DEVELOPMENT OF REGIONAL IMPACT
(DRI #2741)
TRAFFIC STUDY
FOR
THE HEIGHTS AT WOODSTOCK
RESIDENTIAL DEVELOPMENT

WOODSTOCK, GEORGIA

Prepared for:

The Worthing Companies
5909 Peachtree Dunwoody Road
Suite 400
Atlanta, Georgia 30328

Prepared By:

A&R Engineering Inc.
2160 Kingston Court, Suite O
Marietta, GA 30067
Tel: (770) 690-9255 Fax: (770) 690-9210
www.areng.com

November 21, 2017
A & R Project # 17-113

EXECUTIVE SUMMARY

Traffic impacts were evaluated for the added traffic from the proposed Heights at Woodstock residential development located on Long Drive, south of SR 92 in Woodstock, Georgia. The development will consist of:

- 417 apartments
- 200 townhome units

The development proposes one full-access driveway via Long Drive. Existing and future operations after completion of the project were analyzed at the intersections of:

1. SR 92 at I-575 Northbound Ramps
2. SR 92 at I-575 Southbound Ramps
3. SR 92 at Molly Lane
4. SR 92 at Woodstock Square Avenue
5. SR 92 at Lovejoy Lane
6. Molly Lane at Long Drive
7. Woodstock Square Avenue at Long Drive

The analysis included the evaluation of Future operations for "No-Build" and "Build" conditions, both of which account for increases in annual growth of through traffic. The results of the analysis are listed below:

Site Access Configuration

- Long Drive at Woodstock Square Avenue
    - The site plan proposes to reconfigure the intersection of Long Drive at Woodstock Square Avenue.
    - The eastbound approach will operate with one dedicated left turn lane and one through lane.
    - The westbound approach will operate with one shared through/right turn lane.
    - The southbound approach will continue to operate with a dedicated left turn lane and a dedicated right turn lane.

Recommendations and Improvements

There are several signalized intersections on SR 92 that are currently operating at level-of-service "E" during the AM and PM peak hours. After accounting for a 3% growth in through traffic in the year 2020, those intersections will continue to operate poorly. Because the signals along SR 92 are part of an RTOP corridor, the timing is changed and updated consistently to align with the demand along the network. Since it can be assumed that the timing along the corridor will be changed (and therefore the level-of-service of the intersections) in the next three years, no further improvements are recommended.

TABLE OF CONTENTS

LIST OF TABLES

Item **Page**

LIST OF FIGURES

Item **Page**

INTRODUCTION

The purpose of this study is to determine the traffic impact that will result from the proposed Heights at Woodstock residential development located on Long Drive, south of SR 92 in Woodstock, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The development proposes one full-access driveway via Long Drive and will consist of:

- 417 apartments
- 200 townhome units

The AM and PM peak hours have been analyzed in this study. This study includes the evaluation of traffic operations at the intersections of:

1. SR 92 at I-575 Northbound Ramps
2. SR 92 at I-575 Southbound Ramps
3. SR 92 at Molly Lane
4. SR 92 at Woodstock Square Avenue
5. SR 92 at Lovejoy Lane
6. Molly Lane at Long Drive
7. Woodstock Square Avenue at Long Drive

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report.

STUDY NETWORK DETERMINATION

The study network was determined by evaluating the amount of traffic that the proposed development will add to each roadway segment in the area. According to GRTA requirements, a roadway segment carries a "significant" amount of traffic if the project contributes 7% or more trips to the two-way daily service volumes of the roadway at the appropriate level of service standard. Upon agreement with GRTA a level of service standard of "D" was used for determining the study area network.

The traffic generated by the proposed project was then assigned to the area roadways using the trip distribution to determine the site-generated traffic on each roadway segment. The boundaries of the study network extend to the most distant intersections where at least 7% of the service volumes on the segment are attributed to project traffic. The following study intersections fell within the 7% rule and/or have been selected as being suitable for evaluation in discussions with GRTA, GDOT, City of Woodstock and Cherokee County:

1. SR 92 at I-575 Northbound Ramps
2. SR 92 at I-575 Southbound Ramps
3. SR 92 at Molly Lane
4. SR 92 at Woodstock Square Avenue
5. SR 92 at Lovejoy Lane
6. Molly Lane at Long Drive
7. Woodstock Square Avenue at Long Drive

The location of the development and the surrounding study network is shown in Figure 1. Other intersections within this corridor, such as unsignalized side streets, right-in/right-out driveways or private driveways have not been included in the study network.

Existing Roadway Facilities

The following is a brief description of each of the roadway facilities located in proximity to the site:

Interstate 575 (I-575)

Interstate 575 (I-575) is a north-south, six-lane, median-divided roadway with a posted speed limit of 55 mph in the vicinity of the site. GDOT traffic counts (Station IDs 0570235 & 0570237) indicate that the annual daily traffic volume on I-575 in 2016 was 88,200 vehicles per day south of SR 92 and 102,000 vehicles per day north of SR 92. GDOT classifies I-575 as an Interstate.

State Route 92 (SR 92)

State Route 92 (SR 92) is an east-west, six-lane, median-divided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station IDs 0570078 & 0570080) indicate that the annual daily traffic volume on SR 92 in 2016 was 34,600 vehicles per day west of I-575 and 63,100 vehicles per day east of I-575. GDOT classifies SR 92 as a Principal Arterial roadway.

Molly Lane

Molly Lane is a north-south, five-lane roadway with a two-way left-turn lane and posted speed limit of 25 mph.

Woodstock Square Avenue

Woodstock Square Avenue is a north-south, four-lane, undivided roadway with a posted speed limit of 25 mph.

Lovejoy Lane

Lovejoy Lane is a north-south, two-lane, undivided roadway with a posted speed limit of 30 mph.

Long Drive

Long Drive is an east-west, four-lane, undivided roadway without any posted speed limit.

Existing Bicycle and Pedestrian Facilities

The following is a brief description of each of the bicycle and pedestrian facilities located in proximity to the site:

Nearby local or regional trails

There is no trail located near the study area.

Bicycle paths or sidewalks

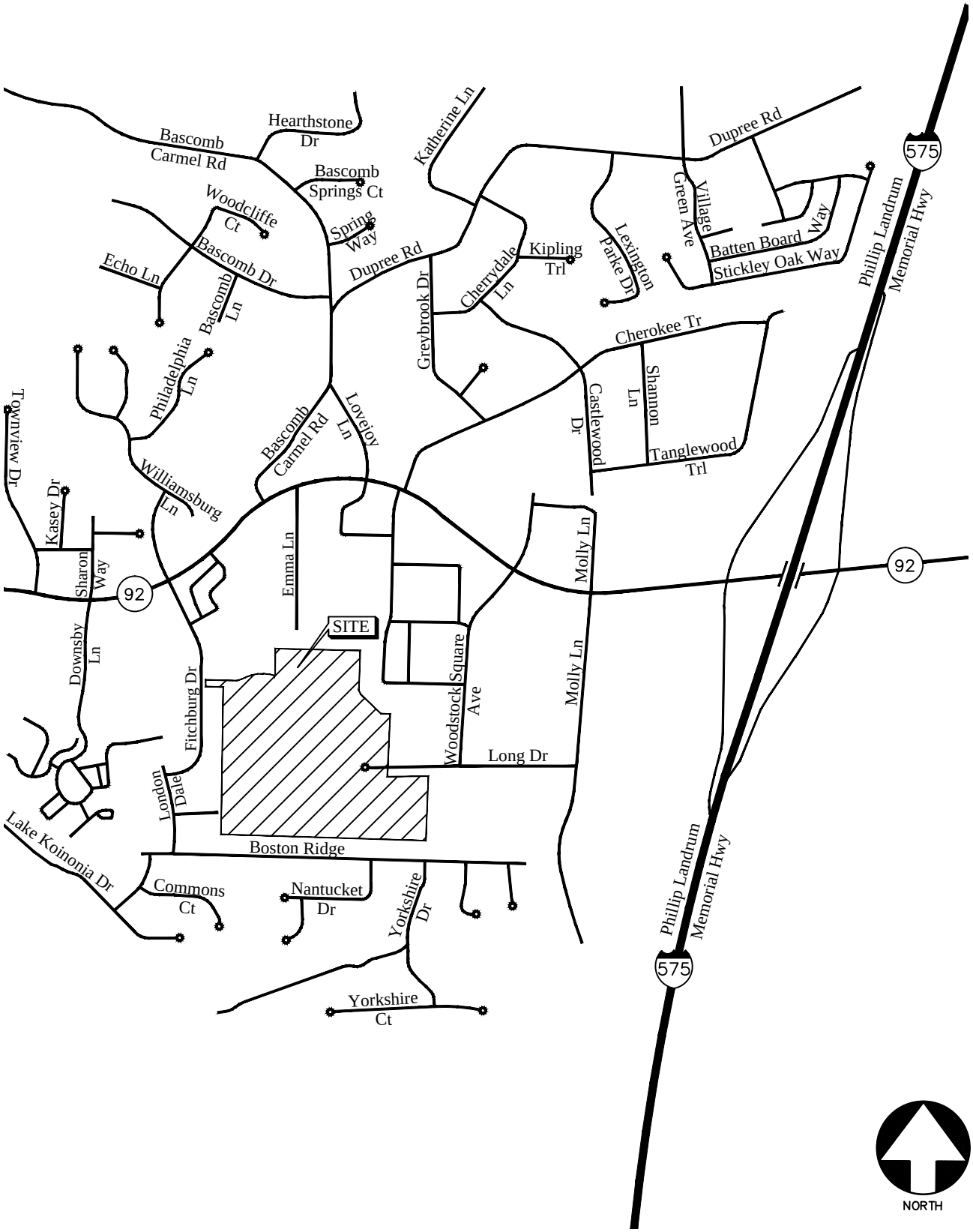
Sidewalks and pedestrian facilities are present along the following roadways in the study network:

- SR 92: north and south sides of the road in the vicinity of the study network.
- Lovejoy Lane: both sides of the road between SR 92 and Bascomb Carmel Road

No bike paths are present in the study network.

