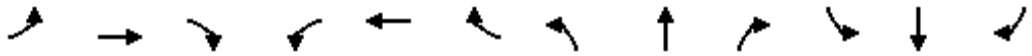
APPENDIX C – 2016 Existing Synchro Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	456	60	110	176	61	125	899	295	162	1094	51
Future Volume (veh/h)	84	456	60	110	176	61	125	899	295	162	1094	51
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1800	1748	1748	1800	1714	1714	1800	1714	1714	1800
Adj Flow Rate, veh/h	88	475	62	115	183	64	130	936	307	169	1140	53
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	248	483	63	156	432	146	279	1421	464	269	1891	88
Arrive On Green	0.06	0.16	0.16	0.05	0.12	0.12	0.04	0.59	0.59	0.05	0.60	0.60
Sat Flow, veh/h	1648	2927	380	1664	2437	825	1633	2415	789	1633	3170	147
Grp Volume(v), veh/h	88	266	271	115	123	124	130	630	613	169	586	607
Grp Sat Flow(s),veh/h/ln	1648	1644	1664	1664	1660	1602	1633	1629	1575	1633	1629	1688
Q Serve(g_s), s	7.9	29.0	29.3	10.2	12.3	13.0	5.7	46.7	47.2	7.4	40.8	40.8
Cycle Q Clear(g_c), s	7.9	29.0	29.3	10.2	12.3	13.0	5.7	46.7	47.2	7.4	40.8	40.8
Prop In Lane	1.00		0.23	1.00		0.52	1.00		0.50	1.00		0.09
Lane Grp Cap(c), veh/h	248	271	274	156	294	284	279	958	927	269	972	1007
V/C Ratio(X)	0.36	0.98	0.99	0.74	0.42	0.44	0.47	0.66	0.66	0.63	0.60	0.60
Avail Cap(c_a), veh/h	394	271	274	238	294	284	322	958	927	316	972	1007
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.2	74.9	75.0	60.7	70.7	71.0	19.3	24.9	25.0	23.0	22.9	22.9
Incr Delay (d2), s/veh	0.9	48.9	50.8	0.6	0.1	0.1	1.2	3.5	3.7	3.0	2.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	16.9	17.4	4.7	5.7	5.8	2.6	21.9	21.4	3.8	19.0	19.6
LnGrp Delay(d),s/veh	59.0	123.8	125.7	61.3	70.8	71.1	20.5	28.4	28.7	26.0	25.6	25.5
LnGrp LOS	E	F	F	E	E	E	C	C	C	C	C	C
Approach Vol, veh/h		625			362			1373			1362	
Approach Delay, s/veh		115.5			67.9			27.8			25.6	
Approach LOS		F			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	113.6	18.2	35.0	14.7	112.1	16.0	37.2
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	12.6	93.8	* 21	* 30	14.9	91.8	26.0	* 25
Max Q Clear Time (g_c+I1), s	7.7	42.8	12.2	31.3	9.4	49.2	9.9	15.0
Green Ext Time (p_c), s	0.1	29.7	0.2	0.0	0.2	26.7	0.2	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	45.6
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	877	7	5	303	20	0	0	2	33	4	51
Future Volume (vph)	41	877	7	5	303	20	0	0	2	33	4	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	6.5			6.5			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			0.99			0.86			0.92	
Flt Protected	0.95	1.00			1.00			1.00			0.98	
Satd. Flow (prot)	1613	1745			1732			1526			1596	
Flt Permitted	0.51	1.00			0.99			1.00			0.88	
Satd. Flow (perm)	870	1745			1708			1526			1423	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	46	974	8	6	337	22	0	0	2	37	4	57
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	52	0
Lane Group Flow (vph)	46	982	0	0	364	0	0	0	0	0	46	0
Heavy Vehicles (%)	6%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA			NA			NA		Perm	NA	
Protected Phases	1	6			2			4			4	
Permitted Phases	6						4			4		
Actuated Green, G (s)	65.1	65.1			56.6			7.4			7.4	
Effective Green, g (s)	65.1	65.1			56.6			7.4			7.4	
Actuated g/C Ratio	0.72	0.72			0.63			0.08			0.08	
Clearance Time (s)	4.5	6.5			6.5			5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	662	1262			1074			125			117	
v/s Ratio Prot	0.00	c0.56						0.00				
v/s Ratio Perm	0.05				0.21						c0.03	
v/c Ratio	0.07	0.78			0.34			0.00			0.39	
Uniform Delay, d1	3.9	7.9			7.9			37.9			39.2	
Progression Factor	0.52	1.50			1.00			1.00			1.00	
Incremental Delay, d2	0.0	3.2			0.8			0.0			2.2	
Delay (s)	2.0	15.0			8.7			37.9			41.3	
Level of Service	A	B			A			D			D	
Approach Delay (s)		14.4			8.7			37.9			41.3	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	912	17	6	323	9	5
Future Volume (vph)	912	17	6	323	9	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5		6.5	6.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1743		1660	1748	1625	
Flt Permitted	1.00		0.20	1.00	0.97	
Satd. Flow (perm)	1743		344	1748	1625	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1013	19	7	359	10	6
RTOR Reduction (vph)	1	0	0	0	6	0
Lane Group Flow (vph)	1031	0	7	359	10	0
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	6			2	3	
Permitted Phases			2			
Actuated Green, G (s)	65.1		56.6	56.6	1.5	
Effective Green, g (s)	65.1		56.6	56.6	1.5	
Actuated g/C Ratio	0.72		0.63	0.63	0.02	
Clearance Time (s)	6.5		6.5	6.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1260		216	1099	27	
v/s Ratio Prot	c0.59			0.21	c0.01	
v/s Ratio Perm			0.02			
v/c Ratio	0.82		0.03	0.33	0.37	
Uniform Delay, d1	8.4		6.3	7.8	43.8	
Progression Factor	0.19		1.00	1.00	1.00	
Incremental Delay, d2	4.4		0.3	0.8	8.5	
Delay (s)	6.0		6.6	8.6	52.3	
Level of Service	A		A	A	D	
Approach Delay (s)	6.0			8.6	52.3	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	3	822	354	1	5	6
Future Vol, veh/h	3	822	354	1	5	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	3	847	365	1	5	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	366	0	-	0	1219	365
Stage 1	-	-	-	-	365	-
Stage 2	-	-	-	-	854	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1187	-	-	-	199	680
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	417	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1187	-	-	-	198	680
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	415	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1187	-	-	-	323
HCM Lane V/C Ratio	0.003	-	-	-	0.035
HCM Control Delay (s)	8	0	-	-	16.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	840	15	1	353	3	11	1	6	9	2	3
Future Vol, veh/h	2	840	15	1	353	3	11	1	6	9	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	2	875	16	1	368	3	11	1	6	9	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	371	0	0	891	0	0	1261	1260	883	1262	1266	369
Stage 1	-	-	-	-	-	-	887	887	-	371	371	-
Stage 2	-	-	-	-	-	-	374	373	-	891	895	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	-	757	-	-	147	170	345	147	169	677
Stage 1	-	-	-	-	-	-	339	362	-	649	620	-
Stage 2	-	-	-	-	-	-	647	618	-	337	359	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1182	-	-	757	-	-	144	169	345	143	168	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	169	-	143	168	-
Stage 1	-	-	-	-	-	-	338	361	-	647	619	-
Stage 2	-	-	-	-	-	-	641	617	-	329	358	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	27.2	27.2
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	181	1182	-	-	757	-	-	177
HCM Lane V/C Ratio	0.104	0.002	-	-	0.001	-	-	0.082
HCM Control Delay (s)	27.2	8.1	0	-	9.8	0	-	27.2
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	5	827	8	0	343	1	4	2	7	6	0	18
Future Vol, veh/h	5	827	8	0	343	1	4	2	7	6	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	5	861	8	0	357	1	4	2	7	6	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	358	0	0	870	0	0	1243	1234	866	1239	1238	358
Stage 1	-	-	-	-	-	-	876	876	-	358	358	-
Stage 2	-	-	-	-	-	-	367	358	-	881	880	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1195	-	-	770	-	-	151	177	353	152	176	686
Stage 1	-	-	-	-	-	-	344	367	-	660	628	-
Stage 2	-	-	-	-	-	-	653	628	-	341	365	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1195	-	-	770	-	-	146	176	353	147	175	686
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	176	-	147	175	-
Stage 1	-	-	-	-	-	-	341	364	-	655	628	-
Stage 2	-	-	-	-	-	-	635	628	-	329	362	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	22.3	15.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	222	1195	-	-	770	-	-	358
HCM Lane V/C Ratio	0.061	0.004	-	-	-	-	-	0.07
HCM Control Delay (s)	22.3	8	0	-	0	-	-	15.8
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	840	346	0	4	1
Future Vol, veh/h	0	840	346	0	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	866	357	0	4	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	357	0	-	0	1223	357
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	866	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1196	-	-	-	198	687
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	412	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1196	-	-	-	198	687
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	412	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	231
HCM Lane V/C Ratio	-	-	-	-	0.022
HCM Control Delay (s)	0	-	-	-	20.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	838	4	2	341	2	8
Future Vol, veh/h	838	4	2	341	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	864	4	2	352	2	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	868	0	1222	866
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	772	-	198	353
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	772	-	197	353
Mov Cap-2 Maneuver	-	-	-	-	197	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	707	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	305	-	-	772	-
HCM Lane V/C Ratio	0.034	-	-	0.003	-
HCM Control Delay (s)	17.2	-	-	9.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	838	5	9	339	3	20
Future Vol, veh/h	838	5	9	339	3	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	873	5	9	353	3	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	878	0	1248	876
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	372	-
Critical Hdwy	-	-	4.13	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	765	-	150	348
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	648	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	765	-	149	348
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	18.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	296	-	-	765	-
HCM Lane V/C Ratio	0.081	-	-	0.012	-
HCM Control Delay (s)	18.2	-	-	9.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	651	166	426	216	45	90	201	684	212	650	34
Future Volume (veh/h)	33	651	166	426	216	45	90	201	684	212	650	34
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1800	1748	1748	1800	1748	1748	1800
Adj Flow Rate, veh/h	33	658	168	430	218	45	91	203	0	214	657	34
Adj No. of Lanes	1	2	0	2	1	0	1	2	0	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	444	863	220	491	654	135	195	724	0	429	852	44
Arrive On Green	0.02	0.33	0.33	0.15	0.47	0.47	0.05	0.22	0.00	0.11	0.27	0.27
Sat Flow, veh/h	1664	2621	669	3229	1406	290	1664	3408	0	1664	3212	166
Grp Volume(v), veh/h	33	417	409	430	0	263	91	203	0	214	339	352
Grp Sat Flow(s),veh/h/ln	1664	1660	1630	1614	0	1696	1664	1660	0	1664	1660	1718
Q Serve(g_s), s	2.0	33.7	33.8	19.5	0.0	14.7	6.3	7.6	0.0	14.6	28.3	28.4
Cycle Q Clear(g_c), s	2.0	33.7	33.8	19.5	0.0	14.7	6.3	7.6	0.0	14.6	28.3	28.4
Prop In Lane	1.00		0.41	1.00		0.17	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	444	546	536	491	0	789	195	724	0	429	441	456
V/C Ratio(X)	0.07	0.76	0.76	0.88	0.00	0.33	0.47	0.28	0.00	0.50	0.77	0.77
Avail Cap(c_a), veh/h	568	546	536	723	0	789	206	724	0	494	441	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	45.1	45.1	62.2	0.0	25.4	43.7	48.9	0.0	37.6	50.9	50.9
Incr Delay (d2), s/veh	0.1	9.7	9.9	8.3	0.0	1.1	1.7	1.0	0.0	0.9	12.3	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	17.0	16.7	9.3	0.0	7.1	3.0	3.6	0.0	6.8	14.5	15.0
LnGrp Delay(d),s/veh	32.5	54.7	55.0	70.5	0.0	26.5	45.5	49.8	0.0	38.5	63.1	62.8
LnGrp LOS	C	D	D	E		C	D	D		D	E	E
Approach Vol, veh/h		859			693			294			905	
Approach Delay, s/veh		54.0			53.8			48.5			57.2	
Approach LOS		D			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.2	56.8	24.2	39.9	8.8	77.2	17.0	47.0
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	33.6	36.6	22.7	* 29	* 14	56.6	* 9.1	* 40
Max Q Clear Time (g_c+I1), s	21.5	35.8	16.6	9.6	4.0	16.7	8.3	30.4
Green Ext Time (p_c), s	1.2	0.5	0.3	5.3	0.0	8.2	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	54.4
HCM 2010 LOS	D

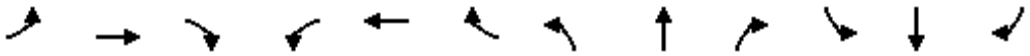
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	359	95	199	560	113	137	1230	257	84	1021	101
Future Volume (veh/h)	95	359	95	199	560	113	137	1230	257	84	1021	101
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1800	1748	1748	1800	1714	1714	1800	1714	1714	1800
Adj Flow Rate, veh/h	97	366	97	203	571	115	140	1255	262	86	1042	103
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	142	368	96	229	533	107	280	1577	326	166	1706	169
Arrive On Green	0.06	0.14	0.14	0.04	0.06	0.06	0.05	0.59	0.59	0.03	0.57	0.57
Sat Flow, veh/h	1648	2580	676	1664	2757	554	1633	2689	555	1633	2995	296
Grp Volume(v), veh/h	97	232	231	203	343	343	140	755	762	86	566	579
Grp Sat Flow(s),veh/h/ln	1648	1644	1612	1664	1660	1650	1633	1629	1616	1633	1629	1662
Q Serve(g_s), s	9.0	25.3	25.7	18.2	34.8	34.8	6.5	64.3	66.5	4.0	41.3	41.4
Cycle Q Clear(g_c), s	9.0	25.3	25.7	18.2	34.8	34.8	6.5	64.3	66.5	4.0	41.3	41.4
Prop In Lane	1.00		0.42	1.00		0.34	1.00		0.34	1.00		0.18
Lane Grp Cap(c), veh/h	142	235	230	229	321	319	280	955	948	166	927	947
V/C Ratio(X)	0.69	0.99	1.01	0.89	1.07	1.07	0.50	0.79	0.80	0.52	0.61	0.61
Avail Cap(c_a), veh/h	232	235	230	264	321	319	379	955	948	202	927	947
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	77.0	77.2	62.0	84.3	84.3	21.1	28.7	29.1	30.1	25.6	25.6
Incr Delay (d2), s/veh	5.7	54.8	60.8	3.4	37.6	39.7	1.4	6.6	7.2	2.5	3.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	15.1	15.3	8.6	19.4	19.4	3.0	30.5	31.6	2.1	19.3	19.7
LnGrp Delay(d),s/veh	68.1	131.8	137.9	65.4	121.8	123.9	22.5	35.3	36.4	32.6	28.6	28.5
LnGrp LOS	E	F	F	E	F	F	C	D	D	C	C	C
Approach Vol, veh/h		560			889			1657			1231	
Approach Delay, s/veh		123.3			109.7			34.7			28.8	
Approach LOS		F			F			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	108.7	26.2	31.0	11.0	111.8	17.1	40.1
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	19.6	87.8	* 24	* 26	9.9	97.8	21.0	* 29
Max Q Clear Time (g_c+I1), s	8.5	43.4	20.2	27.7	6.0	68.5	11.0	36.8
Green Ext Time (p_c), s	0.2	31.0	0.2	0.0	0.1	22.8	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	59.9
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	699	6	6	743	28	4	4	2	29	2	146
Future Volume (vph)	87	699	6	6	743	28	4	4	2	29	2	146
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	6.5			6.5			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			1.00			0.97			0.89	
Flt Protected	0.95	1.00			1.00			0.98			0.99	
Satd. Flow (prot)	1613	1745			1738			1683			1555	
Flt Permitted	0.27	1.00			1.00			0.70			0.94	
Satd. Flow (perm)	461	1745			1730			1197			1474	
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)	94	752	6	6	799	30	4	4	2	31	2	157
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	141	0
Lane Group Flow (vph)	94	758	0	0	835	0	0	8	0	0	49	0
Heavy Vehicles (%)	6%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA			NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			4	
Permitted Phases	6						4			4		
Actuated Green, G (s)	61.8	61.8			51.1			9.0			9.0	
Effective Green, g (s)	61.8	61.8			51.1			9.0			9.0	
Actuated g/C Ratio	0.69	0.69			0.57			0.10			0.10	
Clearance Time (s)	4.5	6.5			6.5			5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	395	1198			982			119			147	
v/s Ratio Prot	0.02	c0.43										
v/s Ratio Perm	0.15				c0.48			0.01			c0.03	
v/c Ratio	0.24	0.63			0.85			0.07			0.33	
Uniform Delay, d1	6.9	7.8			16.2			36.7			37.7	
Progression Factor	0.53	1.01			1.00			1.00			1.00	
Incremental Delay, d2	0.2	1.8			5.9			0.2			1.3	
Delay (s)	3.9	9.7			22.1			36.9			39.0	
Level of Service	A	A			C			D			D	
Approach Delay (s)		9.0			22.1			36.9			39.0	
Approach LOS		A			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	730	13	5	771	16	7
Future Volume (vph)	730	13	5	771	16	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5		6.5	6.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1743		1660	1748	1633	
Flt Permitted	1.00		0.33	1.00	0.97	
Satd. Flow (perm)	1743		570	1748	1633	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	785	14	5	829	17	8
RTOR Reduction (vph)	1	0	0	0	8	0
Lane Group Flow (vph)	798	0	5	829	17	0
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	6			2	3	
Permitted Phases			2			
Actuated Green, G (s)	61.8		51.1	51.1	3.2	
Effective Green, g (s)	61.8		51.1	51.1	3.2	
Actuated g/C Ratio	0.69		0.57	0.57	0.04	
Clearance Time (s)	6.5		6.5	6.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1196		323	992	58	
v/s Ratio Prot	c0.46			c0.47	c0.01	
v/s Ratio Perm			0.01			
v/c Ratio	0.67		0.02	0.84	0.30	
Uniform Delay, d1	8.2		8.5	16.0	42.3	
Progression Factor	0.12		1.00	1.00	1.00	
Incremental Delay, d2	2.4		0.1	8.3	2.9	
Delay (s)	3.4		8.6	24.3	45.2	
Level of Service	A		A	C	D	
Approach Delay (s)	3.4			24.2	45.2	
Approach LOS	A			C	D	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	5	554	596	2	1	79
Future Vol, veh/h	5	554	596	2	1	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	5	609	655	2	1	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	657	0	-	0	1276	656
Stage 1	-	-	-	-	656	-
Stage 2	-	-	-	-	620	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	926	-	-	-	184	465
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	536	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	926	-	-	-	183	465
Mov Cap-2 Maneuver	-	-	-	-	183	-
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	926	-	-	-	456
HCM Lane V/C Ratio	0.006	-	-	-	0.193
HCM Control Delay (s)	8.9	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	543	16	0	578	13	20	42	4	2	1	0
Future Vol, veh/h	3	543	16	0	578	13	20	42	4	2	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	3	584	17	0	622	14	22	45	4	2	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	635	0	0	601	0	0	1228	1234	592	1252	1236	628
Stage 1	-	-	-	-	-	-	599	599	-	628	628	-
Stage 2	-	-	-	-	-	-	629	635	-	624	608	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	943	-	-	971	-	-	155	177	506	149	176	483
Stage 1	-	-	-	-	-	-	488	490	-	471	476	-
Stage 2	-	-	-	-	-	-	470	472	-	473	486	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	971	-	-	154	176	506	118	175	483
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	176	-	118	175	-
Stage 1	-	-	-	-	-	-	486	488	-	469	476	-
Stage 2	-	-	-	-	-	-	469	472	-	423	484	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	38.9	33
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	175	943	-	-	971	-	-	132
HCM Lane V/C Ratio	0.406	0.003	-	-	-	-	-	0.024
HCM Control Delay (s)	38.9	8.8	0	-	0	-	-	33
HCM Lane LOS	E	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1.8	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	12	521	8	4	562	4	6	6	3	2	2	9
Future Vol, veh/h	12	521	8	4	562	4	6	6	3	2	2	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	13	554	9	4	598	4	6	6	3	2	2	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	602	0	0	563	0	0	1198	1195	559	1198	1197	600
Stage 1	-	-	-	-	-	-	584	584	-	609	609	-
Stage 2	-	-	-	-	-	-	614	611	-	589	588	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	971	-	-	1003	-	-	162	186	529	162	186	501
Stage 1	-	-	-	-	-	-	498	498	-	482	485	-
Stage 2	-	-	-	-	-	-	479	484	-	494	496	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	971	-	-	1003	-	-	154	181	529	154	181	501
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	181	-	154	181	-
Stage 1	-	-	-	-	-	-	488	488	-	472	482	-
Stage 2	-	-	-	-	-	-	465	481	-	475	486	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	25.3	17.2
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	193	971	-	-	1003	-	-	310
HCM Lane V/C Ratio	0.083	0.013	-	-	0.004	-	-	0.045
HCM Control Delay (s)	25.3	8.8	0	-	8.6	0	-	17.2
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	538	536	13	1	0
Future Vol, veh/h	0	538	536	13	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	566	564	14	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	578	0	-	0	1137	571
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	566	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	991	-	-	-	223	520
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	991	-	-	-	223	520
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	991	-	-	-	223
HCM Lane V/C Ratio	-	-	-	-	0.005
HCM Control Delay (s)	0	-	-	-	21.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	499	4	5	574	5	5
Future Vol, veh/h	499	4	5	574	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	520	4	5	598	5	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	524	0	1130	522
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	608	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1038	-	225	555
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	543	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1038	-	223	555
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	539	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	318	-	-	1038	-
HCM Lane V/C Ratio	0.033	-	-	0.005	-
HCM Control Delay (s)	16.7	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	521	11	80	533	5	34
Future Vol, veh/h	521	11	80	533	5	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	543	11	83	555	5	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	554	0	1270	548
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	722	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1011	-	186	536
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	481	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1011	-	171	536
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	442	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	421	-	-	1011	-
HCM Lane V/C Ratio	0.096	-	-	0.082	-
HCM Control Delay (s)	14.5	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	424	61	654	491	173	117	593	653	76	306	32
Future Volume (veh/h)	42	424	61	654	491	173	117	593	653	76	306	32
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1800	1748	1748	1800	1748	1748	1800
Adj Flow Rate, veh/h	42	428	62	661	496	175	118	599	0	77	309	32
Adj No. of Lanes	1	2	0	2	1	0	1	2	0	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	186	819	118	724	597	211	331	974	0	225	806	83
Arrive On Green	0.03	0.28	0.28	0.22	0.48	0.48	0.06	0.29	0.00	0.04	0.27	0.27
Sat Flow, veh/h	1664	2914	420	3229	1235	436	1664	3408	0	1664	3040	313
Grp Volume(v), veh/h	42	243	247	661	0	671	118	599	0	77	168	173
Grp Sat Flow(s),veh/h/ln	1664	1660	1674	1614	0	1671	1664	1660	0	1664	1660	1692
Q Serve(g_s), s	3.2	22.2	22.4	35.9	0.0	62.4	9.2	28.0	0.0	6.0	14.9	15.1
Cycle Q Clear(g_c), s	3.2	22.2	22.4	35.9	0.0	62.4	9.2	28.0	0.0	6.0	14.9	15.1
Prop In Lane	1.00		0.25	1.00		0.26	1.00		0.00	1.00		0.18
Lane Grp Cap(c), veh/h	186	467	471	724	0	807	331	974	0	225	440	449
V/C Ratio(X)	0.23	0.52	0.53	0.91	0.00	0.83	0.36	0.62	0.00	0.34	0.38	0.39
Avail Cap(c_a), veh/h	237	467	471	1051	0	807	421	974	0	269	440	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	54.5	54.6	68.1	0.0	40.2	44.4	54.8	0.0	46.7	54.1	54.1
Incr Delay (d2), s/veh	0.6	4.1	4.2	8.9	0.0	9.7	0.6	2.9	0.0	0.9	2.5	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	10.7	10.9	17.0	0.0	30.9	4.3	13.2	0.0	2.8	7.2	7.4
LnGrp Delay(d),s/veh	47.0	58.6	58.7	77.0	0.0	49.9	45.1	57.7	0.0	47.6	56.5	56.6
LnGrp LOS	D	E	E	E		D	D	E		D	E	E
Approach Vol, veh/h		532			1332			717			418	
Approach Delay, s/veh		57.7			63.3			55.7			54.9	
Approach LOS		E			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.8	58.0	15.2	60.0	10.4	94.4	20.3	54.9
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	58.6	27.6	12.7	* 53	* 10	76.6	* 21	* 43
Max Q Clear Time (g_c+I1), s	37.9	24.4	8.0	30.0	5.2	64.4	11.2	17.1
Green Ext Time (p_c), s	2.4	2.0	0.1	6.2	0.0	5.9	0.2	6.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.3
HCM 2010 LOS	E

Notes

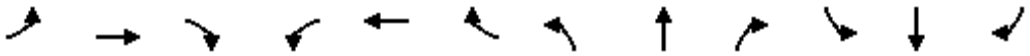
APPENDIX D – 2026 and 2046 No-Build Synchro Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	611	66	234	251	180	138	993	541	394	1209	56
Future Volume (veh/h)	93	611	66	234	251	180	138	993	541	394	1209	56
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1800	1748	1748	1800	1714	1714	1800	1714	1714	1800
Adj Flow Rate, veh/h	97	636	69	244	261	188	144	1034	564	410	1259	58
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	218	523	57	202	407	283	238	893	469	337	1765	81
Arrive On Green	0.06	0.17	0.17	0.17	0.36	0.36	0.06	0.43	0.43	0.19	0.56	0.56
Sat Flow, veh/h	1648	2993	324	1664	1874	1304	1633	2066	1086	1633	3171	146
Grp Volume(v), veh/h	97	349	356	244	230	219	144	807	791	410	646	671
Grp Sat Flow(s),veh/h/ln	1648	1644	1674	1664	1660	1517	1633	1629	1523	1633	1629	1689
Q Serve(g_s), s	10.1	36.7	36.7	21.2	24.1	25.4	10.3	90.8	90.8	38.9	61.2	61.4
Cycle Q Clear(g_c), s	10.1	36.7	36.7	21.2	24.1	25.4	10.3	90.8	90.8	38.9	61.2	61.4
Prop In Lane	1.00		0.19	1.00		0.86	1.00		0.71	1.00		0.09
Lane Grp Cap(c), veh/h	218	287	292	202	361	330	238	704	658	337	906	940
V/C Ratio(X)	0.45	1.21	1.22	1.21	0.64	0.66	0.60	1.15	1.20	1.22	0.71	0.71
Avail Cap(c_a), veh/h	225	287	292	202	361	330	296	704	658	337	906	940
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.5	86.7	86.7	60.1	60.0	60.4	34.3	59.6	59.6	75.6	34.2	34.3
Incr Delay (d2), s/veh	1.4	124.1	124.8	113.3	1.8	2.4	2.5	81.8	104.8	122.0	4.8	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	26.6	27.1	16.0	11.3	10.8	4.8	56.9	57.4	31.0	28.7	29.9
LnGrp Delay(d),s/veh	67.9	210.7	211.5	173.4	61.9	62.8	36.8	141.4	164.4	197.6	39.0	38.9
LnGrp LOS	E	F	F	F	E	E	D	F	F	F	D	D
Approach Vol, veh/h		802			693			1742			1727	
Approach Delay, s/veh		193.8			101.4			143.2			76.6	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	123.1	27.0	42.0	44.0	97.0	18.1	50.9
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	19.9	109.5	* 21	* 37	38.9	90.8	13.0	* 45
Max Q Clear Time (g_c+I1), s	12.3	63.4	23.2	38.7	40.9	92.8	12.1	27.4
Green Ext Time (p_c), s	0.2	35.6	0.0	0.0	0.0	0.0	0.0	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	122.4
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1507	7	5	619	22	0	0	2	36	4	56
Future Volume (vph)	45	1507	7	5	619	22	0	0	2	36	4	56
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	6.5			6.5			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			1.00			0.86			0.92	
Flt Protected	0.95	1.00			1.00			1.00			0.98	
Satd. Flow (prot)	1613	1746			1739			1526			1595	
Flt Permitted	0.38	1.00			0.60			1.00			0.88	
Satd. Flow (perm)	645	1746			1051			1526			1422	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	50	1674	8	6	688	24	0	0	2	40	4	62
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	24	0
Lane Group Flow (vph)	50	1682	0	0	717	0	0	0	0	0	82	0
Heavy Vehicles (%)	6%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		Perm	NA			NA		Perm	NA	
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	182.2	182.2			174.5			9.4			9.4	
Effective Green, g (s)	182.2	182.2			174.5			9.4			9.4	
Actuated g/C Ratio	0.87	0.87			0.83			0.04			0.04	
Clearance Time (s)	4.5	6.5			6.5			5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	574	1514			873			68			63	
v/s Ratio Prot	0.00	c0.96						0.00				
v/s Ratio Perm	0.07				0.68						c0.06	
v/c Ratio	0.09	1.11			0.82			0.00			1.30	
Uniform Delay, d1	2.2	13.9			9.5			95.8			100.3	
Progression Factor	0.08	1.53			0.61			1.00			1.00	
Incremental Delay, d2	0.0	50.9			7.7			0.0			214.6	
Delay (s)	0.2	72.2			13.4			95.8			314.9	
Level of Service	A	E			B			F			F	
Approach Delay (s)		70.1			13.4			95.8			314.9	
Approach LOS		E			B			F			F	

Intersection Summary			
HCM 2000 Control Delay	64.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1545	18	6	641	9	5
Future Volume (vph)	1545	18	6	641	9	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5		6.5	6.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1745		1660	1748	1625	
Flt Permitted	1.00		0.02	1.00	0.97	
Satd. Flow (perm)	1745		40	1748	1625	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1717	20	7	712	10	6
RTOR Reduction (vph)	0	0	0	0	6	0
Lane Group Flow (vph)	1737	0	7	712	10	0
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	6			2	3	
Permitted Phases			2			
Actuated Green, G (s)	182.2		174.5	174.5	2.4	
Effective Green, g (s)	182.2		174.5	174.5	2.4	
Actuated g/C Ratio	0.87		0.83	0.83	0.01	
Clearance Time (s)	6.5		6.5	6.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1513		33	1452	18	
v/s Ratio Prot	c1.00			0.41	c0.01	
v/s Ratio Perm			0.17			
v/c Ratio	1.15		0.21	0.49	0.56	
Uniform Delay, d1	13.9		3.6	5.1	103.3	
Progression Factor	0.17		1.00	1.00	1.00	
Incremental Delay, d2	67.4		14.1	1.2	32.7	
Delay (s)	69.8		17.8	6.3	136.0	
Level of Service	E		B	A	F	
Approach Delay (s)	69.8			6.4	136.0	
Approach LOS	E			A	F	

Intersection Summary			
HCM 2000 Control Delay	51.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	4	1446	676	2	6	7
Future Vol, veh/h	4	1446	676	2	6	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	4	1491	697	2	6	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	699	0	-	0	2197	698
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	1499	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	893	-	-	-	49	440
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	204	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	893	-	-	-	48	440
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	199	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	50.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	893	-	-	-	92
HCM Lane V/C Ratio	0.005	-	-	-	0.146
HCM Control Delay (s)	9.1	0	-	-	50.7
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	1466	17	2	674	4	13	2	7	10	3	4
Future Vol, veh/h	3	1466	17	2	674	4	13	2	7	10	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	3	1527	18	2	702	4	14	2	7	10	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	706	0	0	1545	0	0	2254	2252	1536	2255	2259	704
Stage 1	-	-	-	-	-	-	1542	1542	-	708	708	-
Stage 2	-	-	-	-	-	-	712	710	-	1547	1551	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	888	-	-	427	-	-	29	41	143	29	41	437
Stage 1	-	-	-	-	-	-	144	177	-	426	438	-
Stage 2	-	-	-	-	-	-	423	437	-	143	175	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	888	-	-	427	-	-	26	40	143	26	40	437
Mov Cap-2 Maneuver	-	-	-	-	-	-	26	40	-	26	40	-
Stage 1	-	-	-	-	-	-	141	173	-	416	434	-
Stage 2	-	-	-	-	-	-	413	434	-	131	171	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	202.3	178.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	37	888	-	-	427	-	-	36
HCM Lane V/C Ratio	0.619	0.004	-	-	0.005	-	-	0.492
HCM Control Delay (s)	202.3	9.1	0	-	13.5	0	-	178.3
HCM Lane LOS	F	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	2.2	0	-	-	0	-	-	1.7