Existing Transit Facilities

Xpress bus routes 483 and 490 are operating via the Woodstock Park-and-Ride lot, which is located at His Hands Church on Molly Lane. Route 483 operated Monday-Friday and connects the Town Center and Woodstock areas to Midtown Atlanta. Route 490 operates Monday-Friday and connects the Canton and Woodstock areas to Downtown Atlanta.



LOCATION MAP

FIGURE 1

A&R Engineering Inc.

STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 2010 edition (HCM 2010). At intersections where HCM 2010 is unable to report results, HCM 2000 has been used instead. Synchro software, which utilizes the HCM 2000 methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

Unsignalized Intersections

For unsignalized intersections at which the side street or minor street is controlled by a stop sign, the criteria for evaluating traffic operations are the level-of-service (LOS) for the turning movements at the intersection and the level-of-service for the overall intersection. Level-of-service is based on the average controlled delay incurred at the intersection. Controlled delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors affect the controlled delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level-of-service is assigned a letter designation from "A" through "F". Level-of-service "A" indicates excellent operations with little delay to motorists, while level-of-service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross safely, resulting in extremely long total delays and long queues. The level-of-service criteria for two-way stop-controlled and all-way stop-controlled (unsignalized) intersections are given in Table 1.

TABLE 1 – LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level-of-service	Average Delay (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: 2000 and 2010 Highway Capacity Manual

Signalized Intersections

For signalized intersections, it is necessary to evaluate both capacity and level-of-service in order to evaluate the overall operation of the intersection. The capacity analysis of an intersection is performed by comparing the volume of traffic using the various lane groups at the intersection to the capacity of those lane groups. This results in a volume/capacity (v/c) ratio for each lane group. A v/c ratio greater than 1.0 indicates that the volume of traffic has exceeded the capacity available, resulting in a temporary excess of demand. Although the capacity of the entire intersection is not defined, a composite v/c ratio for the sum of the critical lane groups within the intersection is computed. This composite v/c ratio is an indication of the overall intersection sufficiency.

Level-of-service for a signalized intersection is defined in terms of average controlled delay per vehicle, which is composed of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The level-of-service criteria for signalized intersections, based on average controlled delay, are shown in Table 2. Level-of-service "A" indicates operations with very low controlled delay, while level-of-service "F" describes operations with extremely high average controlled delay. Level-of-service "E" is typically considered to be the limit of acceptable delay, and level-of-service "F" is considered unacceptable by most drivers.

TABLE 2 – LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level-of-service	Average Control Delay (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: 2000 and 2010 Highway Capacity Manual

EXISTING TRAFFIC ANALYSIS

Existing traffic counts were obtained at the following study intersections:

1. SR 92 at I-575 Northbound Ramps
2. SR 92 at I-575 Southbound Ramps
3. SR 92 at Molly Lane
4. SR 92 at Woodstock Square Avenue
5. SR 92 at Lovejoy Lane
6. Molly Lane at Long Drive
7. Woodstock Square Avenue at Long Drive

Turning movement counts were collected on Tuesday, September 26, 2017. All turning movement counts were recorded during the AM and PM peak hours between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2.

Existing Traffic Operations

Existing traffic operations were analyzed at the study intersections in accordance with the HCM methodology, and the results are shown in Table 3. The existing traffic control and lane geometry for the intersections are shown in Figure 3.

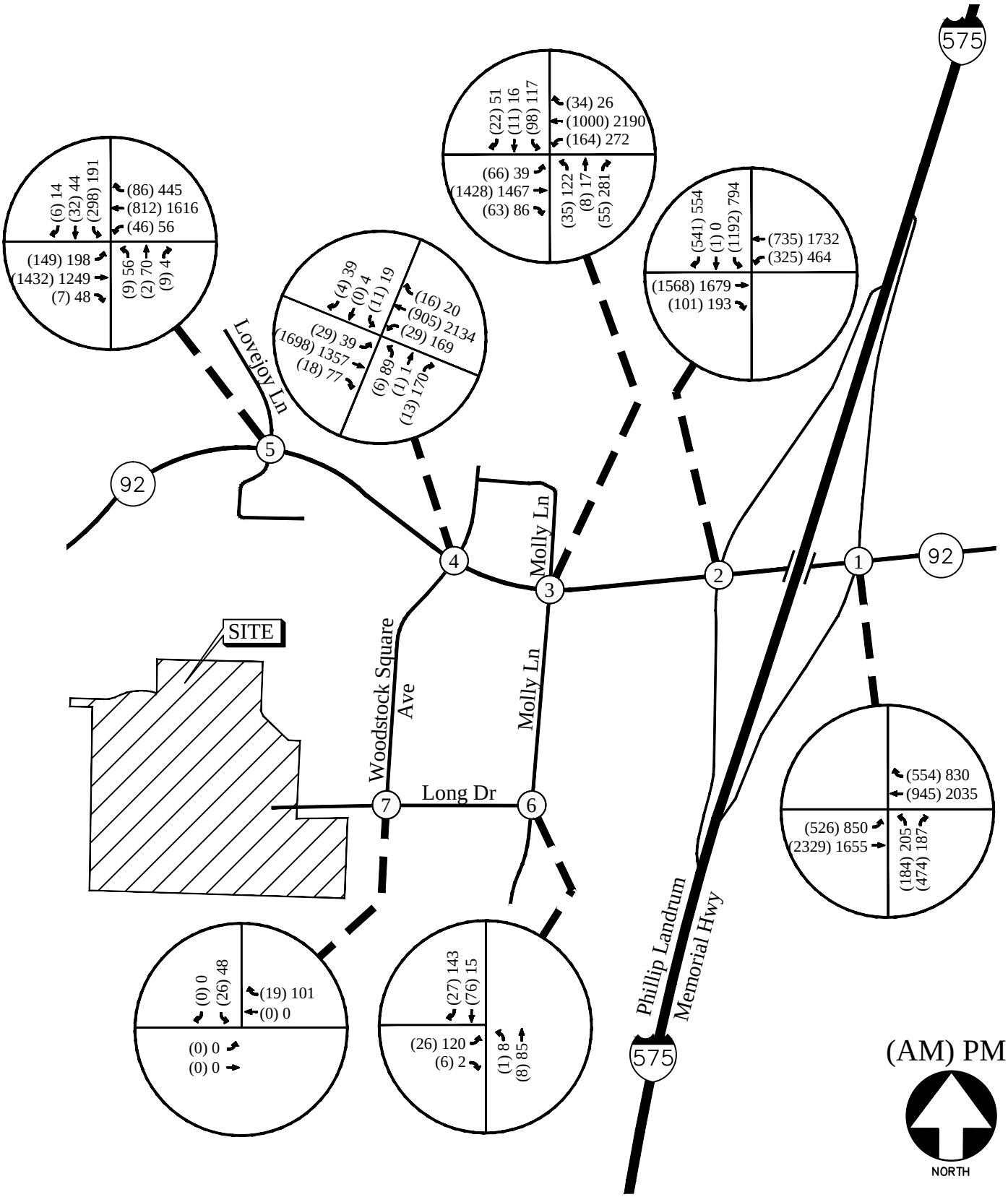
TABLE 3 – EXISTING INTERSECTION OPERATIONS

	Intersection	Traffic Control	AM Peak	PM Peak	LOS Standard
1	**SR 92 @ I-575 NB Ramps**	Signalized	**C (27.4)**	**E (59.5)**	**D / E**
	-Eastbound Approach		C (28.2)	F (87.2)	-
	-Westbound Approach		B (14.0)	C (22.8)	-
	-Northbound Approach		E (73.6)	F (83.3)	-
2	**SR 92 @ I-575 SB Ramps**	Signalized	**E (68.8)**	**D (50.0)**	**E / D**
	-Eastbound Approach		C (29.1)	D (37.4)	-
	-Westbound Approach		C (21.7)	D (50.8)	-
	-Southbound Approach		F (163.5)	E (73.2)	-
3	**SR 92 @ Molly Ln**	Signalized	**C (23.5)**	**D (38.6)**	**D / D**
	-Eastbound Approach		A (3.9)	D (52.3)	-
	-Westbound Approach		D (41.7)	B (18.2)	-
	-Northbound Approach		E (67.0)	E (77.7)	-
	-Southbound Approach		E (63.2)	E (76.2)	-
4	**SR 92 @ Woodstock Square Ave**	Signalized	**A (5.8)**	**D (41.6)**	**D / D**
	-Eastbound Approach		A (5.7)	B (11.4)	-
	-Westbound Approach		A (3.9)	D (52.8)	-
	-Northbound Approach		E (73.8)	F (101.3)	-
	-Southbound Approach		E (73.8)	E (68.6)	-