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	6	1452	9	0	663	2	5	3	8	7	0	20
Future Vol, veh/h	6	1452	9	0	663	2	5	3	8	7	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	6	1513	9	0	691	2	5	3	8	7	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	693	0	0	1522	0	0	2232	2223	1517	2227	2226	692
Stage 1	-	-	-	-	-	-	1530	1530	-	692	692	-
Stage 2	-	-	-	-	-	-	702	693	-	1535	1534	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	898	-	-	435	-	-	30	43	147	31	43	444
Stage 1	-	-	-	-	-	-	146	179	-	434	445	-
Stage 2	-	-	-	-	-	-	429	445	-	145	178	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	898	-	-	435	-	-	28	41	147	27	41	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	28	41	-	27	41	-
Stage 1	-	-	-	-	-	-	140	171	-	415	445	-
Stage 2	-	-	-	-	-	-	409	445	-	128	170	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	104	63.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	52	898	-	-	435	-	-	89
HCM Lane V/C Ratio	0.321	0.007	-	-	-	-	-	0.316
HCM Control Delay (s)	104	9	0	-	0	-	-	63.1
HCM Lane LOS	F	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	1.1	0	-	-	0	-	-	1.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1466	667	0	5	2
Future Vol, veh/h	0	1466	667	0	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1511	688	0	5	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	688	0	-	0	2199	688
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	1511	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	901	-	-	-	49	446
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	201	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	901	-	-	-	49	446
Mov Cap-2 Maneuver	-	-	-	-	49	-
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	201	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	66.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	901	-	-	-	66
HCM Lane V/C Ratio	-	-	-	-	0.109
HCM Control Delay (s)	0	-	-	-	66.1
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1464	5	3	661	3	9
Future Vol, veh/h	1464	5	3	661	3	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1509	5	3	681	3	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1514	0	2200	1512
Stage 1	-	-	-	-	1512	-
Stage 2	-	-	-	-	688	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	438	-	49	148
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	499	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	438	-	48	148
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	494	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	47.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	97	-	-	438	-
HCM Lane V/C Ratio	0.128	-	-	0.007	-
HCM Control Delay (s)	47.5	-	-	13.3	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1464	6	10	659	4	23
Future Vol, veh/h	1464	6	10	659	4	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1525	6	10	686	4	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1531	0	2235	1528
Stage 1	-	-	-	-	1528	-
Stage 2	-	-	-	-	707	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	432	-	47	144
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	489	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	432	-	46	144
Mov Cap-2 Maneuver	-	-	-	-	46	-
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	478	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	49.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	109	-	-	432	-
HCM Lane V/C Ratio	0.258	-	-	0.024	-
HCM Control Delay (s)	49.1	-	-	13.5	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	1	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1156	286	695	482	116	141	264	941	367	821	38
Future Volume (veh/h)	37	1156	286	695	482	116	141	264	941	367	821	38
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1800	1748	1748	1800	1748	1748	1800
Adj Flow Rate, veh/h	37	1168	289	702	487	117	142	267	0	371	829	38
Adj No. of Lanes	1	2	0	2	1	0	1	2	0	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	242	923	226	532	676	163	165	698	0	424	891	41
Arrive On Green	0.02	0.35	0.35	0.16	0.50	0.50	0.07	0.21	0.00	0.14	0.28	0.28
Sat Flow, veh/h	1664	2645	648	3229	1362	327	1664	3408	0	1664	3233	148
Grp Volume(v), veh/h	37	729	728	702	0	604	142	267	0	371	426	441
Grp Sat Flow(s),veh/h/ln	1664	1660	1633	1614	0	1690	1664	1660	0	1664	1660	1721
Q Serve(g_s), s	3.0	73.3	73.3	34.6	0.0	58.8	14.1	14.5	0.0	29.7	52.5	52.5
Cycle Q Clear(g_c), s	3.0	73.3	73.3	34.6	0.0	58.8	14.1	14.5	0.0	29.7	52.5	52.5
Prop In Lane	1.00		0.40	1.00		0.19	1.00		0.00	1.00		0.09
Lane Grp Cap(c), veh/h	242	579	570	532	0	839	165	698	0	424	457	474
V/C Ratio(X)	0.15	1.26	1.28	1.32	0.00	0.72	0.86	0.38	0.00	0.87	0.93	0.93
Avail Cap(c_a), veh/h	242	579	570	532	0	839	165	740	0	424	478	496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	68.4	68.4	87.7	0.0	41.4	64.1	71.2	0.0	60.3	74.1	74.1
Incr Delay (d2), s/veh	0.3	129.6	138.5	156.6	0.0	5.3	34.7	0.3	0.0	17.9	24.5	23.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	54.5	55.0	27.0	0.0	28.7	8.1	6.7	0.0	9.4	27.2	28.2
LnGrp Delay(d),s/veh	45.0	198.0	206.8	244.3	0.0	46.7	98.7	71.6	0.0	78.2	98.7	98.1
LnGrp LOS	D	F	F	F		D	F	E		E	F	F
Approach Vol, veh/h		1494			1306			409			1238	
Approach Delay, s/veh		198.5			152.9			81.0			92.3	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	41.0	80.7	37.0	51.3	10.0	111.7	23.3	65.0
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	34.6	70.6	29.7	* 47	* 4.2	101.6	* 14	* 61
Max Q Clear Time (g_c+I1), s	36.6	75.3	31.7	16.5	5.0	60.8	16.1	54.5
Green Ext Time (p_c), s	0.0	0.0	0.0	8.3	0.0	22.2	0.0	3.4

Intersection Summary			
HCM 2010 Ctrl Delay		144.8	
HCM 2010 LOS		F	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	466	105	413	715	317	151	1358	422	231	1127	112
Future Volume (veh/h)	105	466	105	413	715	317	151	1358	422	231	1127	112
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1800	1748	1748	1800	1714	1714	1800	1714	1714	1800
Adj Flow Rate, veh/h	107	476	107	421	730	323	154	1386	431	236	1150	114
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	95	382	85	338	644	285	214	1137	340	193	1468	145
Arrive On Green	0.03	0.14	0.14	0.30	0.48	0.48	0.06	0.46	0.46	0.09	0.49	0.49
Sat Flow, veh/h	1648	2672	597	1664	2242	991	1633	2472	740	1633	2994	296
Grp Volume(v), veh/h	107	292	291	421	541	512	154	894	923	236	625	639
Grp Sat Flow(s),veh/h/ln	1648	1644	1625	1664	1660	1573	1633	1629	1584	1633	1629	1662
Q Serve(g_s), s	6.0	25.7	25.7	32.2	51.7	51.7	9.0	82.8	82.8	16.9	57.1	57.3
Cycle Q Clear(g_c), s	6.0	25.7	25.7	32.2	51.7	51.7	9.0	82.8	82.8	16.9	57.1	57.3
Prop In Lane	1.00		0.37	1.00		0.63	1.00		0.47	1.00		0.18
Lane Grp Cap(c), veh/h	95	235	232	338	477	452	214	749	729	193	799	815
V/C Ratio(X)	1.13	1.24	1.26	1.25	1.13	1.13	0.72	1.19	1.27	1.22	0.78	0.78
Avail Cap(c_a), veh/h	95	235	232	338	477	452	258	749	729	193	799	815
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.4	77.2	77.2	47.0	46.8	46.8	34.4	48.6	48.6	63.6	37.9	38.0
Incr Delay (d2), s/veh	130.7	139.9	145.0	113.3	62.9	63.4	7.5	100.1	130.7	136.8	7.5	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	20.8	20.9	25.0	32.0	30.3	4.5	58.1	62.7	17.0	27.4	28.0
LnGrp Delay(d),s/veh	204.1	217.0	222.1	160.3	109.7	110.2	42.0	148.7	179.3	200.4	45.4	45.4
LnGrp LOS	F	F	F	F	F	F	D	F	F	F	D	D
Approach Vol, veh/h		690			1474			1971			1500	
Approach Delay, s/veh		217.2			124.3			154.7			69.8	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	94.5	38.0	31.0	22.0	89.0	12.0	57.0
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	16.0	83.4	* 32	* 26	16.9	82.8	6.0	* 52
Max Q Clear Time (g_c+I1), s	11.0	59.3	34.2	27.7	18.9	84.8	8.0	53.7
Green Ext Time (p_c), s	0.2	21.5	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	131.8
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1120	6	6	1304	31	4	4	2	32	2	161
Future Volume (vph)	96	1120	6	6	1304	31	4	4	2	32	2	161
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	6.5			6.5			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			1.00			0.97			0.89	
Flt Protected	0.95	1.00			1.00			0.98			0.99	
Satd. Flow (prot)	1613	1746			1742			1683			1555	
Flt Permitted	0.18	1.00			0.99			0.68			0.94	
Satd. Flow (perm)	305	1746			1733			1163			1474	
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)	103	1204	6	6	1402	33	4	4	2	34	2	173
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	95	0
Lane Group Flow (vph)	103	1210	0	0	1441	0	0	8	0	0	114	0
Heavy Vehicles (%)	6%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	149.1	149.1			140.5			11.7			11.7	
Effective Green, g (s)	149.1	149.1			140.5			11.7			11.7	
Actuated g/C Ratio	0.83	0.83			0.78			0.06			0.06	
Clearance Time (s)	4.5	6.5			6.5			5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	282	1446			1352			75			95	
v/s Ratio Prot	0.01	c0.69										
v/s Ratio Perm	0.29				c0.83			0.01			c0.08	
v/c Ratio	0.37	0.84			1.07			0.11			1.20	
Uniform Delay, d1	5.0	8.6			19.8			79.2			84.2	
Progression Factor	1.29	1.77			0.07			1.00			1.00	
Incremental Delay, d2	0.1	0.6			31.3			0.6			154.3	
Delay (s)	6.6	15.8			32.6			79.9			238.5	
Level of Service	A	B			C			E			F	
Approach Delay (s)		15.1			32.6			79.9			238.5	
Approach LOS		B			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1154	14	5	1335	17	7
Future Volume (vph)	1154	14	5	1335	17	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5		6.5	6.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1745		1660	1748	1635	
Flt Permitted	1.00		0.14	1.00	0.97	
Satd. Flow (perm)	1745		248	1748	1635	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1241	15	5	1435	18	8
RTOR Reduction (vph)	0	0	0	0	8	0
Lane Group Flow (vph)	1256	0	5	1435	18	0
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	6			2	3	
Permitted Phases			2			
Actuated Green, G (s)	149.1		140.5	140.5	3.2	
Effective Green, g (s)	149.1		140.5	140.5	3.2	
Actuated g/C Ratio	0.83		0.78	0.78	0.02	
Clearance Time (s)	6.5		6.5	6.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1445		193	1364	29	
v/s Ratio Prot	c0.72			c0.82	c0.01	
v/s Ratio Perm			0.02			
v/c Ratio	0.87		0.03	1.05	0.63	
Uniform Delay, d1	9.5		4.4	19.8	87.8	
Progression Factor	0.18		1.00	1.00	1.00	
Incremental Delay, d2	4.1		0.2	39.3	35.3	
Delay (s)	5.9		4.7	59.1	123.1	
Level of Service	A		A	E	F	
Approach Delay (s)	5.9			58.9	123.1	
Approach LOS	A			E	F	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	6	959	1142	3	2	88
Future Vol, veh/h	6	959	1142	3	2	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	7	1054	1255	3	2	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1258	0	-	0	2324	1257
Stage 1	-	-	-	-	1257	-
Stage 2	-	-	-	-	1067	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	549	-	-	-	41	209
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	331	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	549	-	-	-	40	209
Mov Cap-2 Maneuver	-	-	-	-	40	-
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	321	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	42.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	549	-	-	-	191
HCM Lane V/C Ratio	0.012	-	-	-	0.518
HCM Control Delay (s)	11.6	0	-	-	42.5
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	2.6

Intersection	
Int Delay, s/veh	26.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	4	947	18	0	1122	15	23	47	5	3	2	0
Future Vol, veh/h	4	947	18	0	1122	15	23	47	5	3	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	4	1018	19	0	1206	16	25	51	5	3	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1223	0	0	1038	0	0	2253	2260	1028	2280	2261	1215
Stage 1	-	-	-	-	-	-	1037	1037	-	1215	1215	-
Stage 2	-	-	-	-	-	-	1216	1223	-	1065	1046	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	567	-	-	666	-	-	29	~ 41	284	28	41	221
Stage 1	-	-	-	-	-	-	279	308	-	222	254	-
Stage 2	-	-	-	-	-	-	221	252	-	269	305	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	567	-	-	666	-	-	27	~ 40	284	-	40	221
Mov Cap-2 Maneuver	-	-	-	-	-	-	27	~ 40	-	-	40	-
Stage 1	-	-	-	-	-	-	274	303	-	218	254	-
Stage 2	-	-	-	-	-	-	219	252	-	216	300	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	$ 775	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	37	567	-	-	666	-	-	-
HCM Lane V/C Ratio	2.18	0.008	-	-	-	-	-	-
HCM Control Delay (s)	$ 775	11.4	0	-	0	-	-	-
HCM Lane LOS	F	B	A	-	A	-	-	-
HCM 95th %tile Q(veh)	8.9	0	-	-	0	-	-	-

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

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	14	923	9	5	1104	5	7	7	4	3	3	10
Future Vol, veh/h	14	923	9	5	1104	5	7	7	4	3	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	15	982	10	5	1174	5	7	7	4	3	3	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1180	0	0	991	0	0	2211	2206	987	2210	2209	1177
Stage 1	-	-	-	-	-	-	1016	1016	-	1188	1188	-
Stage 2	-	-	-	-	-	-	1195	1190	-	1022	1021	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	588	-	-	694	-	-	32	44	300	32	44	233
Stage 1	-	-	-	-	-	-	287	315	-	230	262	-
Stage 2	-	-	-	-	-	-	227	261	-	285	314	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	588	-	-	694	-	-	27	41	300	26	41	233
Mov Cap-2 Maneuver	-	-	-	-	-	-	27	41	-	26	41	-
Stage 1	-	-	-	-	-	-	271	297	-	217	256	-
Stage 2	-	-	-	-	-	-	209	256	-	258	296	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	154.1	73.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	41	588	-	-	694	-	-	69
HCM Lane V/C Ratio	0.467	0.025	-	-	0.008	-	-	0.247
HCM Control Delay (s)	154.1	11.3	0	-	10.2	0	-	73.5
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	1.6	0.1	-	-	0	-	-	0.9

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	942	1076	15	2	0
Future Vol, veh/h	0	942	1076	15	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	992	1133	16	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1148	0	-	0	2133	1141
Stage 1	-	-	-	-	1141	-
Stage 2	-	-	-	-	992	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	605	-	-	-	54	244
Stage 1	-	-	-	-	305	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	605	-	-	-	54	244
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	305	-
Stage 2	-	-	-	-	359	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	74.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	605	-	-	-	54
HCM Lane V/C Ratio	-	-	-	-	0.039
HCM Control Delay (s)	0	-	-	-	74.4
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	899	5	6	1118	6	6
Future Vol, veh/h	899	5	6	1118	6	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	936	5	6	1165	6	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	942	0	2116	939
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	1177	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	724	-	56	320
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	293	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	724	-	55	320
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	286	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	49.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	94	-	-	724	-
HCM Lane V/C Ratio	0.133	-	-	0.009	-
HCM Control Delay (s)	49.1	-	-	10	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

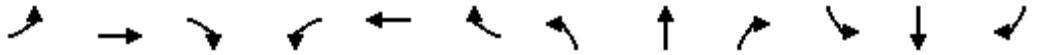
Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	923	13	89	1072	6	38
Future Vol, veh/h	923	13	89	1072	6	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	961	14	93	1117	6	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	975	0	2270	968
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	1302	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	703	-	44	308
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	255	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	703	-	38	308
Mov Cap-2 Maneuver	-	-	-	-	38	-
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	221	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	37.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	156	-	-	703	-
HCM Lane V/C Ratio	0.294	-	-	0.132	-
HCM Control Delay (s)	37.4	-	-	10.9	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	1.2	-	-	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	784	100	893	939	318	217	743	947	170	371	36
Future Volume (veh/h)	47	784	100	893	939	318	217	743	947	170	371	36
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1800	1748	1748	1800	1748	1748	1800
Adj Flow Rate, veh/h	47	792	101	902	948	321	219	751	0	172	375	36
Adj No. of Lanes	1	2	0	2	1	0	1	2	0	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	77	1042	133	585	642	217	301	869	0	153	566	54
Arrive On Green	0.02	0.35	0.35	0.18	0.51	0.51	0.12	0.26	0.00	0.05	0.18	0.18
Sat Flow, veh/h	1664	2963	378	3229	1250	423	1664	3408	0	1664	3064	293
Grp Volume(v), veh/h	47	444	449	902	0	1269	219	751	0	172	202	209
Grp Sat Flow(s),veh/h/ln	1664	1660	1681	1614	0	1673	1664	1660	0	1664	1660	1696
Q Serve(g_s), s	3.3	42.6	42.6	32.6	0.0	92.5	18.8	38.8	0.0	8.7	20.4	20.6
Cycle Q Clear(g_c), s	3.3	42.6	42.6	32.6	0.0	92.5	18.8	38.8	0.0	8.7	20.4	20.6
Prop In Lane	1.00		0.22	1.00		0.25	1.00		0.00	1.00		0.17
Lane Grp Cap(c), veh/h	77	584	591	585	0	859	301	869	0	153	307	314
V/C Ratio(X)	0.61	0.76	0.76	1.54	0.00	1.48	0.73	0.86	0.00	1.13	0.66	0.67
Avail Cap(c_a), veh/h	77	584	591	585	0	859	331	1011	0	153	349	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	51.6	51.7	73.7	0.0	43.8	50.8	63.4	0.0	69.3	68.1	68.2
Incr Delay (d2), s/veh	13.3	9.0	8.9	252.6	0.0	220.7	7.1	7.0	0.0	110.7	3.8	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	21.1	21.3	35.1	0.0	95.4	9.2	18.7	0.0	8.3	9.7	10.0
LnGrp Delay(d),s/veh	60.7	60.7	60.6	326.3	0.0	264.5	57.9	70.4	0.0	180.0	71.9	72.1
LnGrp LOS	E	E	E	F		F	E	E		F	E	E
Approach Vol, veh/h		940			2171			970			583	
Approach Delay, s/veh		60.6			290.2			67.6			103.9	
Approach LOS		E			F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.0	70.7	16.0	54.3	9.8	99.9	29.8	40.5
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	32.6	55.6	8.7	* 55	* 4	84.8	* 24	* 38
Max Q Clear Time (g_c+I1), s	34.6	44.6	10.7	40.8	5.3	94.5	20.8	22.6
Green Ext Time (p_c), s	0.0	9.6	0.0	6.3	0.0	0.0	0.2	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	174.3
HCM 2010 LOS	F

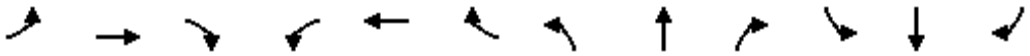
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	81	261	293	195	168	1212	613	433	1475	69
Future Volume (veh/h)	113	721	81	261	293	195	168	1212	613	433	1475	69
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1800	1748	1748	1800	1714	1714	1800	1714	1714	1800
Adj Flow Rate, veh/h	118	751	84	272	305	203	175	1262	639	451	1536	72
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	205	535	60	202	411	267	190	941	442	321	1690	79
Arrive On Green	0.07	0.18	0.18	0.17	0.36	0.36	0.08	0.44	0.44	0.18	0.53	0.53
Sat Flow, veh/h	1648	2983	333	1664	1932	1254	1633	2153	1012	1633	3169	148
Grp Volume(v), veh/h	118	414	421	272	261	247	175	931	970	451	787	821
Grp Sat Flow(s),veh/h/ln	1648	1644	1672	1664	1660	1526	1633	1629	1536	1633	1629	1688
Q Serve(g_s), s	12.2	37.7	37.7	21.2	28.8	30.0	14.3	91.8	91.8	36.9	91.6	92.8
Cycle Q Clear(g_c), s	12.2	37.7	37.7	21.2	28.8	30.0	14.3	91.8	91.8	36.9	91.6	92.8
Prop In Lane	1.00		0.20	1.00		0.82	1.00		0.66	1.00		0.09
Lane Grp Cap(c), veh/h	205	295	300	202	353	325	190	712	671	321	869	900
V/C Ratio(X)	0.58	1.40	1.40	1.34	0.74	0.76	0.92	1.31	1.44	1.40	0.91	0.91
Avail Cap(c_a), veh/h	205	295	300	202	353	325	208	712	671	321	869	900
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.7	86.1	86.2	60.2	62.6	62.9	55.6	59.1	59.1	76.1	44.2	44.5
Incr Delay (d2), s/veh	3.9	200.2	200.3	158.5	0.9	1.1	39.9	148.6	208.5	199.7	14.8	15.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	33.5	34.1	20.6	13.2	12.7	12.2	70.7	77.9	36.5	44.7	46.9
LnGrp Delay(d),s/veh	69.6	286.3	286.4	218.7	63.4	64.1	95.4	207.7	267.6	275.8	59.0	59.5
LnGrp LOS	E	F	F	F	E	E	F	F	F	F	E	E
Approach Vol, veh/h		953			780			2076			2059	
Approach Delay, s/veh		259.5			117.8			226.2			106.7	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.8	118.2	27.0	43.0	42.0	98.0	20.0	50.0
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	18.7	109.7	* 21	* 38	36.9	91.8	14.0	* 45
Max Q Clear Time (g_c+I1), s	16.3	94.8	23.2	39.7	38.9	93.8	14.2	32.0
Green Ext Time (p_c), s	0.1	14.4	0.0	0.0	0.0	0.0	0.0	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	175.3
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1720	9	6	693	26	0	0	2	44	5	69
Future Volume (vph)	55	1720	9	6	693	26	0	0	2	44	5	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.5	6.5			6.5			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			1.00			0.86			0.92	
Flt Protected	0.95	1.00			1.00			1.00			0.98	
Satd. Flow (prot)	1613	1746			1738			1526			1596	
Flt Permitted	0.34	1.00			0.57			1.00			0.88	
Satd. Flow (perm)	582	1746			999			1526			1426	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	1911	10	7	770	29	0	0	2	49	6	77
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	23	0
Lane Group Flow (vph)	61	1921	0	0	805	0	0	0	0	0	109	0
Heavy Vehicles (%)	6%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		Perm	NA			NA		Perm	NA	
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	177.2	177.2			168.7			14.4			14.4	
Effective Green, g (s)	177.2	177.2			168.7			14.4			14.4	
Actuated g/C Ratio	0.84	0.84			0.80			0.07			0.07	
Clearance Time (s)	4.5	6.5			6.5			5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	510	1473			802			104			97	
v/s Ratio Prot	0.00	c1.10						0.00				
v/s Ratio Perm	0.10				0.81						c0.08	
v/c Ratio	0.12	1.30			1.00			0.00			1.12	
Uniform Delay, d1	3.2	16.4			20.7			91.1			97.8	
Progression Factor	0.08	1.15			0.65			1.00			1.00	
Incremental Delay, d2	0.0	137.3			30.1			0.0			127.7	
Delay (s)	0.3	156.2			43.4			91.1			225.5	
Level of Service	A	F			D			F			F	
Approach Delay (s)		151.4			43.4			91.1			225.5	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	124.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	119.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1766	22	7	719	11	6
Future Volume (vph)	1766	22	7	719	11	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5		6.5	6.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1745		1660	1748	1626	
Flt Permitted	1.00		0.02	1.00	0.97	
Satd. Flow (perm)	1745		41	1748	1626	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1962	24	8	799	12	7
RTOR Reduction (vph)	0	0	0	0	7	0
Lane Group Flow (vph)	1986	0	8	799	12	0
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	6			2	3	
Permitted Phases			2			
Actuated Green, G (s)	177.2		168.7	168.7	2.4	
Effective Green, g (s)	177.2		168.7	168.7	2.4	
Actuated g/C Ratio	0.84		0.80	0.80	0.01	
Clearance Time (s)	6.5		6.5	6.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1472		32	1404	18	
v/s Ratio Prot	c1.14			0.46	c0.01	
v/s Ratio Perm			0.19			
v/c Ratio	1.35		0.25	0.57	0.67	
Uniform Delay, d1	16.4		5.1	7.5	103.4	
Progression Factor	0.15		1.00	1.00	1.00	
Incremental Delay, d2	157.5		17.8	1.7	68.6	
Delay (s)	160.0		22.9	9.2	172.0	
Level of Service	F		C	A	F	
Approach Delay (s)	160.0			9.3	172.0	
Approach LOS	F			A	F	

Intersection Summary			
HCM 2000 Control Delay	116.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	5	1646	762	2	7	9
Future Vol, veh/h	5	1646	762	2	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	5	1697	786	2	7	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	788	0	-	0	2494	787
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	1707	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	827	-	-	-	32	392
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	161	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	827	-	-	-	29	392
Mov Cap-2 Maneuver	-	-	-	-	29	-
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	144	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	84.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	827	-	-	-	61
HCM Lane V/C Ratio	0.006	-	-	-	0.27
HCM Control Delay (s)	9.4	0	-	-	84.6
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	11.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	1671	21	2	760	5	15	2	9	13	3	5
Future Vol, veh/h	3	1671	21	2	760	5	15	2	9	13	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	3	1741	22	2	792	5	16	2	9	14	3	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	797	0	0	1763	0	0	2561	2559	1752	2562	2567	794
Stage 1	-	-	-	-	-	-	1758	1758	-	798	798	-
Stage 2	-	-	-	-	-	-	803	801	-	1764	1769	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	821	-	-	351	-	-	18	26	106	18	26	388
Stage 1	-	-	-	-	-	-	108	138	-	380	398	-
Stage 2	-	-	-	-	-	-	377	397	-	107	136	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	821	-	-	351	-	-	~ 13	21	106	~ 13	21	388
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 13	21	-	~ 13	21	-
Stage 1	-	-	-	-	-	-	87	111	-	304	394	-
Stage 2	-	-	-	-	-	-	365	393	-	77	109	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	$ 651.7	$ 587.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	19	821	-	-	351	-	-	18
HCM Lane V/C Ratio	1.425	0.004	-	-	0.006	-	-	1.215
HCM Control Delay (s)	$ 651.7	9.4	0	-	15.3	0	-	$ 587.7
HCM Lane LOS	F	A	A	-	C	A	-	F
HCM 95th %tile Q(veh)	3.7	0	-	-	0	-	-	3.1

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

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	7	1653	11	0	747	2	6	3	10	9	0	25
Future Vol, veh/h	7	1653	11	0	747	2	6	3	10	9	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	7	1722	11	0	778	2	6	3	10	9	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	780	0	0	1733	0	0	2534	2522	1728	2528	2527	779
Stage 1	-	-	-	-	-	-	1742	1742	-	779	779	-
Stage 2	-	-	-	-	-	-	792	780	-	1749	1748	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	833	-	-	361	-	-	18	28	110	19	28	396
Stage 1	-	-	-	-	-	-	110	141	-	389	406	-
Stage 2	-	-	-	-	-	-	382	406	-	109	140	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	833	-	-	361	-	-	14	21	110	13	21	396
Mov Cap-2 Maneuver	-	-	-	-	-	-	14	21	-	13	21	-
Stage 1	-	-	-	-	-	-	84	108	-	298	406	-
Stage 2	-	-	-	-	-	-	357	406	-	73	107	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	265.6	212.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	29	833	-	-	361	-	-	45
HCM Lane V/C Ratio	0.682	0.009	-	-	-	-	-	0.787
HCM Control Delay (s)	265.6	9.4	0	-	0	-	-	212.1
HCM Lane LOS	F	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	2.2	0	-	-	0	-	-	3.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1671	751	0	6	2
Future Vol, veh/h	0	1671	751	0	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1723	774	0	6	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	774	0	-	0	2497	774
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	1723	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	837	-	-	-	32	398
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	158	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	837	-	-	-	32	398
Mov Cap-2 Maneuver	-	-	-	-	32	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	158	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	110.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	837	-	-	-	42
HCM Lane V/C Ratio	-	-	-	-	0.196
HCM Control Delay (s)	0	-	-	-	110.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1668	6	3	744	3	11
Future Vol, veh/h	1668	6	3	744	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1720	6	3	767	3	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1726	0	2496	1723
Stage 1	-	-	-	-	1723	-
Stage 2	-	-	-	-	773	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	363	-	32	110
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	455	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	363	-	32	110
Mov Cap-2 Maneuver	-	-	-	-	32	-
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	67.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	72	-	-	363	-
HCM Lane V/C Ratio	0.2	-	-	0.009	-
HCM Control Delay (s)	67.1	-	-	15	0
HCM Lane LOS	F	-	-	C	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1668	7	13	741	5	27
Future Vol, veh/h	1668	7	13	741	5	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1738	7	14	772	5	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1745	0	2540	1741
Stage 1	-	-	-	-	1741	-
Stage 2	-	-	-	-	799	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	357	-	30	108
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	443	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	357	-	29	108
Mov Cap-2 Maneuver	-	-	-	-	29	-
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	426	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	85.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	76	-	-	357	-
HCM Lane V/C Ratio	0.439	-	-	0.038	-
HCM Control Delay (s)	85.1	-	-	15.5	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	1.8	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1314	326	799	535	127	163	312	1107	418	979	46
Future Volume (veh/h)	45	1314	326	799	535	127	163	312	1107	418	979	46
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1800	1748	1748	1800	1748	1748	1800
Adj Flow Rate, veh/h	45	1327	329	807	540	128	165	315	0	422	989	46
Adj No. of Lanes	1	2	0	2	1	0	1	2	0	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	173	878	213	532	655	155	141	772	0	421	960	45
Arrive On Green	0.02	0.33	0.33	0.16	0.48	0.48	0.06	0.23	0.00	0.14	0.30	0.30
Sat Flow, veh/h	1664	2650	644	3229	1367	324	1664	3408	0	1664	3231	150
Grp Volume(v), veh/h	45	821	835	807	0	668	165	315	0	422	508	527
Grp Sat Flow(s),veh/h/ln	1664	1660	1634	1614	0	1690	1664	1660	0	1664	1660	1721
Q Serve(g_s), s	3.8	69.6	69.6	34.6	0.0	71.5	13.5	16.9	0.0	28.7	62.4	62.4
Cycle Q Clear(g_c), s	3.8	69.6	69.6	34.6	0.0	71.5	13.5	16.9	0.0	28.7	62.4	62.4
Prop In Lane	1.00		0.39	1.00		0.19	1.00		0.00	1.00		0.09
Lane Grp Cap(c), veh/h	173	550	542	532	0	810	141	772	0	421	493	511
V/C Ratio(X)	0.26	1.49	1.54	1.52	0.00	0.82	1.17	0.41	0.00	1.00	1.03	1.03
Avail Cap(c_a), veh/h	173	550	542	532	0	810	141	772	0	421	493	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	70.2	70.2	87.7	0.0	47.1	62.9	68.4	0.0	63.8	73.8	73.8
Incr Delay (d2), s/veh	0.8	231.0	252.9	242.2	0.0	9.4	127.9	0.3	0.0	44.3	48.5	47.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	67.3	69.5	33.3	0.0	35.5	11.3	7.8	0.0	16.4	35.3	36.5
LnGrp Delay(d),s/veh	50.3	301.2	323.1	329.9	0.0	56.5	190.8	68.7	0.0	108.1	122.3	121.6
LnGrp LOS	D	F	F	F		E	F	E		F	F	F
Approach Vol, veh/h		1701			1475			480			1457	
Approach Delay, s/veh		305.3			206.0			110.7			117.9	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	41.0	77.0	36.0	56.0	10.0	108.0	22.4	69.6
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	34.6	69.6	28.7	* 49	* 4.2	100.6	* 14	* 62
Max Q Clear Time (g_c+I1), s	36.6	71.6	30.7	18.9	5.8	73.5	15.5	64.4
Green Ext Time (p_c), s	0.0	0.0	0.0	10.4	0.0	20.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		205.0
HCM 2010 LOS		F