Table continued on next page…

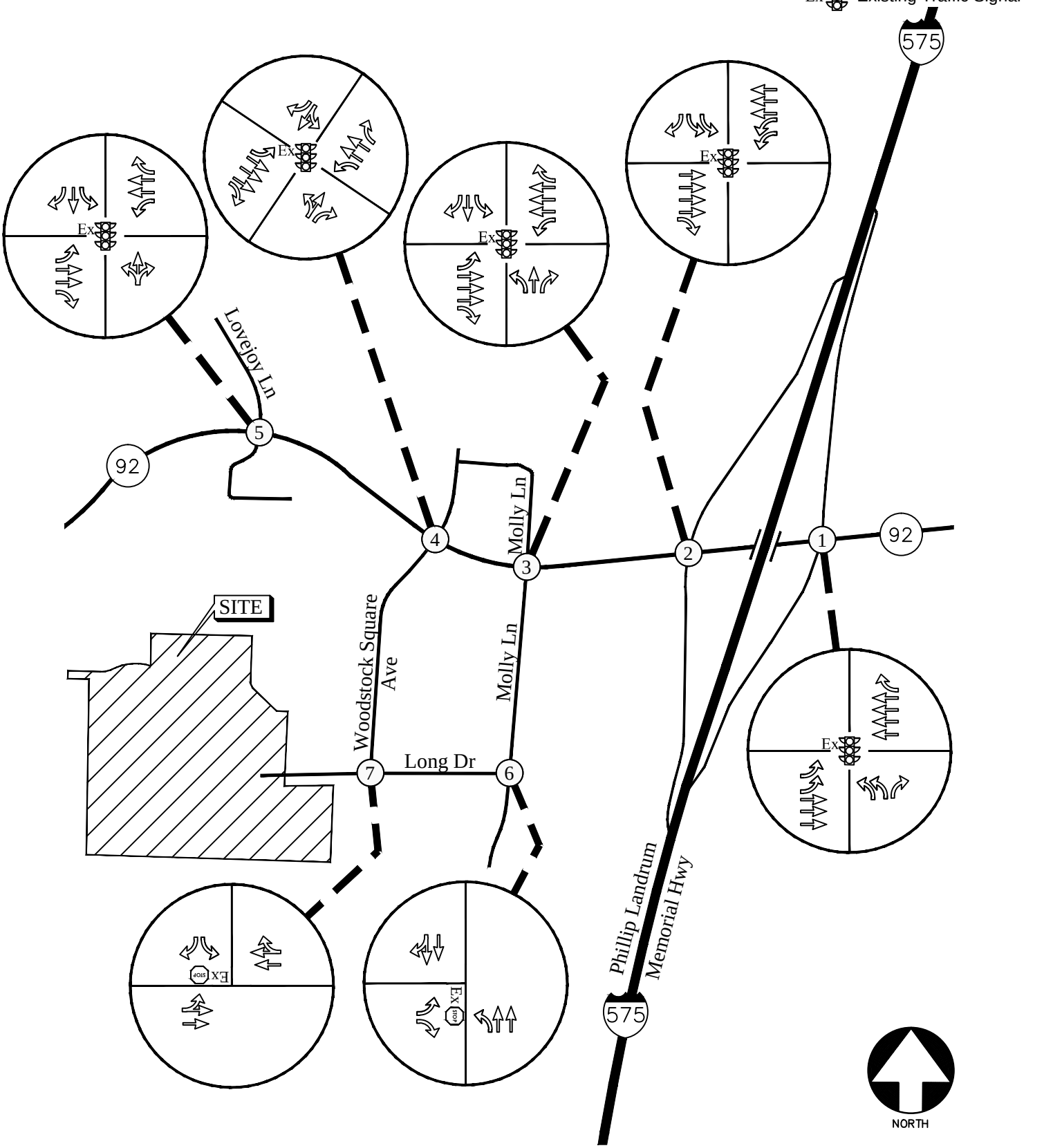
	Intersection	Traffic Control	AM Peak	PM Peak	LOS Standard
5	**SR 92 @ Lovejoy Ln**	Signalized	**C (21.9)**	**D (44.2)**	**D / D**
	-Eastbound Approach		C (24.5)	D (37.6)	-
	-Westbound Approach		A (1.9)	D (43.9)	-
	-Northbound Approach		E (75.4)	F (81.1)	-
	-Southbound Approach		E (55.4)	E (61.9)	-
6	**Molly Ln @ Long Dr**	Stop Controlled on EB Approach			
	-Eastbound Approach		A (9.3)	B (10.5)	D / D
	-Northbound Left		A (7.5)	A (7.6)	D / D
7	**Woodstock Square Ave @ Long Dr**	Stop Controlled on SB Approach			
	-Eastbound Left		A (0.0)	A (0.0)	D / D
	-Southbound Approach		A (8.7)	A (9.1)	D / D

The results of existing traffic operations analysis indicate that the I-575 Ramp intersections on SR 92 are operating below a level-of-service "D" during the AM and PM peak hours. These areas are addressed further in the "Future Traffic Analysis" section.



EXISTING WEEKDAY PEAK HOUR VOLUMES FIGURE 2

A&R Engineering Inc.



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 3

A&R Engineering Inc.

PROJECT DESCRIPTION

The proposed Heights at Woodstock residential development will be located on Long Drive, south of SR 92 in Woodstock, Georgia. The development proposes one full-access driveway via Long Drive and will consist of:

- 417 apartments
- 200 townhome units

Site Plan

A site plan is shown in Figure 4. A larger size drawing and a digital copy of the site plan are also provided with this report.

Planned Bicycle and Pedestrian Facilities

The on and/or off-site provisions for non-motorized travel included in the planned construction of the proposed development are as follows:

- The proposed development will be comprised of residential uses and pedestrian connections are proposed on the site.
- The development plan includes several design elements that enhance the character and quality of the site by incorporating parking, bicycle, and pedestrian facilities.
- The convenience and flexibility of the site benefits from public access to adjacent streets, the Xpress bus park-and-ride lot, and internal connectivity between some of the parcels.

Planned Transit Facilities

The site is not directly served by transit. However, the Xpress Woodstock park-and-ride lot is less than 0.5 miles east of the proposed development. Sidewalk exists on the south side of Long Drive and continues through the proposed development, which will give pedestrians access to the park-and-ride lot.

Consistency with Adopted Comprehensive Plan

The following is an explanation as to how the proposed DRI relates to the local government's Comprehensive Plan in particular the transportation and capital improvements element, and any transportation improvements listed in the Short-Term Work Program(s) within the vicinity of the DRI. The proposed development is currently zoned R-40 and General Commercial, which is in keeping with the mix of residential and commercial uses in the surrounding are.

Project Phasing

A phasing schedule shall be provided for any proposed DRIs involving multiple phases. The phasing schedule shall include the types and amounts of land uses to be developed and should be identified by phase, the site location of each land use by phase, the amenities to be developed with each phase, and all transportation elements. The transportation elements shall focus upon infrastructure in place, access to the development, and internal mobility during each phase analyzed. This project has been evaluated for the complete build-out of the development in 2020.

Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 10th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Uses: *220 – Multifamily Housing (Low-Rise)* and *221 – Multifamily Housing (Mid-Rise)*. The calculated total trip generation for the proposed development is shown in Table 4.