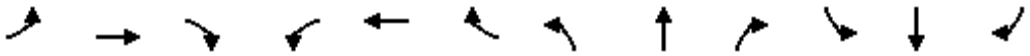
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	553	128	462	851	345	184	1657	484	251	1375	137
Future Volume (veh/h)	128	553	128	462	851	345	184	1657	484	251	1375	137
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1900	1845	1845	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	131	564	131	471	868	352	188	1691	494	256	1403	140
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	98	400	93	335	673	272	205	1267	353	192	1514	150
Arrive On Green	0.03	0.14	0.14	0.11	0.18	0.18	0.08	0.48	0.48	0.09	0.48	0.48
Sat Flow, veh/h	1740	2800	648	1757	2439	985	1723	2658	740	1723	3160	313
Grp Volume(v), veh/h	131	349	346	471	623	597	188	1064	1121	256	760	783
Grp Sat Flow(s),veh/h/ln	1740	1736	1713	1757	1752	1671	1723	1719	1679	1723	1719	1754
Q Serve(g_s), s	6.0	25.7	25.7	30.2	49.7	49.7	13.1	85.8	85.8	15.9	74.3	75.7
Cycle Q Clear(g_c), s	6.0	25.7	25.7	30.2	49.7	49.7	13.1	85.8	85.8	15.9	74.3	75.7
Prop In Lane	1.00		0.38	1.00		0.59	1.00		0.44	1.00		0.18
Lane Grp Cap(c), veh/h	98	248	245	335	484	461	205	819	800	192	823	840
V/C Ratio(X)	1.34	1.41	1.42	1.41	1.29	1.29	0.92	1.30	1.40	1.33	0.92	0.93
Avail Cap(c_a), veh/h	98	248	245	335	484	461	213	819	800	192	823	840
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.0	77.2	77.2	63.5	73.4	73.4	53.6	47.1	47.1	64.1	43.8	44.1
Incr Delay (d2), s/veh	205.4	206.0	209.3	184.8	130.6	134.2	38.4	143.5	187.6	180.4	17.4	18.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	26.5	26.4	31.0	41.7	40.2	11.4	73.4	81.5	19.2	39.2	40.9
LnGrp Delay(d),s/veh	278.4	283.1	286.5	248.3	203.9	207.5	91.9	190.6	234.7	244.5	61.1	62.5
LnGrp LOS	F	F	F	F	F	F	F	F	F	F	E	E
Approach Vol, veh/h		826			1691			2373			1799	
Approach Delay, s/veh		283.8			217.5			203.6			87.8	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	92.4	36.0	31.0	21.0	92.0	12.0	55.0
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	16.0	85.4	* 30	* 26	15.9	85.8	6.0	* 50
Max Q Clear Time (g_c+I1), s	15.1	77.7	32.2	27.7	17.9	87.8	8.0	51.7
Green Ext Time (p_c), s	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	185.9
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	1290	7	7	1484	37	5	5	2	39	2	197
Future Volume (vph)	118	1290	7	7	1484	37	5	5	2	39	2	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	6.5			6.5			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			1.00			0.98			0.89	
Flt Protected	0.95	1.00			1.00			0.98			0.99	
Satd. Flow (prot)	1703	1843			1838			1784			1641	
Flt Permitted	0.15	1.00			0.85			0.67			0.94	
Satd. Flow (perm)	261	1843			1571			1213			1554	
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)	127	1387	8	8	1596	40	5	5	2	42	2	212
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	95	0
Lane Group Flow (vph)	127	1395	0	0	1644	0	0	10	0	0	161	0
Heavy Vehicles (%)	6%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	147.1	147.1			138.6			13.7			13.7	
Effective Green, g (s)	147.1	147.1			138.6			13.7			13.7	
Actuated g/C Ratio	0.82	0.82			0.77			0.08			0.08	
Clearance Time (s)	4.5	6.5			6.5			5.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	245	1506			1209			92			118	
v/s Ratio Prot	0.01	c0.76										
v/s Ratio Perm	0.41				c1.05			0.01			c0.10	
v/c Ratio	0.52	0.93			1.36			0.11			1.36	
Uniform Delay, d1	6.8	12.4			20.7			77.5			83.2	
Progression Factor	1.92	1.07			0.07			1.00			1.00	
Incremental Delay, d2	0.2	1.3			162.2			0.5			208.3	
Delay (s)	13.2	14.6			163.7			78.0			291.4	
Level of Service	B	B			F			E			F	
Approach Delay (s)		14.5			163.7			78.0			291.4	
Approach LOS		B			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	106.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	116.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1331	17	6	1521	21	9
Future Volume (vph)	1331	17	6	1521	21	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5		6.5	6.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1842		1752	1845	1726	
Flt Permitted	1.00		0.03	1.00	0.97	
Satd. Flow (perm)	1842		53	1845	1726	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1431	18	6	1635	23	10
RTOR Reduction (vph)	0	0	0	0	9	0
Lane Group Flow (vph)	1449	0	6	1635	24	0
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	6			2	3	
Permitted Phases			2			
Actuated Green, G (s)	147.1		138.6	138.6	3.2	
Effective Green, g (s)	147.1		138.6	138.6	3.2	
Actuated g/C Ratio	0.82		0.77	0.77	0.02	
Clearance Time (s)	6.5		6.5	6.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1505		40	1420	30	
v/s Ratio Prot	c0.79			c0.89	c0.01	
v/s Ratio Perm			0.11			
v/c Ratio	0.96		0.15	1.15	0.81	
Uniform Delay, d1	14.1		5.4	20.7	88.1	
Progression Factor	0.14		1.00	1.00	1.00	
Incremental Delay, d2	8.1		7.8	76.7	85.4	
Delay (s)	10.0		13.2	97.4	173.5	
Level of Service	A		B	F	F	
Approach Delay (s)	10.0			97.1	173.5	
Approach LOS	A			F	F	

Intersection Summary			
HCM 2000 Control Delay	57.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	7	1094	1287	3	2	107
Future Vol, veh/h	7	1094	1287	3	2	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	8	1202	1414	3	2	118

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1418	0	-	0	2634	1416
Stage 1	-	-	-	-	1416	-
Stage 2	-	-	-	-	1218	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	477	-	-	-	26	168
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	280	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	477	-	-	-	25	168
Mov Cap-2 Maneuver	-	-	-	-	25	-
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	266	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	84.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	477	-	-	-	152
HCM Lane V/C Ratio	0.016	-	-	-	0.788
HCM Control Delay (s)	12.7	0	-	-	84.3
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	5

Intersection	
Int Delay, s/veh	64.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	5	1079	22	0	1263	18	27	57	6	3	2	0
Future Vol, veh/h	5	1079	22	0	1263	18	27	57	6	3	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	5	1160	24	0	1358	19	29	61	6	3	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1377	0	0	1184	0	0	2552	2560	1172	2585	2563	1368
Stage 1	-	-	-	-	-	-	1183	1183	-	1368	1368	-
Stage 2	-	-	-	-	-	-	1369	1377	-	1217	1195	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	495	-	-	586	-	-	~ 18	~ 26	234	17	26	180
Stage 1	-	-	-	-	-	-	231	263	-	181	215	-
Stage 2	-	-	-	-	-	-	181	212	-	221	260	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	495	-	-	586	-	-	~ 16	~ 25	234	-	25	180
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 16	~ 25	-	-	25	-
Stage 1	-	-	-	-	-	-	224	255	-	176	215	-
Stage 2	-	-	-	-	-	-	179	212	-	158	252	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	$ 1787.2	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	23	495	-	-	586	-	-	-
HCM Lane V/C Ratio	4.208	0.011	-	-	-	-	-	-
HCM Control Delay (s)	$ 1787.2	12.4	0	-	0	-	-	-
HCM Lane LOS	F	B	A	-	A	-	-	-
HCM 95th %tile Q(veh)	12.2	0	-	-	0	-	-	-

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

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	17	1050	11	6	1241	6	9	9	5	3	3	13
Future Vol, veh/h	17	1050	11	6	1241	6	9	9	5	3	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	18	1117	12	6	1320	6	10	10	5	3	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1327	0	0	1129	0	0	2504	2498	1123	2502	2501	1323
Stage 1	-	-	-	-	-	-	1159	1159	-	1336	1336	-
Stage 2	-	-	-	-	-	-	1345	1339	-	1166	1165	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	517	-	-	615	-	-	19	29	250	19	29	191
Stage 1	-	-	-	-	-	-	238	270	-	189	222	-
Stage 2	-	-	-	-	-	-	187	222	-	236	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	517	-	-	615	-	-	14	25	250	12	25	191
Mov Cap-2 Maneuver	-	-	-	-	-	-	14	25	-	12	25	-
Stage 1	-	-	-	-	-	-	216	245	-	171	214	-
Stage 2	-	-	-	-	-	-	165	214	-	201	243	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	$ 481.2	148.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	22	517	-	-	615	-	-	43
HCM Lane V/C Ratio	1.112	0.035	-	-	0.01	-	-	0.47
HCM Control Delay (s)	$ 481.2	12.2	0	-	10.9	0	-	148.2
HCM Lane LOS	F	B	A	-	B	A	-	F
HCM 95th %tile Q(veh)	3.2	0.1	-	-	0	-	-	1.7

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1073	1206	18	2	0
Future Vol, veh/h	0	1073	1206	18	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1129	1269	19	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1288	0	-	0	2408	1279
Stage 1	-	-	-	-	1279	-
Stage 2	-	-	-	-	1129	-
Critical Hdwy	4.13	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	535	-	-	-	36	203
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	309	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	535	-	-	-	36	203
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	309	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	111.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	535	-	-	-	36
HCM Lane V/C Ratio	-	-	-	-	0.058
HCM Control Delay (s)	0	-	-	-	111.1
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1020	6	7	1257	7	7
Future Vol, veh/h	1020	6	7	1257	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1063	6	7	1309	7	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1069	0	2390	1066
Stage 1	-	-	-	-	1066	-
Stage 2	-	-	-	-	1324	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	648	-	37	270
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	249	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	648	-	36	270
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	239	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	77.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	64	-	-	648	-
HCM Lane V/C Ratio	0.228	-	-	0.011	-
HCM Control Delay (s)	77.1	-	-	10.6	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1050	15	108	1202	7	46
Future Vol, veh/h	1050	15	108	1202	7	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1094	16	113	1252	7	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1109	0	2579	1102
Stage 1	-	-	-	-	1102	-
Stage 2	-	-	-	-	1477	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	626	-	28	257
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	209	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	626	-	23	257
Mov Cap-2 Maneuver	-	-	-	-	23	-
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	171	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	66.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	110	-	-	626	-
HCM Lane V/C Ratio	0.502	-	-	0.18	-
HCM Control Delay (s)	66.9	-	-	12	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	2.3	-	-	0.7	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	887	115	1052	1058	360	245	887	1106	189	445	44
Future Volume (veh/h)	57	887	115	1052	1058	360	245	887	1106	189	445	44
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	58	896	116	1063	1069	364	247	896	0	191	449	44
Adj No. of Lanes	1	2	0	2	1	0	1	2	0	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	79	1015	131	617	642	219	325	1010	0	153	669	65
Arrive On Green	0.02	0.33	0.33	0.18	0.49	0.49	0.12	0.29	0.00	0.05	0.21	0.21
Sat Flow, veh/h	1757	3122	404	3408	1317	448	1757	3597	0	1757	3227	315
Grp Volume(v), veh/h	58	503	509	1063	0	1433	247	896	0	191	243	250
Grp Sat Flow(s),veh/h/ln	1757	1752	1773	1704	0	1766	1757	1752	0	1757	1752	1789
Q Serve(g_s), s	4.0	48.9	48.9	32.6	0.0	87.7	19.5	44.0	0.0	8.7	23.0	23.2
Cycle Q Clear(g_c), s	4.0	48.9	48.9	32.6	0.0	87.7	19.5	44.0	0.0	8.7	23.0	23.2
Prop In Lane	1.00		0.23	1.00		0.25	1.00		0.00	1.00		0.18
Lane Grp Cap(c), veh/h	79	570	577	617	0	860	325	1010	0	153	364	371
V/C Ratio(X)	0.73	0.88	0.88	1.72	0.00	1.67	0.76	0.89	0.00	1.25	0.67	0.67
Avail Cap(c_a), veh/h	79	570	577	617	0	860	345	1087	0	153	382	390
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	57.5	57.5	73.7	0.0	46.1	48.2	61.3	0.0	66.2	65.6	65.7
Incr Delay (d2), s/veh	29.4	17.8	17.6	331.8	0.0	304.6	8.9	8.7	0.0	153.8	4.2	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	26.6	26.9	43.8	0.0	115.6	10.2	22.5	0.0	9.9	11.6	11.9
LnGrp Delay(d),s/veh	78.6	75.3	75.1	405.5	0.0	350.8	57.1	69.9	0.0	220.0	69.8	70.0
LnGrp LOS	E	E	E	F		F	E	E		F	E	E
Approach Vol, veh/h		1070			2496			1143			684	
Approach Delay, s/veh		75.4			374.1			67.1			111.8	
Approach LOS		E			F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.0	65.9	16.0	59.1	9.8	95.1	30.5	44.5
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	32.6	54.6	8.7	* 56	* 4	83.8	* 24	* 39
Max Q Clear Time (g_c+I1), s	34.6	50.9	10.7	46.0	6.0	89.7	21.5	25.2
Green Ext Time (p_c), s	0.0	3.6	0.0	5.9	0.0	0.0	0.2	7.5

Intersection Summary	
HCM 2010 Ctrl Delay	216.5
HCM 2010 LOS	F

Notes

APPENDIX E – 2026 Opening Year Build Synchro Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	611	66	234	251	180	138	993	541	394	1209	56
Future Volume (veh/h)	93	611	66	234	251	180	138	993	541	394	1209	56
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1731	1748	1748	1748	1714	1714	1714	1714	1714	1714
Adj Flow Rate, veh/h	97	636	0	244	261	0	144	1034	0	410	1259	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	315	690	309	262	1012	453	203	1541	689	556	1610	720
Arrive On Green	0.03	0.21	0.00	0.21	0.51	0.00	0.06	0.47	0.00	0.08	0.49	0.00
Sat Flow, veh/h	1648	3288	1471	1664	3320	1485	1633	3257	1457	3167	3257	1457
Grp Volume(v), veh/h	97	636	0	244	261	0	144	1034	0	410	1259	0
Grp Sat Flow(s),veh/h/ln	1648	1644	1471	1664	1660	1485	1633	1629	1457	1584	1629	1457
Q Serve(g_s), s	6.0	37.9	0.0	22.9	8.9	0.0	9.1	49.0	0.0	13.1	63.7	0.0
Cycle Q Clear(g_c), s	6.0	37.9	0.0	22.9	8.9	0.0	9.1	49.0	0.0	13.1	63.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	690	309	262	1012	453	203	1541	689	556	1610	720
V/C Ratio(X)	0.31	0.92	0.00	0.93	0.26	0.00	0.71	0.67	0.00	0.74	0.78	0.00
Avail Cap(c_a), veh/h	315	722	323	295	1111	497	241	1541	689	621	1610	720
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.98	0.98	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	61.7	77.4	0.0	49.7	36.3	0.0	37.6	40.7	0.0	32.9	41.7	0.0
Incr Delay (d2), s/veh	0.6	16.9	0.0	32.6	0.1	0.0	7.6	2.3	0.0	4.1	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	18.8	0.0	12.8	4.1	0.0	4.5	22.5	0.0	6.1	29.5	0.0
LnGrp Delay(d),s/veh	62.2	94.4	0.0	82.3	36.4	0.0	45.2	43.0	0.0	37.1	45.5	0.0
LnGrp LOS	E	F		F	D		D	D		D	D	
Approach Vol, veh/h		733			505			1178			1669	
Approach Delay, s/veh		90.1			58.6			43.3			43.4	
Approach LOS		F			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	105.1	31.0	47.3	20.9	100.8	12.0	66.3
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	15.9	88.3	* 29	* 44	19.9	84.6	6.0	* 67
Max Q Clear Time (g_c+I1), s	11.1	65.7	24.9	39.9	15.1	51.0	8.0	10.9
Green Ext Time (p_c), s	0.1	17.0	0.3	2.1	0.7	22.7	0.0	7.2

Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1507	7	26	619	22	9	4	7	36	4	56
Future Volume (veh/h)	45	1507	7	26	619	22	9	4	7	36	4	56
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1698	1748	1800	1748	1748	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	50	1674	8	29	688	24	10	4	8	40	4	62
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	607	2756	13	305	2667	93	68	18	37	124	5	76
Arrive On Green	0.04	1.00	1.00	0.02	0.81	0.81	0.01	0.03	0.03	0.03	0.05	0.05
Sat Flow, veh/h	1617	3389	16	1664	3273	114	1681	526	1053	1681	92	1422
Grp Volume(v), veh/h	50	820	862	29	349	363	10	0	12	40	0	66
Grp Sat Flow(s),veh/h/ln	1617	1660	1745	1664	1660	1727	1681	0	1579	1681	0	1514
Q Serve(g_s), s	1.1	0.0	0.0	0.6	9.9	9.9	1.1	0.0	1.5	4.5	0.0	8.6
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.6	9.9	9.9	1.1	0.0	1.5	4.5	0.0	8.6
Prop In Lane	1.00		0.01	1.00		0.07	1.00		0.67	1.00		0.94
Lane Grp Cap(c), veh/h	607	1350	1419	305	1352	1407	68	0	55	124	0	81
V/C Ratio(X)	0.08	0.61	0.61	0.10	0.26	0.26	0.15	0.00	0.22	0.32	0.00	0.82
Avail Cap(c_a), veh/h	622	1350	1419	326	1352	1407	104	0	87	154	0	106
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.1	0.0	0.0	2.8	4.4	4.4	91.7	0.0	93.8	88.6	0.0	93.7
Incr Delay (d2), s/veh	0.0	1.0	1.0	0.1	0.5	0.4	1.0	0.0	1.9	1.5	0.0	29.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.4	0.4	0.3	4.6	4.8	0.5	0.0	0.7	2.2	0.0	4.3
LnGrp Delay(d),s/veh	3.1	1.0	1.0	3.0	4.8	4.8	92.7	0.0	95.8	90.1	0.0	123.2
LnGrp LOS	A	A	A	A	A	A	F		F	F		F
Approach Vol, veh/h		1732			741			22			106	
Approach Delay, s/veh		1.0			4.7			94.4			110.7	
Approach LOS		A			A			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	169.2	10.3	12.0	8.3	169.4	6.6	15.7
Change Period (Y+Rc), s	4.5	6.5	4.5	5.0	4.5	6.5	4.5	5.0
Max Green Setting (Gmax), s	6.5	152.5	9.5	11.0	5.5	153.5	6.5	14.0
Max Q Clear Time (g_c+I1), s	2.6	2.0	6.5	3.5	3.1	11.9	3.1	10.6
Green Ext Time (p_c), s	0.0	43.9	0.0	0.2	0.0	43.5	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.4
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1446	676	2	0	7
Future Vol, veh/h	0	1446	676	2	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1491	697	2	0	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1443	349
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	745	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	123	647
Stage 1	0	-	-	-	455	-
Stage 2	0	-	-	-	430	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	123	647
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	430	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	647
HCM Lane V/C Ratio	-	-	-	0.011
HCM Control Delay (s)	-	-	-	10.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	1466	17	0	674	4	0	0	16	0	0	11
Future Vol, veh/h	0	1466	17	0	674	4	0	0	16	0	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	0	1527	18	0	702	4	0	0	17	0	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1887	2242	772	1468	2249	353
Stage 1	-	-	-	-	-	-	1536	1536	-	704	704	-
Stage 2	-	-	-	-	-	-	351	706	-	764	1545	-
Critical Hdwy	-	-	-	-	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	43	42	342	89	41	643
Stage 1	0	-	-	0	-	-	121	176	-	394	438	-
Stage 2	0	-	-	0	-	-	639	437	-	362	174	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	42	42	342	85	41	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	42	-	85	41	-
Stage 1	-	-	-	-	-	-	121	176	-	394	438	-
Stage 2	-	-	-	-	-	-	628	437	-	344	174	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	16.1	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	342	-	-	-	-	643
HCM Lane V/C Ratio	0.049	-	-	-	-	0.018
HCM Control Delay (s)	16.1	-	-	-	-	10.7
HCM Lane LOS	C	-	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.1

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	15	1452	9	15	663	2	27	3	8	12	0	20
Future Vol, veh/h	15	1452	9	15	663	2	27	3	8	12	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	16	1513	9	16	691	2	28	3	8	13	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	693	0	0	1522	0	0	1925	2272	761	1512	2276	346
Stage 1	-	-	-	-	-	-	1548	1548	-	723	723	-
Stage 2	-	-	-	-	-	-	377	724	-	789	1553	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	891	-	-	429	-	-	40	40	348	83	40	650
Stage 1	-	-	-	-	-	-	119	174	-	384	429	-
Stage 2	-	-	-	-	-	-	616	429	-	350	173	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	429	-	-	37	38	348	73	38	650
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	38	-	73	38	-
Stage 1	-	-	-	-	-	-	117	171	-	377	413	-
Stage 2	-	-	-	-	-	-	574	413	-	329	170	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	228.8	32.5
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	46	891	-	-	429	-	-	164
HCM Lane V/C Ratio	0.861	0.018	-	-	0.036	-	-	0.203
HCM Control Delay (s)	228.8	9.1	-	-	13.7	-	-	32.5
HCM Lane LOS	F	A	-	-	B	-	-	D
HCM 95th %tile Q(veh)	3.5	0.1	-	-	0.1	-	-	0.7

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1466	667	0	0	2
Future Vol, veh/h	0	1466	667	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1511	688	0	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1444	344
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	756	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	123	652
Stage 1	0	-	-	-	460	-
Stage 2	0	-	-	-	424	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	123	652
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	424	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	652
HCM Lane V/C Ratio	-	-	-	0.003
HCM Control Delay (s)	-	-	-	10.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1464	5	0	661	0	9
Future Vol, veh/h	1464	5	0	661	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1509	5	0	681	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	1853	757
Stage 1	-	-	-	-	1512	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	66	350
Stage 1	-	-	0	-	169	-
Stage 2	-	-	0	-	692	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	66	350
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	692	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	350	-	-	-
HCM Lane V/C Ratio	0.027	-	-	-
HCM Control Delay (s)	15.6	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1464	6	0	659	0	23
Future Vol, veh/h	1464	6	0	659	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1525	6	0	686	0	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	1871	766
Stage 1	-	-	-	-	1528	-
Stage 2	-	-	-	-	343	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	64	345
Stage 1	-	-	0	-	165	-
Stage 2	-	-	0	-	690	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	64	345
Mov Cap-2 Maneuver	-	-	-	-	64	-
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	690	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	345	-	-	-
HCM Lane V/C Ratio	0.069	-	-	-
HCM Control Delay (s)	16.2	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1156	286	695	482	116	141	264	941	367	821	38
Future Volume (veh/h)	37	1156	286	695	482	116	141	264	941	367	821	38
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1748	1748	1748	1800	1748	1748	1748
Adj Flow Rate, veh/h	37	1168	289	702	487	117	142	267	0	371	829	0
Adj No. of Lanes	1	2	0	2	2	1	1	2	0	2	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	363	960	235	559	1720	770	144	827	0	699	830	371
Arrive On Green	0.02	0.36	0.36	0.17	0.52	0.52	0.06	0.25	0.00	0.07	0.25	0.00
Sat Flow, veh/h	1664	2645	648	3229	3320	1485	1664	3408	0	3229	3320	1485
Grp Volume(v), veh/h	37	729	728	702	487	117	142	267	0	371	829	0
Grp Sat Flow(s),veh/h/ln	1664	1660	1633	1614	1660	1485	1664	1660	0	1614	1660	1485
Q Serve(g_s), s	2.8	72.6	72.6	34.6	16.6	8.2	12.8	13.1	0.0	14.7	49.9	0.0
Cycle Q Clear(g_c), s	2.8	72.6	72.6	34.6	16.6	8.2	12.8	13.1	0.0	14.7	49.9	0.0
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	363	603	593	559	1720	770	144	827	0	699	830	371
V/C Ratio(X)	0.10	1.21	1.23	1.26	0.28	0.15	0.99	0.32	0.00	0.53	1.00	0.00
Avail Cap(c_a), veh/h	363	603	593	559	1720	770	144	827	0	699	830	371
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.8	63.7	63.7	82.7	27.2	25.2	57.7	61.3	0.0	54.3	75.0	0.0
Incr Delay (d2), s/veh	0.1	108.9	117.3	129.6	0.4	0.4	71.5	0.2	0.0	0.8	30.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	51.5	52.1	25.5	7.7	3.5	8.7	6.1	0.0	2.3	26.5	0.0
LnGrp Delay(d),s/veh	38.9	172.6	181.0	212.3	27.6	25.6	129.2	61.6	0.0	55.0	105.9	0.0
LnGrp LOS	D	F	F	F	C	C	F	E		E	F	
Approach Vol, veh/h		1494			1306			409			1200	
Approach Delay, s/veh		173.4			126.7			85.0			90.1	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	41.0	80.0	22.0	57.0	10.0	111.0	21.8	57.2
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	34.6	72.6	14.7	* 50	* 4.2	103.6	* 13	* 50
Max Q Clear Time (g_c+I1), s	36.6	74.6	16.7	15.1	4.8	18.6	14.8	51.9
Green Ext Time (p_c), s	0.0	0.0	0.0	8.9	0.0	27.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	128.7
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	466	105	413	715	317	151	1358	422	231	1127	112
Future Volume (veh/h)	105	466	105	413	715	317	151	1358	422	231	1127	112
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1731	1748	1748	1748	1714	1714	1714	1714	1714	1714
Adj Flow Rate, veh/h	107	476	0	421	730	0	154	1386	0	236	1150	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	247	486	217	419	1013	453	204	1441	645	276	1398	625
Arrive On Green	0.07	0.15	0.00	0.38	0.51	0.00	0.06	0.44	0.00	0.05	0.43	0.00
Sat Flow, veh/h	1648	3288	1471	1664	3320	1485	1633	3257	1457	3167	3257	1457
Grp Volume(v), veh/h	107	476	0	421	730	0	154	1386	0	236	1150	0
Grp Sat Flow(s),veh/h/ln	1648	1644	1471	1664	1660	1485	1633	1629	1457	1584	1629	1457
Q Serve(g_s), s	9.3	24.5	0.0	38.2	29.0	0.0	9.0	70.2	0.0	7.1	53.0	0.0
Cycle Q Clear(g_c), s	9.3	24.5	0.0	38.2	29.0	0.0	9.0	70.2	0.0	7.1	53.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	486	217	419	1013	453	204	1441	645	276	1398	625
V/C Ratio(X)	0.43	0.98	0.00	1.00	0.72	0.00	0.75	0.96	0.00	0.86	0.82	0.00
Avail Cap(c_a), veh/h	254	486	217	419	1013	453	227	1441	645	276	1398	625
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.81	0.81	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.2	72.2	0.0	39.7	36.1	0.0	36.1	46.0	0.0	40.0	42.8	0.0
Incr Delay (d2), s/veh	1.2	35.6	0.0	40.6	2.1	0.0	12.2	16.2	0.0	22.4	5.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	13.6	0.0	24.3	13.5	0.0	4.7	34.8	0.0	3.9	24.9	0.0
LnGrp Delay(d),s/veh	57.4	107.8	0.0	80.3	38.1	0.0	48.2	62.2	0.0	62.4	48.4	0.0
LnGrp LOS	E	F		F	D		D	E		E	D	
Approach Vol, veh/h		583			1151			1540			1386	
Approach Delay, s/veh		98.6			53.5			60.8			50.8	
Approach LOS		F			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	79.2	44.0	30.4	14.2	81.4	17.2	57.2
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	13.4	70.6	* 38	* 25	9.1	75.2	12.0	* 51
Max Q Clear Time (g_c+I1), s	11.0	55.0	40.2	26.5	9.1	72.2	11.3	31.0
Green Ext Time (p_c), s	0.1	13.4	0.0	0.0	0.0	2.8	0.0	8.2

Intersection Summary	
HCM 2010 Ctrl Delay	60.7
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1120	6	15	1304	31	21	11	9	32	2	161
Future Volume (veh/h)	96	1120	6	15	1304	31	21	11	9	32	2	161
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1698	1748	1800	1748	1748	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	103	1204	6	16	1402	33	23	12	10	34	2	173
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	265	2428	12	388	2325	55	90	110	92	236	2	190
Arrive On Green	0.06	1.00	1.00	0.02	0.70	0.70	0.02	0.12	0.12	0.02	0.13	0.13
Sat Flow, veh/h	1617	3388	17	1664	3316	78	1681	891	743	1681	17	1485
Grp Volume(v), veh/h	103	590	620	16	701	734	23	0	22	34	0	175
Grp Sat Flow(s),veh/h/ln	1617	1660	1745	1664	1660	1734	1681	0	1634	1681	0	1503
Q Serve(g_s), s	3.2	0.0	0.0	0.5	37.2	37.3	2.0	0.0	2.0	3.0	0.0	19.5
Cycle Q Clear(g_c), s	3.2	0.0	0.0	0.5	37.2	37.3	2.0	0.0	2.0	3.0	0.0	19.5
Prop In Lane	1.00		0.01	1.00		0.04	1.00		0.45	1.00		0.99
Lane Grp Cap(c), veh/h	265	1190	1250	388	1164	1215	90	0	202	236	0	192
V/C Ratio(X)	0.39	0.50	0.50	0.04	0.60	0.60	0.25	0.00	0.11	0.14	0.00	0.91
Avail Cap(c_a), veh/h	362	1190	1250	415	1164	1215	112	0	221	251	0	203
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	0.48	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	6.9	13.2	13.2	64.3	0.0	66.2	63.1	0.0	73.2
Incr Delay (d2), s/veh	0.4	0.7	0.7	0.0	2.3	2.2	1.5	0.0	0.2	0.3	0.0	38.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.2	0.2	0.2	17.7	18.5	1.0	0.0	0.9	1.4	0.0	10.2
LnGrp Delay(d),s/veh	12.3	0.7	0.7	6.9	15.5	15.4	65.8	0.0	66.4	63.4	0.0	111.8
LnGrp LOS	B	A	A	A	B	B	E		E	E		F
Approach Vol, veh/h		1313			1451			45			209	
Approach Delay, s/veh		1.6			15.3			66.1			103.9	
Approach LOS		A			B			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	128.3	8.5	26.0	9.8	125.7	7.8	26.7
Change Period (Y+Rc), s	4.5	6.5	4.5	5.0	4.5	6.5	4.5	5.0
Max Green Setting (Gmax), s	5.5	115.5	5.5	23.0	15.5	105.5	5.5	23.0
Max Q Clear Time (g_c+I1), s	2.5	2.0	5.0	4.0	5.2	39.3	4.0	21.5
Green Ext Time (p_c), s	0.0	48.8	0.0	1.1	0.2	38.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	959	1142	3	0	88
Future Vol, veh/h	0	959	1142	3	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1054	1255	3	0	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1784	629
Stage 1	-	-	-	-	1257	-
Stage 2	-	-	-	-	527	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	73	425
Stage 1	0	-	-	-	231	-
Stage 2	0	-	-	-	557	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	73	425
Mov Cap-2 Maneuver	-	-	-	-	73	-
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	557	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	425
HCM Lane V/C Ratio	-	-	-	0.228
HCM Control Delay (s)	-	-	-	15.9
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.9