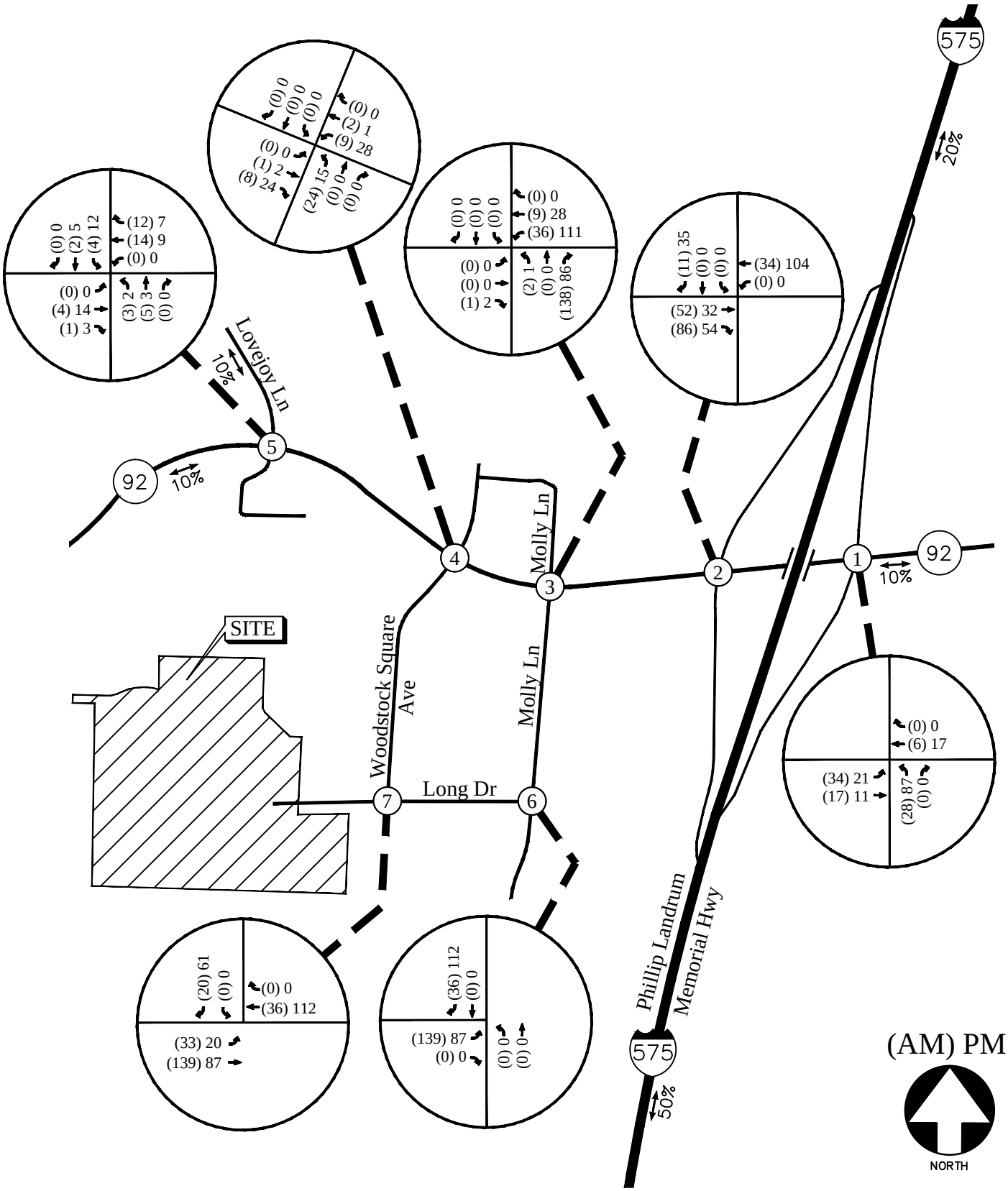
TABLE 4 – TRIP GENERATION

Land Use	Size	AM Peak Hour			PM Peak Hour			24-Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-way
ITE 220 – Multifamily (Low-Rise)	200 units	21	71	92	69	40	109	1,471
ITE 221 – Multifamily (Mid-Rise)	417 units	36	103	139	106	68	174	2,271
Alternative Mode Reduction (1%)		-1	-2	-3	-2	-1	-3	-37
Total Site Trips		56	172	228	173	107	280	3,705

Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of GDOT ADT volumes and the locations of major roadways and highways that will serve the development. The site-generated peak hour traffic volumes, shown in Table 4, were assigned to the study area intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site are shown in Figure 5.

Figure 4 – Site Plan



OUTER LEG TRIP DISTRIBUTION AND SITE-GENERATED PEAK HOUR VOLUMES

FIGURE 5

A&R Engineering Inc.

FUTURE (2020) TRAFFIC ANALYSIS

The future traffic operations are analyzed for the "No-Build" and "Build" conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic. Note that survey and construction drawings would be needed to verify the feasibility and extent of additional right-of-way required for any recommended improvements.

Improvements that are identified as "System Improvements" address deficiencies that are found within the existing road network prior to any impacts from the proposed development's added traffic. Improvements that are identified as "Site Mitigation Improvements" address further impacts that are a result of the proposed development's added traffic.

Future "No-Build" Conditions

The "No-Build" (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future "No-Build" volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of through traffic.

Annual Traffic Growth

In order to evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last five years revealed growth of approximately 3% in the area. This growth factor was applied to the existing traffic volumes between collector and arterial roadways in order to estimate the future year traffic volumes prior to the addition of site-generated traffic. The resulting Future "No-Build" volumes on the roadway are shown in Figure 6.

Planned and Programmed Improvements in Study Area

The following improvements have been identified in the Regional Transportation Plan (Plan 2040), GDOT TransPi, and/or the local comprehensive transportation plan. These improvements are within the vicinity of the proposed development.

TABLE 5 – PLANNED AND PROGRAMMED IMPROVEMENTS

ARC#/GDOT#/ Local#	Project	Type of Improvement	Network Year	Source
AR-ML-930/ 0008256	Northwest Corridor Express Lanes along I-75 from Akers Mill Road to Hickory Grove Road and along I-575 from I-75 to Sixes Road	Roadway Corridor (Managed Lanes)	2018	ARC/GDOT

Future "Build" Conditions

The "Build" or development conditions include the estimated background traffic from the "No-Build" conditions plus the added traffic from the proposed development. In order to evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 5) were added to base traffic volumes (Figure 6) to calculate the future traffic volumes after the construction of the development. These total future traffic volumes are shown in Figure 7.

Site Access Configuration

- Long Drive at Woodstock Square Avenue
  - The site plan proposes to reconfigure the intersection of Long Drive at Woodstock Square Avenue.
  - The eastbound approach will operate with one dedicated left turn lane and one through lane.
  - The westbound approach will operate with one shared through/right turn lane.
  - The southbound approach will continue to operate with a dedicated left turn lane and a dedicated right turn lane.

Future Traffic Operations

The future "No-Build" and "Build" traffic operations were analyzed using the volumes in Figure 6 and Figure 7, respectively. The results of the analysis with the assumed site access configuration and existing signal timing are shown in Table 6. Recommendations on traffic control and lane geometry are shown graphically in Figure 8.

TABLE 6 – FUTURE INTERSECTION OPERATIONS

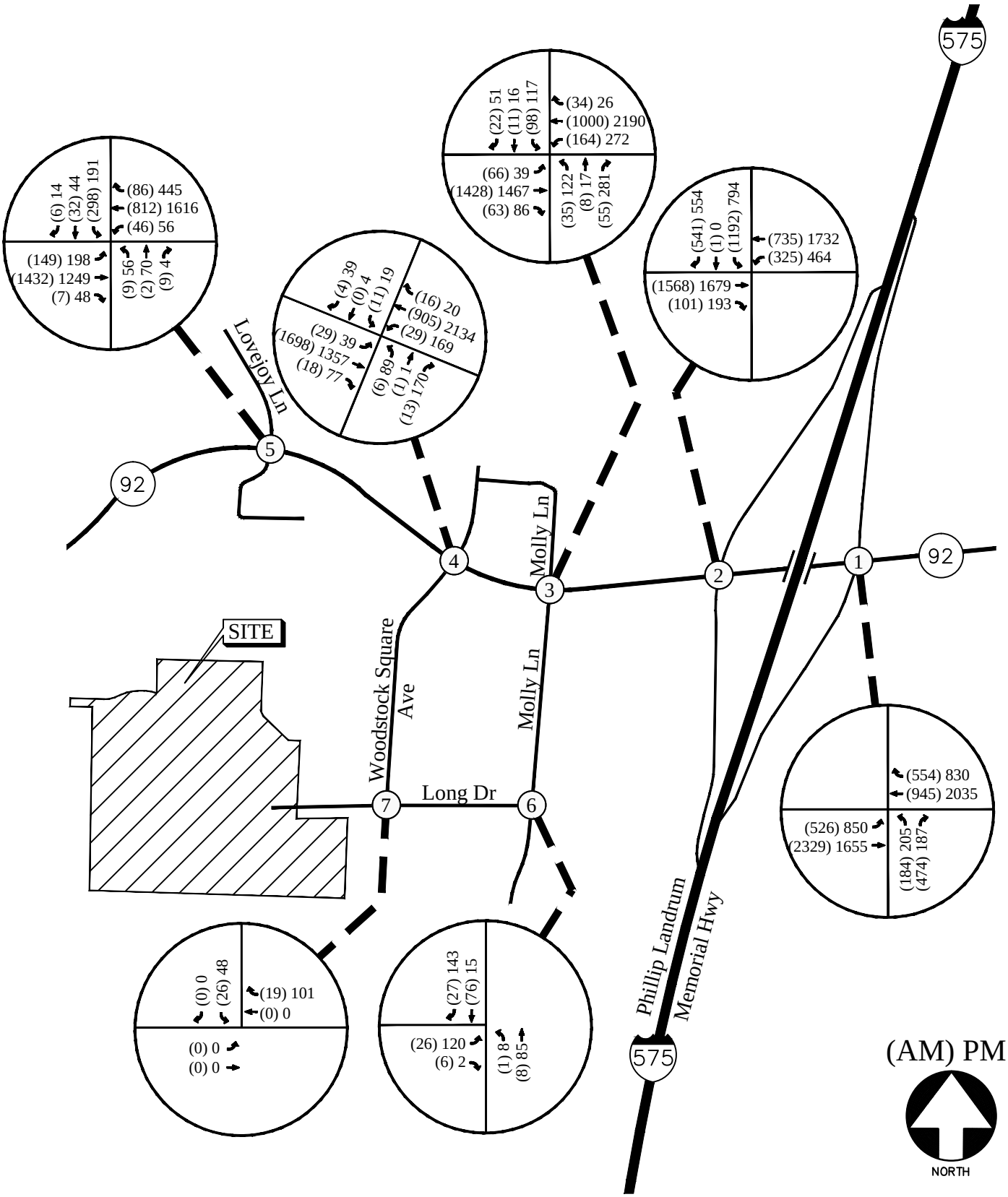
Intersection		Future Conditions: LOS (Delay)				
		NO-BUILD		BUILD		LOS Standard
		AM Peak	PM Peak	AM Peak	PM Peak	
1	**SR 92 @ I-575 NB Ramps**	**C (34.3)**	**E (71.7)**	**D (41.0)**	**E (77.3)**	**D / E**
	-Eastbound Approach	D (37.5)	F (108.6)	D (46.2)	F (115.7)	-
	-Westbound Approach	B (14.9)	C (25.2)	B (15.8)	C (29.4)	-
	-Northbound Approach	E (73.0)	F (82.6)	E (72.1)	E (79.7)	-
2	**SR 92 @ I-575 SB Ramps**	**F (84.9)**	**D (52.5)**	**F (83.7)**	**D (53.0)**	**E / D**
	-Eastbound Approach	C (31.1)	D (38.4)	C (31.4)	D (38.5)	-
	-Westbound Approach	C (21.9)	D (54.9)	C (21.3)	E (55.9)	-
	-Southbound Approach	F (212.2)	E (74.5)	F (212.2)	E (74.5)	-
3	**SR 92 @ Molly Ln**	**C (24.2)**	**D (49.0)**	**C (27.7)**	**D (50.4)**	**D / D**
	-Eastbound Approach	A (4.0)	E (78.1)	A (4.0)	E (73.6)	-
	-Westbound Approach	D (43.4)	C (21.3)	D (51.0)	C (27.4)	-
	-Northbound Approach	E (66.7)	E (78.0)	E (66.5)	E (77.6)	-
	-Southbound Approach	E (62.8)	E (77.3)	E (62.9)	E (75.2)	-

Table continued on next page…

	Intersection	NO-BUILD		BUILD		LOS Standard
		AM Peak	PM Peak	AM Peak	PM Peak	
4	**SR 92 @ Woodstock Square Ave**	**A (6.1)**	**D (50.0)**	**A (8.2)**	**E (61.2)**	**D / D**
	-Eastbound Approach	A (6.1)	B (14.5)	A (7.4)	B (16.0)	-
	-Westbound Approach	A (3.9)	E (67.0)	A (4.8)	F (87.7)	-
	-Northbound Approach	E (73.7)	F (96.0)	E (75..5)	F (89.8)	-
	-Southbound Approach	E (73.6)	E (67.7)	E (71.0)	E (65.9)	-
5	**SR 92 @ Lovejoy Ln**	**C (24.2)**	**D (51.2)**	**C (25.5)**	**D (52.2)**	**D / D**
	-Eastbound Approach	C (28.2)	D (50.4)	C (30.2)	D (51.4)	-
	-Westbound Approach	A (2.4)	D (48.3)	A (2.5)	D (49.1)	-
	-Northbound Approach	E (75.9)	F (80.2)	E (75.6)	E (79.8)	-
	-Southbound Approach	E (56.8)	E (62.3)	E (55.4)	E (63.2)	-
6	**Molly Ln @ Long Dr**					
	-Eastbound Approach	A (9.4)	B (10.7)	B (11.3)	B (12.5)	D / D
	-Northbound Left	A (7.5)	A (7.7)	A (7.6)	A (8.0)	D / D
7	**Woodstock Square Ave @ Long Dr**					
	-Eastbound Left	A (0.0)	A (0.0)	A (7.4)	A (7.8)	D / D
	-Southbound Approach	A (8.7)	A (9.1)	A (9.8)	B (10.2)	D / D

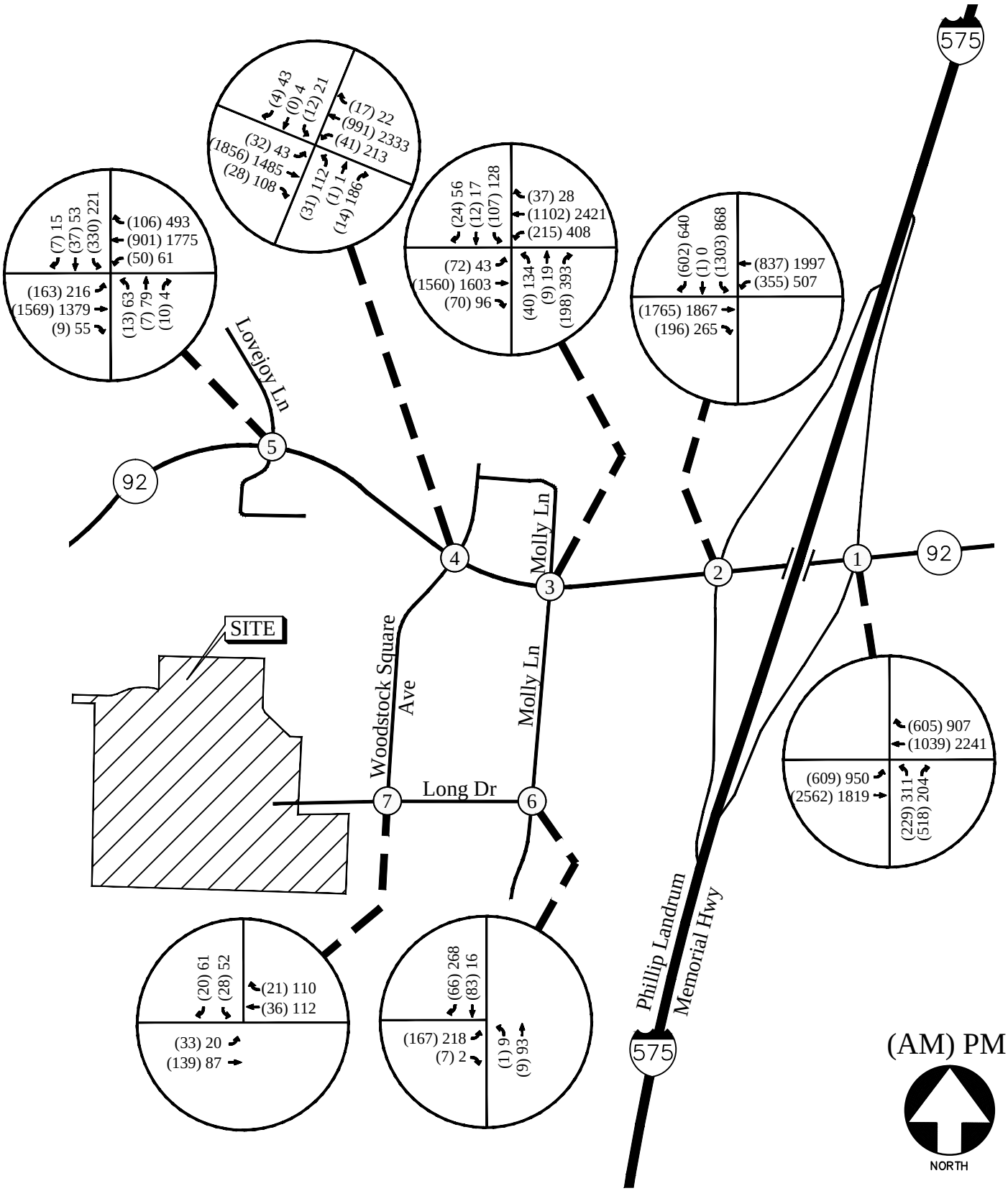
Recommendations and Improvements

There are several signalized intersections on SR 92 that are currently operating at level-of-service "E" during the AM and PM peak hours. After accounting for a 3% growth in through traffic in the year 2020, those intersections will continue to operate poorly. Because the signals along SR 92 are part of an RTOP corridor, the timing is changed and updated consistently to align with the demand along the network. Since it can be assumed that the timing along the corridor will be changed (and therefore the level-of-service of the intersections) in the next three years, no further improvements are recommended.



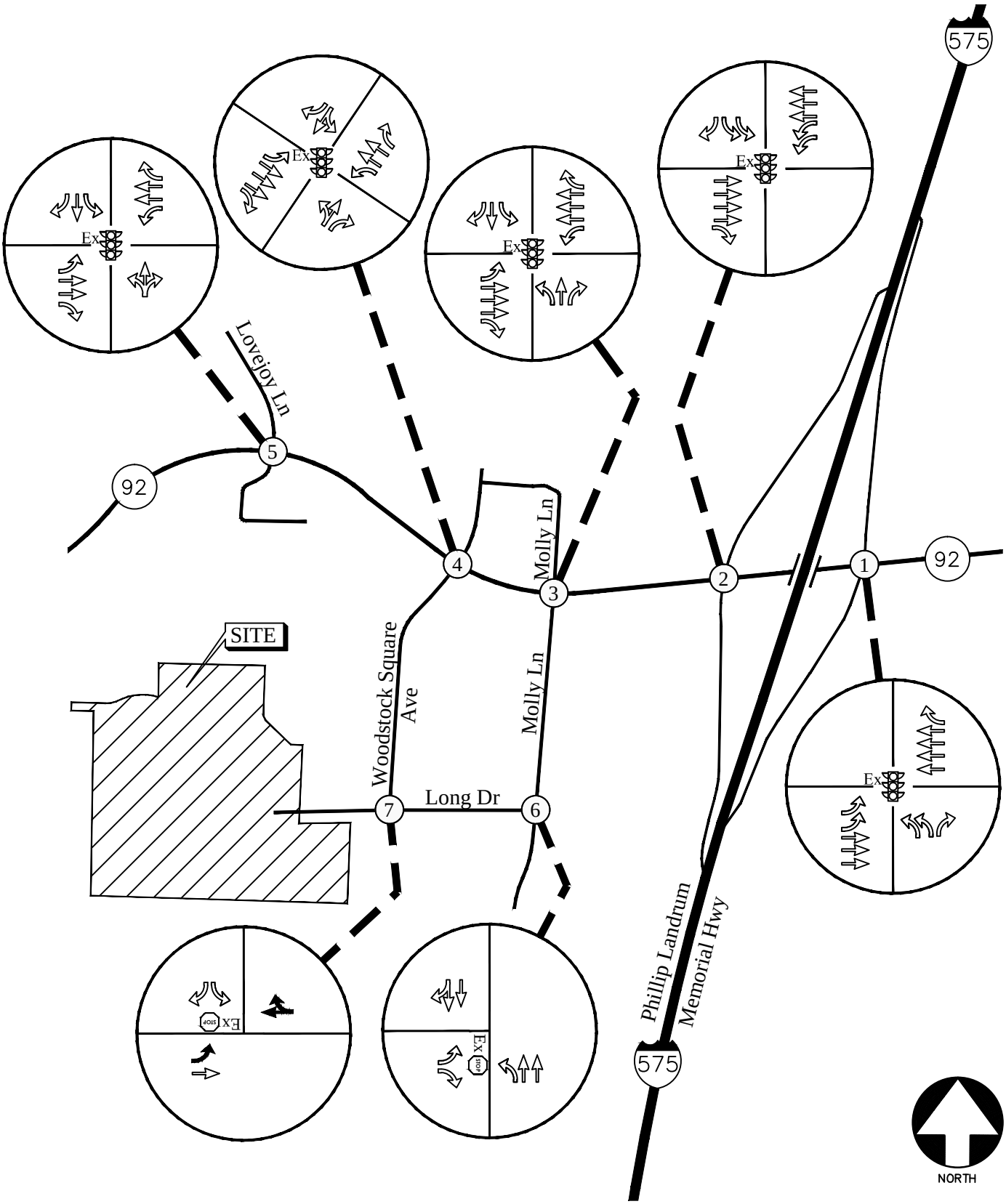
FUTURE (NO-BUILD) PEAK HOUR VOLUMES FIGURE 6

A&R Engineering Inc.