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	947	18	0	1122	15	0	0	57	0	0	2
Future Vol, veh/h	0	947	18	0	1122	15	0	0	57	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	0	1018	19	0	1206	16	0	0	61	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1631	2251	519	1724	2253	611
Stage 1	-	-	-	-	-	-	1028	1028	-	1215	1215	-
Stage 2	-	-	-	-	-	-	603	1223	-	509	1038	-
Critical Hdwy	-	-	-	-	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	67	41	502	57	41	437
Stage 1	0	-	-	0	-	-	251	310	-	192	252	-
Stage 2	0	-	-	0	-	-	453	250	-	515	306	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	67	41	502	50	41	437
Mov Cap-2 Maneuver	-	-	-	-	-	-	67	41	-	50	41	-
Stage 1	-	-	-	-	-	-	251	310	-	192	252	-
Stage 2	-	-	-	-	-	-	451	250	-	452	306	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13.2	13.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	502	-	-	-	-	437
HCM Lane V/C Ratio	0.122	-	-	-	-	0.005
HCM Control Delay (s)	13.2	-	-	-	-	13.3
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	-	0

Intersection	
Int Delay, s/veh	52.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	27	923	9	100	1104	5	89	7	4	5	3	10
Future Vol, veh/h	27	923	9	100	1104	5	89	7	4	5	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	29	982	10	106	1174	5	95	7	4	5	3	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1180	0	0	991	0	0	1846	2437	496	1942	2439	590
Stage 1	-	-	-	-	-	-	1044	1044	-	1390	1390	-
Stage 2	-	-	-	-	-	-	802	1393	-	552	1049	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	582	-	-	687	-	-	~ 46	31	519	39	31	451
Stage 1	-	-	-	-	-	-	245	304	-	150	208	-
Stage 2	-	-	-	-	-	-	344	207	-	486	303	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	582	-	-	687	-	-	~ 35	25	519	25	25	451
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 35	25	-	25	25	-
Stage 1	-	-	-	-	-	-	233	289	-	143	176	-
Stage 2	-	-	-	-	-	-	279	175	-	446	288	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.9	$ 1159.4	107.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	35	582	-	-	687	-	-	53
HCM Lane V/C Ratio	3.04	0.049	-	-	0.155	-	-	0.361
HCM Control Delay (s)	$ 1159.4	11.5	-	-	11.2	-	-	107.2
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	12.2	0.2	-	-	0.5	-	-	1.3

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	942	1076	15	0	0
Future Vol, veh/h	0	942	1076	15	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	992	1133	16	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1637	574
Stage 1	-	-	-	-	1141	-
Stage 2	-	-	-	-	496	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	91	462
Stage 1	0	-	-	-	267	-
Stage 2	0	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	91	462
Mov Cap-2 Maneuver	-	-	-	-	91	-
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	577	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	899	5	0	1118	0	6
Future Vol, veh/h	899	5	0	1118	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	936	5	0	1165	0	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	1521	471
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	582	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	109	539
Stage 1	-	-	0	-	341	-
Stage 2	-	-	0	-	522	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	109	539
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	522	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	539	-	-	-
HCM Lane V/C Ratio	0.012	-	-	-
HCM Control Delay (s)	11.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	923	13	0	1072	0	38
Future Vol, veh/h	923	13	0	1072	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	961	14	0	1117	0	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	1526	488
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	558	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	108	526
Stage 1	-	-	0	-	329	-
Stage 2	-	-	0	-	537	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	108	526
Mov Cap-2 Maneuver	-	-	-	-	108	-
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	537	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	526	-	-	-
HCM Lane V/C Ratio	0.075	-	-	-
HCM Control Delay (s)	12.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	784	100	893	939	318	217	743	947	170	371	36
Future Volume (veh/h)	47	784	100	893	939	318	217	743	947	170	371	36
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1748	1748	1748	1800	1748	1748	1748
Adj Flow Rate, veh/h	47	792	101	902	948	321	219	751	0	172	375	0
Adj No. of Lanes	1	2	0	2	2	1	1	2	0	2	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	223	941	120	695	1690	756	306	906	0	256	576	258
Arrive On Green	0.03	0.32	0.32	0.22	0.51	0.51	0.12	0.27	0.00	0.03	0.17	0.00
Sat Flow, veh/h	1664	2963	378	3229	3320	1485	1664	3408	0	3229	3320	1485
Grp Volume(v), veh/h	47	444	449	902	948	321	219	751	0	172	375	0
Grp Sat Flow(s),veh/h/ln	1664	1660	1681	1614	1660	1485	1664	1660	0	1614	1660	1485
Q Serve(g_s), s	3.2	42.3	42.3	36.6	33.4	23.0	18.0	36.1	0.0	4.7	17.9	0.0
Cycle Q Clear(g_c), s	3.2	42.3	42.3	36.6	33.4	23.0	18.0	36.1	0.0	4.7	17.9	0.0
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	527	534	695	1690	756	306	906	0	256	576	258
V/C Ratio(X)	0.21	0.84	0.84	1.30	0.56	0.42	0.72	0.83	0.00	0.67	0.65	0.00
Avail Cap(c_a), veh/h	237	527	534	695	1690	756	313	1227	0	256	883	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.5	54.0	54.0	66.7	28.7	26.1	49.1	58.1	0.0	66.0	65.5	0.0
Incr Delay (d2), s/veh	0.5	14.9	14.8	144.4	1.4	1.7	7.4	3.6	0.0	6.7	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	21.5	21.8	30.3	15.6	9.8	8.8	17.0	0.0	2.2	8.3	0.0
LnGrp Delay(d),s/veh	38.0	68.9	68.8	211.1	30.0	27.9	56.5	61.7	0.0	72.7	66.7	0.0
LnGrp LOS	D	E	E	F	C	C	E	E		E	E	
Approach Vol, veh/h		940			2171			970			547	
Approach Delay, s/veh		67.3			104.9			60.5			68.6	
Approach LOS		E			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.0	61.4	12.0	53.6	10.5	93.9	28.9	36.7
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	36.6	37.6	4.7	* 63	* 6.1	68.7	* 21	* 45
Max Q Clear Time (g_c+I1), s	38.6	44.3	6.7	38.1	5.2	35.4	20.0	19.9
Green Ext Time (p_c), s	0.0	0.0	0.0	8.3	0.0	18.5	0.0	8.3

Intersection Summary	
HCM 2010 Ctrl Delay	83.7
HCM 2010 LOS	F

Notes

APPENDIX F – 2046 Design Year Build Synchro Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	721	81	261	293	195	168	1212	613	433	1475	69
Future Volume (veh/h)	113	721	81	261	293	195	168	1212	613	433	1475	69
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1731	1748	1748	1748	1714	1714	1714	1714	1714	1714
Adj Flow Rate, veh/h	118	751	0	272	305	0	175	1262	0	451	1536	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	348	719	321	254	991	443	165	1399	626	474	1492	667
Arrive On Green	0.05	0.22	0.00	0.22	0.50	0.00	0.08	0.43	0.00	0.11	0.46	0.00
Sat Flow, veh/h	1648	3288	1471	1664	3320	1485	1633	3257	1457	3167	3257	1457
Grp Volume(v), veh/h	118	751	0	272	305	0	175	1262	0	451	1536	0
Grp Sat Flow(s),veh/h/ln	1648	1644	1471	1664	1660	1485	1633	1629	1457	1584	1629	1457
Q Serve(g_s), s	10.0	43.7	0.0	26.2	10.9	0.0	15.8	72.2	0.0	20.1	91.6	0.0
Cycle Q Clear(g_c), s	10.0	43.7	0.0	26.2	10.9	0.0	15.8	72.2	0.0	20.1	91.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	719	321	254	991	443	165	1399	626	474	1492	667
V/C Ratio(X)	0.34	1.05	0.00	1.07	0.31	0.00	1.06	0.90	0.00	0.95	1.03	0.00
Avail Cap(c_a), veh/h	348	719	321	254	991	443	165	1399	626	474	1492	667
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.97	0.97	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.7	78.2	0.0	58.1	37.9	0.0	68.9	53.1	0.0	58.9	54.2	0.0
Incr Delay (d2), s/veh	0.6	46.0	0.0	75.5	0.2	0.0	87.1	9.7	0.0	29.4	31.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	24.4	0.0	19.3	5.0	0.0	13.1	34.3	0.0	14.3	47.7	0.0
LnGrp Delay(d),s/veh	58.2	124.1	0.0	133.6	38.1	0.0	156.0	62.8	0.0	88.3	85.4	0.0
LnGrp LOS	E	F		F	D		F	E		F	F	
Approach Vol, veh/h		869			577			1437			1987	
Approach Delay, s/veh		115.2			83.1			74.2			86.1	
Approach LOS		F			F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.2	97.8	32.0	49.0	26.9	92.1	16.0	65.0
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	15.8	91.6	* 26	* 44	21.8	85.9	10.0	* 60
Max Q Clear Time (g_c+I1), s	17.8	93.6	28.2	45.7	22.1	74.2	12.0	12.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	10.8	0.0	8.9

Intersection Summary	
HCM 2010 Ctrl Delay	87.4
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1720	9	31	693	26	11	5	8	44	5	69
Future Volume (veh/h)	55	1720	9	31	693	26	11	5	8	44	5	69
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1698	1748	1800	1748	1748	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	61	1911	10	34	770	29	12	6	9	49	6	77
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	550	2708	14	255	2615	98	70	27	40	140	7	91
Arrive On Green	0.04	1.00	1.00	0.02	0.80	0.80	0.01	0.04	0.04	0.03	0.06	0.06
Sat Flow, veh/h	1617	3387	18	1664	3263	123	1681	638	957	1681	110	1407
Grp Volume(v), veh/h	61	936	985	34	392	407	12	0	15	49	0	83
Grp Sat Flow(s),veh/h/ln	1617	1660	1744	1664	1660	1726	1681	0	1596	1681	0	1516
Q Serve(g_s), s	1.4	0.0	0.0	0.7	12.3	12.3	1.4	0.0	1.8	5.5	0.0	10.8
Cycle Q Clear(g_c), s	1.4	0.0	0.0	0.7	12.3	12.3	1.4	0.0	1.8	5.5	0.0	10.8
Prop In Lane	1.00		0.01	1.00		0.07	1.00		0.60	1.00		0.93
Lane Grp Cap(c), veh/h	550	1327	1395	255	1330	1383	70	0	67	140	0	98
V/C Ratio(X)	0.11	0.71	0.71	0.13	0.29	0.29	0.17	0.00	0.22	0.35	0.00	0.85
Avail Cap(c_a), veh/h	571	1327	1395	276	1330	1383	96	0	110	146	0	121
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.18	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.7	0.0	0.0	3.3	5.2	5.2	90.2	0.0	92.7	85.9	0.0	92.5
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.2	0.6	0.5	1.1	0.0	1.7	1.5	0.0	34.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.2	0.2	0.4	5.8	6.0	0.7	0.0	0.8	2.6	0.0	5.5
LnGrp Delay(d),s/veh	3.7	0.6	0.6	3.5	5.7	5.7	91.4	0.0	94.3	87.4	0.0	126.7
LnGrp LOS	A	A	A	A	A	A	F		F	F		F
Approach Vol, veh/h		1982			833			27			132	
Approach Delay, s/veh		0.7			5.6			93.0			112.1	
Approach LOS		A			A			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	166.4	11.5	13.4	8.4	166.8	6.9	17.9
Change Period (Y+Rc), s	4.5	6.5	4.5	5.0	4.5	6.5	4.5	5.0
Max Green Setting (Gmax), s	6.8	151.2	7.7	13.8	6.5	151.5	5.5	16.0
Max Q Clear Time (g_c+I1), s	2.7	2.0	7.5	3.8	3.4	14.3	3.4	12.8
Green Ext Time (p_c), s	0.0	65.0	0.0	0.3	0.0	63.2	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.8
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1646	762	2	0	9
Future Vol, veh/h	0	1646	762	2	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1697	786	2	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1635	394
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	848	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	92	605
Stage 1	0	-	-	-	409	-
Stage 2	0	-	-	-	380	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	92	605
Mov Cap-2 Maneuver	-	-	-	-	92	-
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	380	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	605
HCM Lane V/C Ratio	-	-	-	0.015
HCM Control Delay (s)	-	-	-	11
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	1671	21	0	760	5	0	0	20	0	0	13
Future Vol, veh/h	0	1671	21	0	760	5	0	0	20	0	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	0	1741	22	0	792	5	0	0	21	0	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	2148	2549	881	1664	2557	398
Stage 1	-	-	-	-	-	-	1752	1752	-	794	794	-
Stage 2	-	-	-	-	-	-	396	797	-	870	1763	-
Critical Hdwy	-	-	-	-	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	27	26	290	63	26	601
Stage 1	0	-	-	0	-	-	89	138	-	348	398	-
Stage 2	0	-	-	0	-	-	601	397	-	313	136	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	26	26	290	58	26	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	26	26	-	58	26	-
Stage 1	-	-	-	-	-	-	89	138	-	348	398	-
Stage 2	-	-	-	-	-	-	587	397	-	291	136	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	18.4	11.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	290	-	-	-	-	601
HCM Lane V/C Ratio	0.072	-	-	-	-	0.023
HCM Control Delay (s)	18.4	-	-	-	-	11.1
HCM Lane LOS	C	-	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.1

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	17	1653	11	18	747	2	31	3	10	15	0	25
Future Vol, veh/h	17	1653	11	18	747	2	31	3	10	15	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	18	1722	11	19	778	2	32	3	10	16	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	780	0	0	1733	0	0	2190	2581	867	1715	2586	390
Stage 1	-	-	-	-	-	-	1763	1763	-	817	817	-
Stage 2	-	-	-	-	-	-	427	818	-	898	1769	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	827	-	-	355	-	-	~ 25	25	296	58	25	609
Stage 1	-	-	-	-	-	-	87	136	-	337	388	-
Stage 2	-	-	-	-	-	-	576	388	-	301	135	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	827	-	-	355	-	-	~ 23	23	296	47	23	609
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 23	23	-	47	23	-
Stage 1	-	-	-	-	-	-	85	133	-	330	367	-
Stage 2	-	-	-	-	-	-	522	367	-	277	132	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	$ 584.3	55.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	29	827	-	-	355	-	-	111
HCM Lane V/C Ratio	1.58	0.021	-	-	0.053	-	-	0.375
HCM Control Delay (s)	$ 584.3	9.4	-	-	15.7	-	-	55.7
HCM Lane LOS	F	A	-	-	C	-	-	F
HCM 95th %tile Q(veh)	5.3	0.1	-	-	0.2	-	-	1.5

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1671	751	0	0	2
Future Vol, veh/h	0	1671	751	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1723	774	0	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1635	387
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	861	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	92	611
Stage 1	0	-	-	-	415	-
Stage 2	0	-	-	-	374	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	92	611
Mov Cap-2 Maneuver	-	-	-	-	92	-
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	374	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	611
HCM Lane V/C Ratio	-	-	-	0.003
HCM Control Delay (s)	-	-	-	10.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1668	6	0	744	0	11
Future Vol, veh/h	1668	6	0	744	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1720	6	0	767	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	2107	863
Stage 1	-	-	-	-	1723	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	-	-	7.54	6.94
Critical Hdwy Stg 1	-	-	-	-	6.54	-
Critical Hdwy Stg 2	-	-	-	-	6.54	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	29	298
Stage 1	-	-	0	-	92	-
Stage 2	-	-	0	-	611	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	29	298
Mov Cap-2 Maneuver	-	-	-	-	29	-
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	611	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	298	-	-	-
HCM Lane V/C Ratio	0.038	-	-	-
HCM Control Delay (s)	17.6	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