FUTURE (BUILD) PEAK HOUR VOLUMES FIGURE 7

A&R Engineering Inc.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 8

A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the added traffic from the proposed Heights at Woodstock residential development that will be located on Long Drive, south of SR 92 in Woodstock, Georgia. The development will consist of:

- 417 apartments
- 200 townhome units

The development proposes one full-access driveway via Long Drive. Existing and future operations after completion of the project were analyzed at the intersections of:

1. SR 92 at I-575 Northbound Ramps
2. SR 92 at I-575 Southbound Ramps
3. SR 92 at Molly Lane
4. SR 92 at Woodstock Square Avenue
5. SR 92 at Lovejoy Lane
6. Molly Lane at Long Drive
7. Woodstock Square Avenue at Long Drive

The analysis included the evaluation of Future operations for "No-Build" and "Build" conditions, both of which account for increases in annual growth of through traffic. The results of the analysis are listed below:

Site Access Configuration

- Long Drive at Woodstock Square Avenue
    - The site plan proposes to reconfigure the intersection of Long Drive at Woodstock Square Avenue.
    - The eastbound approach will operate with one dedicated left turn lane and one through lane.
    - The westbound approach will operate with one shared through/right turn lane.
    - The southbound approach will continue to operate with a dedicated left turn lane and a dedicated right turn lane.

Recommendations and Improvements

There are several signalized intersections on SR 92 that are currently operating at level-of-service "E" during the AM and PM peak hours. After accounting for a 3% growth in through traffic in the year 2020, those intersections will continue to operate poorly. Because the signals along SR 92 are part of an RTOP corridor, the timing is changed and updated consistently to align with the demand along the network. Since it can be assumed that the timing along the corridor will be changed (and therefore the level-of-service of the intersections) in the next three years, no further improvements are recommended.

Appendix

Existing Intersection Traffic Counts

Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ I-575 NB Ramps
Woodstock, GA
7-9am I 4-6pm

File Name : 41220001
Site Code : 41220001
Start Date : 9/26/2017
Page No : 1

Groups Printed- Cars, Buses and Trucks

	I-575 NB Off-Ramp Northbound					Southbound					SR 92 Eastbound					SR 92 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	20	0	87	0	107	0	0	0	0	0	128	517	0	0	645	0	160	72	0	232	984
07:15 AM	46	0	88	0	134	0	0	0	0	0	119	524	0	0	643	0	199	147	0	346	1123
07:30 AM	34	0	72	0	106	0	0	0	0	0	177	541	0	0	718	0	246	147	0	393	1217
07:45 AM	57	0	103	0	160	0	0	0	0	0	120	479	0	0	599	0	213	159	0	372	1131
Total	157	0	350	0	507	0	0	0	0	0	544	2061	0	0	2605	0	818	525	0	1343	4455
08:00 AM	59	0	150	0	209	0	0	0	0	0	109	656	0	0	765	0	232	134	0	366	1340
08:15 AM	34	0	149	0	183	0	0	0	0	0	120	653	0	0	773	0	254	114	0	368	1324
08:30 AM	32	0	158	0	190	0	0	0	0	0	83	499	0	0	582	0	238	106	0	344	1116
08:45 AM	36	0	147	0	183	0	0	0	0	0	82	547	0	0	629	0	258	126	0	384	1196
Total	161	0	604	0	765	0	0	0	0	0	394	2355	0	0	2749	0	982	480	0	1462	4976
*** BREAK ***																					
04:00 PM	46	0	86	0	132	0	0	0	0	0	167	392	0	0	559	0	469	204	0	673	1364
04:15 PM	57	0	86	0	143	0	0	0	0	0	151	366	0	0	517	0	468	186	0	654	1314
04:30 PM	46	0	66	0	112	0	0	0	0	0	194	424	0	0	618	0	473	237	0	710	1440
04:45 PM	45	0	49	0	94	0	0	0	0	0	184	416	0	0	600	0	489	203	0	692	1386
Total	194	0	287	0	481	0	0	0	0	0	696	1598	0	0	2294	0	1899	830	0	2729	5504
05:00 PM	46	0	52	0	98	0	0	0	0	0	212	408	0	0	620	0	500	205	0	705	1423
05:15 PM	54	0	55	0	109	0	0	0	0	0	198	413	0	0	611	0	545	219	0	764	1484
05:30 PM	60	0	31	0	91	0	0	0	0	0	256	418	0	0	674	0	501	203	0	704	1469
05:45 PM	48	0	53	0	101	0	0	0	0	0	233	374	0	0	607	0	465	207	0	672	1380
Total	208	0	191	0	399	0	0	0	0	0	899	1613	0	0	2512	0	2011	834	0	2845	5756
Grand Total	720	0	1432	0	2152	0	0	0	0	0	2533	7627	0	0	10160	0	5710	2669	0	8379	20691
Apprch %	33.5	0	66.5	0		0	0	0	0		24.9	75.1	0	0		0	68.1	31.9	0		
Total %	3.5	0	6.9	0	10.4	0	0	0	0	0	12.2	36.9	0	0	49.1	0	27.6	12.9	0	40.5	

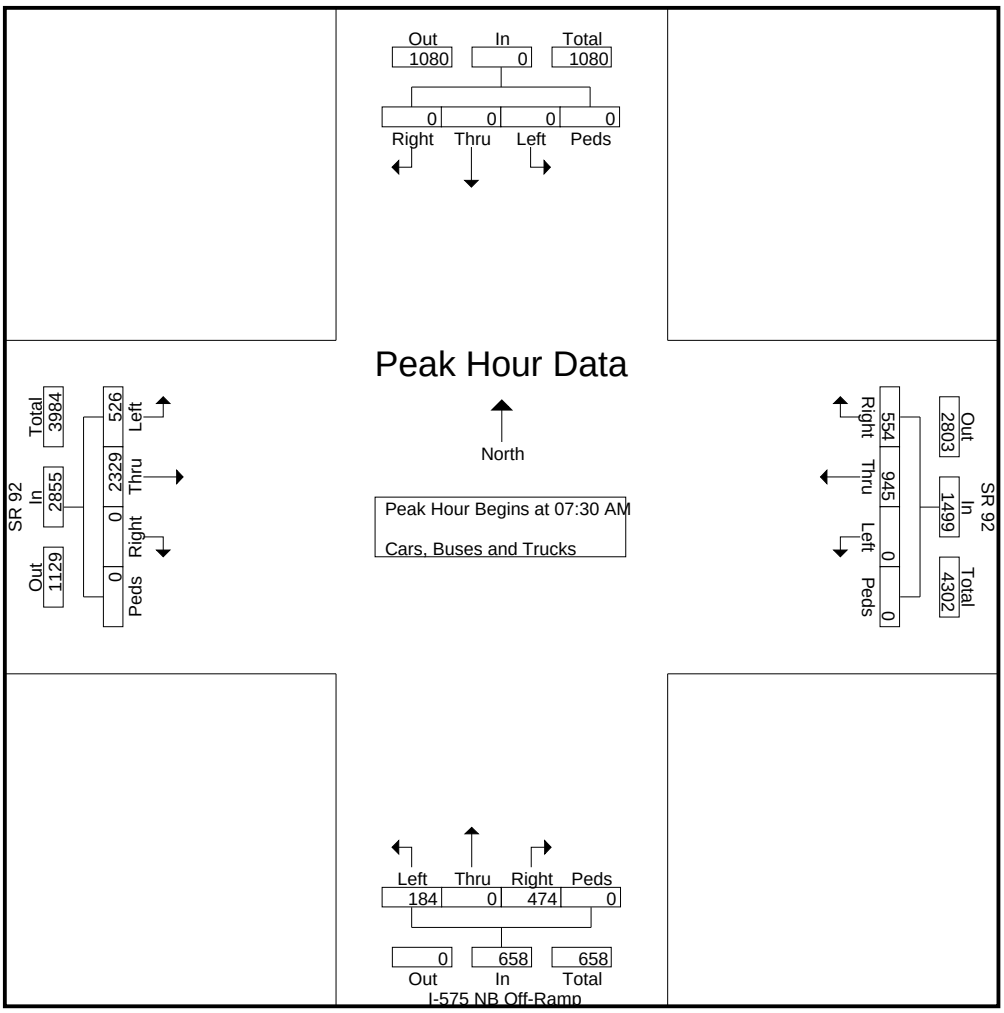
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ I-575 NB Ramps
Woodstock, GA
7-9am I 4-6pm

File Name : 41220001
Site Code : 41220001
Start Date : 9/26/2017
Page No : 2

	I-575 NB Off-Ramp Northbound					Southbound					SR 92 Eastbound					SR 92 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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	34	0	72	0	106	0	0	0	0	0	**177**	541	0	0	718	0	246	147	0	**393**	1217
07:45 AM	57	0	103	0	160	0	0	0	0	0	120	479	0	0	599	0	213	**159**	0	372	1131
08:00 AM	**59**	0	**150**	0	**209**	0	0	0	0	0	109	**656**	0	0	765	0	232	134	0	366	**1340**
08:15 AM	34	0	149	0	183	0	0	0	0	0	120	653	0	0	**773**	0	**254**	114	0	368	1324
Total Volume	184	0	474	0	658	0	0	0	0	0	526	2329	0	0	2855	0	945	554	0	1499	5012
% App. Total	28	0	72	0		0	0	0	0		18.4	81.6	0	0		0	63	37	0		
PHF	.780	.000	.790	.000	.787	.000	.000	.000	.000	.000	.743	.888	.000	.000	.923	.000	.930	.871	.000	.954	.935



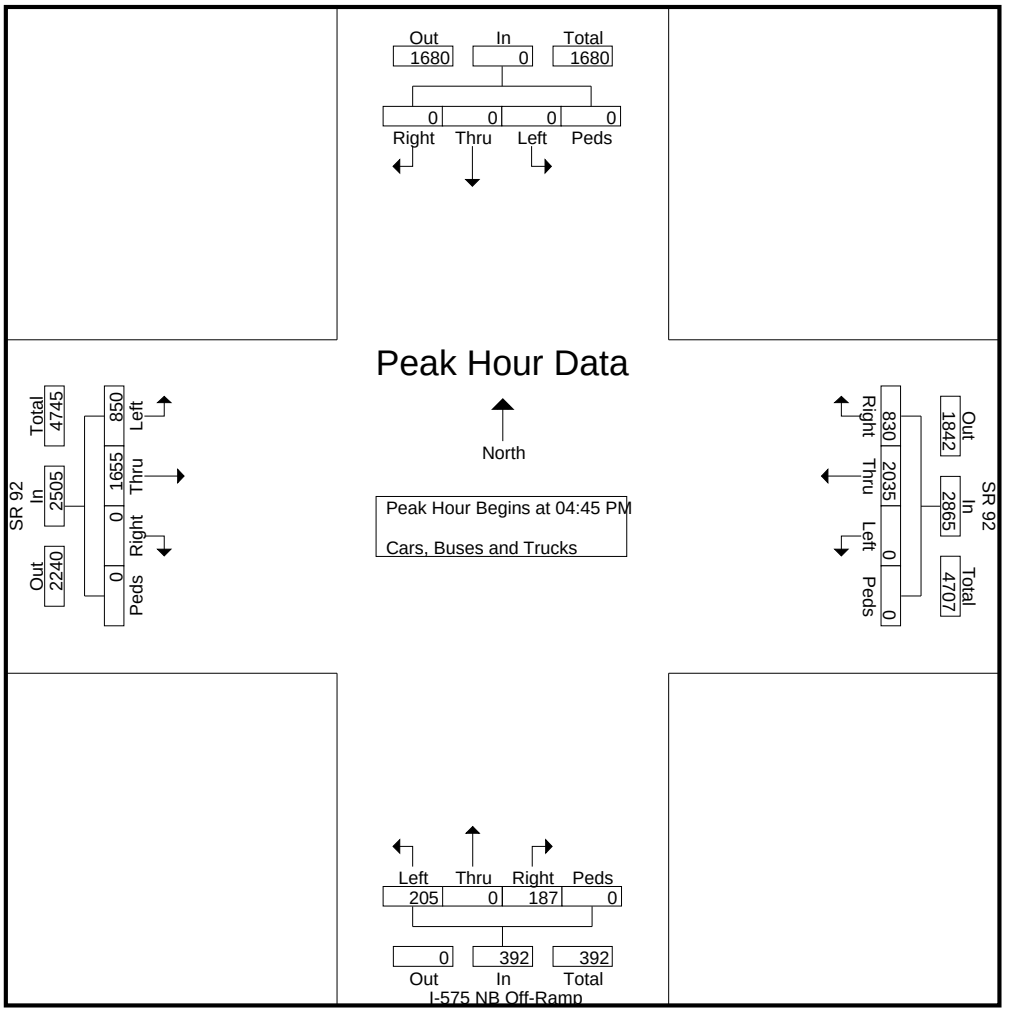
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ I-575 NB Ramps
Woodstock, GA
7-9am I 4-6pm

File Name : 41220001
Site Code : 41220001
Start Date : 9/26/2017
Page No : 3

	I-575 NB Off-Ramp Northbound					Southbound					SR 92 Eastbound					SR 92 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	45	0	49	0	94	0	0	0	0	0	184	416	0	0	600	0	489	203	0	692	1386
05:00 PM	46	0	52	0	98	0	0	0	0	0	212	408	0	0	620	0	500	205	0	705	1423
05:15 PM	54	0	**55**	0	**109**	0	0	0	0	0	198	413	0	0	611	0	**545**	**219**	0	**764**	**1484**
05:30 PM	**60**	0	31	0	91	0	0	0	0	0	**256**	**418**	0	0	**674**	0	501	203	0	704	1469
Total Volume	205	0	187	0	392	0	0	0	0	0	850	1655	0	0	2505	0	2035	830	0	2865	5762
% App. Total	52.3	0	47.7	0		0	0	0	0		33.9	66.1	0	0		0	71	29	0		
PHF	.854	.000	.850	.000	.899	.000	.000	.000	.000	.000	.830	.990	.000	.000	.929	.000	.933	.947	.000	.938	.971



Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ I-575 SB Ramps
Woodstock, GA
7-9am I 4-6pm

File Name : 41220002
Site Code : 41220002
Start Date : 9/26/2017
Page No : 1

Groups Printed- Cars, Buses and Trucks

	Northbound					I-575 SB Off-Ramp Southbound					SR 92 Eastbound					SR 92 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	138	0	93	0	231	0	387	31	0	418	53	148	0	0	201	850
07:15 AM	0	0	0	0	0	287	0	127	0	414	0	408	27	0	435	61	147	0	0	208	1057
07:30 AM	0	0	0	0	0	290	0	131	0	421	0	396	26	0	422	72	167	0	0	239	1082
07:45 AM	0	0	0	0	0	294	0	145	0	439	0	375	35	0	410	93	176	0	0	269	1118
Total	0	0	0	0	0	1009	0	496	0	1505	0	1566	119	0	1685	279	638	0	0	917	4107
08:00 AM	0	0	0	0	0	315	1	137	0	453	0	394	22	0	416	76	194	0	0	270	1139
08:15 AM	0	0	0	0	0	293	0	128	0	421	0	403	18	0	421	84	198	0	0	282	1124
08:30 AM	0	0	0	0	0	274	0	124	0	398	0	366	17	0	383	90	193	0	0	283	1064
08:45 AM	0	0	0	0	0	269	0	121	0	390	0	380	24	0	404	82	197	0	0	279	1073
Total	0	0	0	0	0	1151	1	510	0	1662	0	1543	81	0	1624	332	782	0	0	1114	4400
*** BREAK ***																					
04:00 PM	0	0	0	0	0	153	0	133	0	286	0	386	54	0	440	114	401	0	0	515	1241
04:15 PM	0	0	0	0	0	181	0	143	0	324	0	391	34	0	425	127	406	0	0	533	1282
04:30 PM	0	0	0	0	0	145	1	129	0	275	0	396	43	0	439	126	418	0	0	544	1258
04:45 PM	0	0	0	0	0	187	0	147	0	334	0	413	52	0	465	120	435	0	0	555	1354
Total	0	0	0	0	0	666	1	552	0	1219	0	1586	183	0	1769	487	1660	0	0	2147	5135
05:00 PM	0	0	0	0	0	185	0	133	0	318	0	405	53	0	458	125	423	0	0	548	1324
05:15 PM	0	0	0	0	0	205	0	150	0	355	0	433	47	0	480	105	431	0	0	536	1371
05:30 PM	0	0	0	0	0	217	0	124	0	341	0	428	41	0	469	114	443	0	0	557	1367
05:45 PM	0	0	0	0	0	211	0	107	0	318	0	392	37	0	429	152	446	0	0	598	1345
Total	0	0	0	0	0	818	0	514	0	1332	0	1658	178	0	1836	496	1743	0	0	2239	5407
Grand Total	0	0	0	0	0	3644	2	2072	0	5718	0	6353	561	0	6914	1594	4823	0	0	6417	19049
Apprch %	0	0	0	0		63.7	0	36.2	0		0	91.9	8.1	0		24.8	75.2	0	0		
Total %	0	0	0	0	0	19.1	0	10.9	0	30	0	33.4	2.9	0	36.3	8.4	25.3	0	0	33.7	