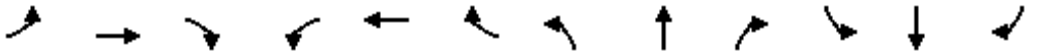
Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1668	7	0	741	0	27
Future Vol, veh/h	1668	7	0	741	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1738	7	0	772	0	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	2127	872
Stage 1	-	-	-	-	1741	-
Stage 2	-	-	-	-	386	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	43	294
Stage 1	-	-	0	-	126	-
Stage 2	-	-	0	-	656	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	43	294
Mov Cap-2 Maneuver	-	-	-	-	43	-
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	656	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	294	-	-	-
HCM Lane V/C Ratio	0.096	-	-	-
HCM Control Delay (s)	18.5	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1314	326	799	535	127	163	312	1107	418	979	46
Future Volume (veh/h)	45	1314	326	799	535	127	163	312	1107	418	979	46
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1748	1748	1748	1800	1748	1748	1748
Adj Flow Rate, veh/h	45	1327	329	807	540	128	165	315	0	422	989	0
Adj No. of Lanes	1	2	0	2	2	1	1	2	0	2	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	347	962	234	559	1718	769	120	843	0	651	877	392
Arrive On Green	0.02	0.36	0.36	0.17	0.52	0.52	0.05	0.25	0.00	0.07	0.26	0.00
Sat Flow, veh/h	1664	2650	644	3229	3320	1485	1664	3408	0	3229	3320	1485
Grp Volume(v), veh/h	45	821	835	807	540	128	165	315	0	422	989	0
Grp Sat Flow(s),veh/h/ln	1664	1660	1634	1614	1660	1485	1664	1660	0	1614	1660	1485
Q Serve(g_s), s	3.4	72.6	72.6	34.6	18.7	9.1	10.1	15.6	0.0	13.7	52.8	0.0
Cycle Q Clear(g_c), s	3.4	72.6	72.6	34.6	18.7	9.1	10.1	15.6	0.0	13.7	52.8	0.0
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	603	593	559	1718	769	120	843	0	651	877	392
V/C Ratio(X)	0.13	1.36	1.41	1.44	0.31	0.17	1.37	0.37	0.00	0.65	1.13	0.00
Avail Cap(c_a), veh/h	347	603	593	559	1718	769	120	843	0	651	877	392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.9	63.7	63.7	82.7	27.8	25.5	60.9	61.5	0.0	58.5	73.6	0.0
Incr Delay (d2), s/veh	0.2	173.7	193.4	210.1	0.5	0.5	212.2	0.3	0.0	2.2	72.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	62.4	64.6	31.7	8.7	3.9	9.0	7.2	0.0	4.6	33.0	0.0
LnGrp Delay(d),s/veh	39.1	237.4	257.1	292.8	28.3	25.9	273.1	61.8	0.0	60.7	145.8	0.0
LnGrp LOS	D	F	F	F	C	C	F	E		E	F	
Approach Vol, veh/h		1701			1475			480			1411	
Approach Delay, s/veh		241.8			172.8			134.4			120.3	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	41.0	80.0	21.0	58.0	10.1	110.9	19.0	60.0
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	34.6	72.6	13.7	* 51	* 4.3	103.5	* 10	* 53
Max Q Clear Time (g_c+I1), s	36.6	74.6	15.7	17.6	5.4	20.7	12.1	54.8
Green Ext Time (p_c), s	0.0	0.0	0.0	11.2	0.0	36.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	177.7
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	553	128	462	851	345	184	1657	484	251	1375	137
Future Volume (veh/h)	128	553	128	462	851	345	184	1657	484	251	1375	137
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1731	1731	1731	1748	1748	1748	1714	1714	1714	1714	1714	1714
Adj Flow Rate, veh/h	131	564	0	471	868	0	188	1691	0	256	1403	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	3	3	3	5	5	5	5	5	5
Cap, veh/h	182	497	222	397	971	434	181	1491	667	232	1360	609
Arrive On Green	0.07	0.15	0.00	0.14	0.20	0.00	0.08	0.46	0.00	0.05	0.42	0.00
Sat Flow, veh/h	1648	3288	1471	1664	3320	1485	1633	3257	1457	3167	3257	1457
Grp Volume(v), veh/h	131	564	0	471	868	0	188	1691	0	256	1403	0
Grp Sat Flow(s),veh/h/ln	1648	1644	1471	1664	1660	1485	1633	1629	1457	1584	1629	1457
Q Serve(g_s), s	11.4	25.7	0.0	36.2	43.3	0.0	14.4	77.8	0.0	7.9	71.0	0.0
Cycle Q Clear(g_c), s	11.4	25.7	0.0	36.2	43.3	0.0	14.4	77.8	0.0	7.9	71.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	497	222	397	971	434	181	1491	667	232	1360	609
V/C Ratio(X)	0.72	1.13	0.00	1.19	0.89	0.00	1.04	1.13	0.00	1.10	1.03	0.00
Avail Cap(c_a), veh/h	182	497	222	397	971	434	181	1491	667	232	1360	609
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.70	0.70	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.3	72.2	0.0	59.6	65.8	0.0	56.7	46.1	0.0	46.3	49.5	0.0
Incr Delay (d2), s/veh	12.9	82.8	0.0	101.0	7.8	0.0	78.1	69.4	0.0	89.7	32.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	17.4	0.0	26.2	21.0	0.0	12.4	49.4	0.0	8.3	38.1	0.0
LnGrp Delay(d),s/veh	70.2	155.0	0.0	160.6	73.6	0.0	134.9	115.5	0.0	136.1	82.3	0.0
LnGrp LOS	E	F		F	E		F	F		F	F	
Approach Vol, veh/h		695			1339			1879			1659	
Approach Delay, s/veh		139.0			104.2			117.4			90.6	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	77.2	42.0	31.0	13.0	84.0	18.0	55.0
Change Period (Y+Rc), s	5.4	6.2	* 5.8	* 5.3	5.1	6.2	6.0	* 5.3
Max Green Setting (Gmax), s	14.4	71.0	* 36	* 26	7.9	77.8	12.0	* 50
Max Q Clear Time (g_c+I1), s	16.4	73.0	38.2	27.7	9.9	79.8	13.4	45.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	109.0
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	1290	7	16	1484	37	26	14	11	39	2	197
Future Volume (veh/h)	118	1290	7	16	1484	37	26	14	11	39	2	197
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1698	1748	1800	1748	1748	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	127	1387	8	17	1596	40	28	15	12	42	2	212
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	215	2371	14	329	2247	56	79	122	98	255	2	210
Arrive On Green	0.08	1.00	1.00	0.02	0.68	0.68	0.02	0.13	0.13	0.03	0.14	0.14
Sat Flow, veh/h	1617	3385	20	1664	3310	83	1681	909	727	1681	14	1488
Grp Volume(v), veh/h	127	680	715	17	799	837	28	0	27	42	0	214
Grp Sat Flow(s),veh/h/ln	1617	1660	1744	1664	1660	1733	1681	0	1636	1681	0	1502
Q Serve(g_s), s	4.2	0.0	0.0	0.5	50.6	51.0	2.4	0.0	2.5	3.6	0.0	24.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	0.5	50.6	51.0	2.4	0.0	2.5	3.6	0.0	24.0
Prop In Lane	1.00		0.01	1.00		0.05	1.00		0.44	1.00		0.99
Lane Grp Cap(c), veh/h	215	1163	1222	329	1127	1176	79	0	219	255	0	212
V/C Ratio(X)	0.59	0.58	0.59	0.05	0.71	0.71	0.36	0.00	0.12	0.16	0.00	1.01
Avail Cap(c_a), veh/h	330	1163	1222	353	1127	1176	101	0	233	263	0	212
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.22	0.22	0.22	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	8.0	16.9	17.0	63.2	0.0	64.8	61.1	0.0	73.0
Incr Delay (d2), s/veh	0.6	0.5	0.5	0.1	3.8	3.7	2.7	0.0	0.2	0.3	0.0	64.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.2	0.2	0.2	24.3	25.4	1.2	0.0	1.1	1.7	0.0	13.7
LnGrp Delay(d),s/veh	20.5	0.5	0.5	8.0	20.7	20.6	65.9	0.0	65.1	61.4	0.0	137.2
LnGrp LOS	C	A	A	A	C	C	E		E	E		F
Approach Vol, veh/h		1522			1653			55			256	
Approach Delay, s/veh		2.1			20.5			65.5			124.8	
Approach LOS		A			C			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	125.6	9.4	27.8	10.9	121.9	8.2	29.0
Change Period (Y+Rc), s	4.5	6.5	4.5	5.0	4.5	6.5	4.5	5.0
Max Green Setting (Gmax), s	5.3	114.3	5.7	24.2	18.5	101.1	5.9	24.0
Max Q Clear Time (g_c+I1), s	2.5	2.0	5.6	4.5	6.2	53.0	4.4	26.0
Green Ext Time (p_c), s	0.0	66.9	0.0	1.4	0.2	37.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1094	1287	3	0	107
Future Vol, veh/h	0	1094	1287	3	0	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1202	1414	3	0	118

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	2017	709
Stage 1	-	-	-	-	1416	-
Stage 2	-	-	-	-	601	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	51	377
Stage 1	0	-	-	-	190	-
Stage 2	0	-	-	-	510	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	51	377
Mov Cap-2 Maneuver	-	-	-	-	51	-
Stage 1	-	-	-	-	190	-
Stage 2	-	-	-	-	510	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	377
HCM Lane V/C Ratio	-	-	-	0.312
HCM Control Delay (s)	-	-	-	18.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	1079	22	0	1263	18	0	0	69	0	0	2
Future Vol, veh/h	0	1079	22	0	1263	18	0	0	69	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	0	1160	24	0	1358	19	0	0	74	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1851	2549	592	1948	2552	689
Stage 1	-	-	-	-	-	-	1172	1172	-	1368	1368	-
Stage 2	-	-	-	-	-	-	679	1377	-	580	1184	-
Critical Hdwy	-	-	-	-	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	46	26	449	39	26	388
Stage 1	0	-	-	0	-	-	204	264	-	155	213	-
Stage 2	0	-	-	0	-	-	408	211	-	467	261	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	46	26	449	33	26	388
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	26	-	33	26	-
Stage 1	-	-	-	-	-	-	204	264	-	155	213	-
Stage 2	-	-	-	-	-	-	406	211	-	390	261	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	14.6	14.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	449	-	-	-	-	388
HCM Lane V/C Ratio	0.165	-	-	-	-	0.006
HCM Control Delay (s)	14.6	-	-	-	-	14.3
HCM Lane LOS	B	-	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	-	0

Intersection	
Int Delay, s/veh	142.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	32	1050	11	121	1241	6	107	9	5	5	3	13
Future Vol, veh/h	32	1050	11	121	1241	6	107	9	5	5	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	34	1117	12	129	1320	6	114	10	5	5	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1327	0	0	1129	0	0	2110	2775	564	2212	2778	663
Stage 1	-	-	-	-	-	-	1191	1191	-	1581	1581	-
Stage 2	-	-	-	-	-	-	919	1584	-	631	1197	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	511	-	-	609	-	-	~ 29	19	469	24	19	404
Stage 1	-	-	-	-	-	-	199	259	-	114	167	-
Stage 2	-	-	-	-	-	-	292	167	-	436	257	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	511	-	-	609	-	-	~ 19	14	469	9	14	404
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 19	14	-	9	14	-
Stage 1	-	-	-	-	-	-	186	242	-	106	132	-
Stage 2	-	-	-	-	-	-	217	132	-	386	240	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.1	$ 2999.1	$ 345.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	19	511	-	-	609	-	-	26
HCM Lane V/C Ratio	6.775	0.067	-	-	0.211	-	-	0.859
HCM Control Delay (s)	$ 2999.1	12.5	-	-	12.5	-	-	$ 345.3
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	16.6	0.2	-	-	0.8	-	-	2.7

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	1073	1206	18	0	0
Future Vol, veh/h	0	1073	1206	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	0	1129	1269	19	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1844	644
Stage 1	-	-	-	-	1279	-
Stage 2	-	-	-	-	565	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	0	-	-	-	66	416
Stage 1	0	-	-	-	225	-
Stage 2	0	-	-	-	532	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	66	416
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	225	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1020	6	0	1257	0	7
Future Vol, veh/h	1020	6	0	1257	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1063	6	0	1309	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	1721	534
Stage 1	-	-	-	-	1066	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	80	491
Stage 1	-	-	0	-	292	-
Stage 2	-	-	0	-	479	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	80	491
Mov Cap-2 Maneuver	-	-	-	-	80	-
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	479	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	491	-	-	-
HCM Lane V/C Ratio	0.015	-	-	-
HCM Control Delay (s)	12.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1050	15	0	1202	0	46
Future Vol, veh/h	1050	15	0	1202	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1094	16	0	1252	0	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	1728	555
Stage 1	-	-	-	-	1102	-
Stage 2	-	-	-	-	626	-
Critical Hdwy	-	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	0	-	79	475
Stage 1	-	-	0	-	280	-
Stage 2	-	-	0	-	495	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	79	475
Mov Cap-2 Maneuver	-	-	-	-	79	-
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	495	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	475	-	-	-
HCM Lane V/C Ratio	0.101	-	-	-
HCM Control Delay (s)	13.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	887	115	1052	1058	360	245	887	1106	189	445	44
Future Volume (veh/h)	57	887	115	1052	1058	360	245	887	1106	189	445	44
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1748	1748	1800	1748	1748	1748	1748	1748	1800	1748	1748	1748
Adj Flow Rate, veh/h	58	896	116	1063	1069	364	247	896	0	191	449	0
Adj No. of Lanes	1	2	0	2	2	1	1	2	0	2	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	813	105	695	1547	692	331	1048	0	249	684	306
Arrive On Green	0.03	0.27	0.27	0.22	0.47	0.47	0.13	0.32	0.00	0.03	0.21	0.00
Sat Flow, veh/h	1664	2957	383	3229	3320	1485	1664	3408	0	3229	3320	1485
Grp Volume(v), veh/h	58	503	509	1063	1069	364	247	896	0	191	449	0
Grp Sat Flow(s),veh/h/ln	1664	1660	1680	1614	1660	1485	1664	1660	0	1614	1660	1485
Q Serve(g_s), s	4.3	46.7	46.7	36.6	43.1	29.5	19.4	43.0	0.0	4.7	21.1	0.0
Cycle Q Clear(g_c), s	4.3	46.7	46.7	36.6	43.1	29.5	19.4	43.0	0.0	4.7	21.1	0.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	456	462	695	1547	692	331	1048	0	249	684	306
V/C Ratio(X)	0.35	1.10	1.10	1.53	0.69	0.53	0.75	0.85	0.00	0.77	0.66	0.00
Avail Cap(c_a), veh/h	167	456	462	695	1547	692	384	1227	0	249	758	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.2	61.6	61.6	66.7	35.7	32.1	44.9	54.5	0.0	65.4	61.9	0.0
Incr Delay (d2), s/veh	1.2	72.9	72.7	245.4	2.6	2.8	6.6	5.4	0.0	13.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	30.7	31.0	40.0	20.3	12.7	9.5	20.6	0.0	2.9	9.8	0.0
LnGrp Delay(d),s/veh	44.5	134.5	134.3	312.1	38.3	34.9	51.5	59.9	0.0	78.9	63.7	0.0
LnGrp LOS	D	F	F	F	D	C	D	E		E	E	
Approach Vol, veh/h		1070			2496			1143			640	
Approach Delay, s/veh		129.5			154.4			58.1			68.3	
Approach LOS		F			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.0	54.1	12.0	60.9	10.5	86.6	30.6	42.2
Change Period (Y+Rc), s	6.4	7.4	7.3	* 7.2	* 5.8	7.4	* 8.9	* 7.2
Max Green Setting (Gmax), s	36.6	37.6	4.7	* 63	* 4.7	70.1	* 27	* 39
Max Q Clear Time (g_c+I1), s	38.6	48.7	6.7	45.0	6.3	45.1	21.4	23.1
Green Ext Time (p_c), s	0.0	0.0	0.0	8.7	0.0	17.7	0.3	8.1

Intersection Summary		
HCM 2010 Ctrl Delay		118.5
HCM 2010 LOS		F

Notes