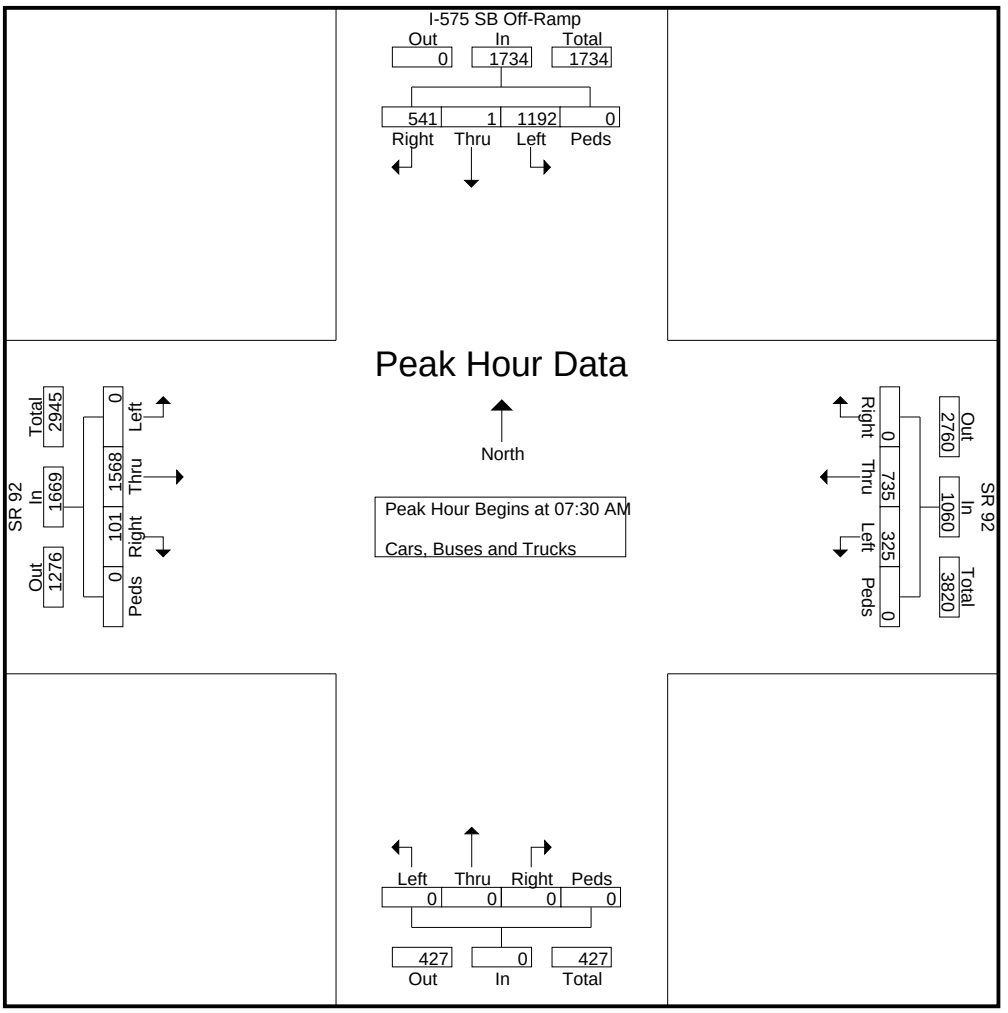
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ I-575 SB Ramps
Woodstock, GA
7-9am I 4-6pm

File Name : 41220002
Site Code : 41220002
Start Date : 9/26/2017
Page No : 2

	Northbound					I-575 SB Off-Ramp Southbound					SR 92 Eastbound					SR 92 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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	290	0	131	0	421	0	396	26	0	**422**	72	167	0	0	239	1082
07:45 AM	0	0	0	0	0	294	0	**145**	0	439	0	375	**35**	0	410	**93**	176	0	0	269	1118
08:00 AM	0	0	0	0	0	**315**	**1**	137	0	**453**	0	394	22	0	416	76	194	0	0	270	**1139**
08:15 AM	0	0	0	0	0	293	0	128	0	421	0	**403**	18	0	421	84	**198**	0	0	**282**	1124
Total Volume	0	0	0	0	0	1192	1	541	0	1734	0	1568	101	0	1669	325	735	0	0	1060	4463
% App. Total	0	0	0	0		68.7	0.1	31.2	0		0	93.9	6.1	0		30.7	69.3	0	0		
PHF	.000	.000	.000	.000	.000	.946	.250	.933	.000	.957	.000	.973	.721	.000	.989	.874	.928	.000	.000	.940	.980



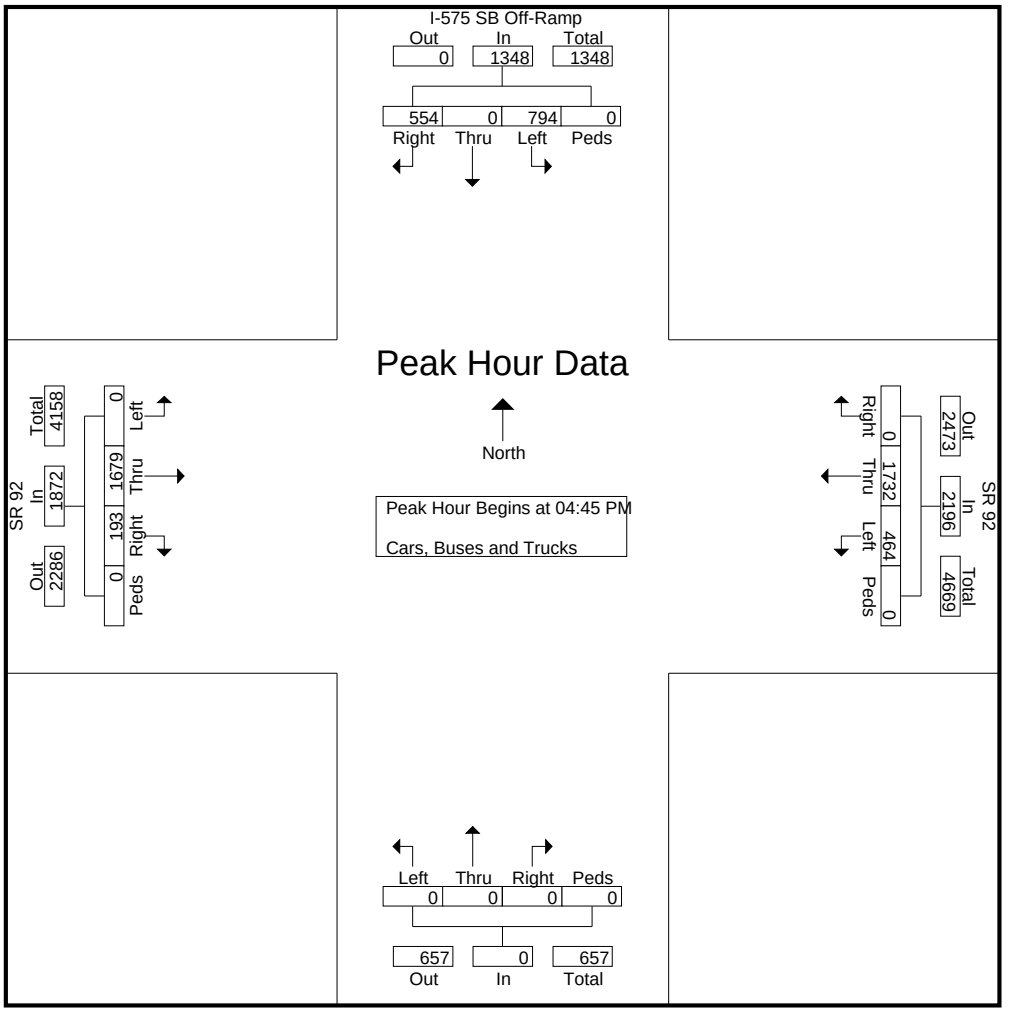
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ I-575 SB Ramps
Woodstock, GA
7-9am I 4-6pm

File Name : 41220002
Site Code : 41220002
Start Date : 9/26/2017
Page No : 3

	Northbound					I-575 SB Off-Ramp Southbound					SR 92 Eastbound					SR 92 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	187	0	147	0	334	0	413	52	0	465	120	435	0	0	555	1354
05:00 PM	0	0	0	0	0	185	0	133	0	318	0	405	**53**	0	458	**125**	423	0	0	548	1324
05:15 PM	0	0	0	0	0	205	0	**150**	0	**355**	0	**433**	47	0	**480**	105	431	0	0	536	**1371**
05:30 PM	0	0	0	0	0	**217**	0	124	0	341	0	428	41	0	469	114	**443**	0	0	**557**	1367
Total Volume	0	0	0	0	0	794	0	554	0	1348	0	1679	193	0	1872	464	1732	0	0	2196	5416
% App. Total	0	0	0	0		58.9	0	41.1	0		0	89.7	10.3	0		21.1	78.9	0	0		
PHF	.000	.000	.000	.000	.000	.915	.000	.923	.000	.949	.000	.969	.910	.000	.975	.928	.977	.000	.000	.986	.988



Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Molly Lane
Woodstock, GA
7-9am I 4-6pm

File Name : 41220003
Site Code : 41220003
Start Date : 9/26/2017
Page No : 1

Groups Printed- Cars, Buses and Trucks

	Molly Lane Northbound					Castlewood Dr Southbound					SR 92 Eastbound					SR 92 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	21	0	25	5	2	0	0	7	1	412	12	0	425	22	207	2	0	231	688
07:15 AM	6	0	5	0	11	9	1	2	0	12	5	408	10	0	423	29	223	8	0	260	706
07:30 AM	5	1	7	0	13	17	1	6	0	24	11	403	19	0	433	32	228	6	0	266	736
07:45 AM	5	0	8	0	13	6	3	1	0	10	19	427	20	0	466	32	243	5	0	280	769
Total	20	1	41	0	62	37	7	9	0	53	36	1650	61	0	1747	115	901	21	0	1037	2899
08:00 AM	9	1	17	0	27	17	1	7	0	25	14	358	13	0	385	35	240	7	0	282	719
08:15 AM	4	2	12	0	18	20	4	4	0	28	18	387	10	0	415	35	247	12	0	294	755
08:30 AM	5	2	8	0	15	30	1	4	0	35	16	354	15	0	385	40	258	6	0	304	739
08:45 AM	17	3	18	0	38	31	5	7	0	43	18	329	25	0	372	54	255	9	0	318	771
Total	35	8	55	0	98	98	11	22	0	131	66	1428	63	0	1557	164	1000	34	0	1198	2984
*** BREAK ***																					
04:00 PM	31	6	57	0	94	38	4	11	0	53	19	324	17	0	360	71	461	5	0	537	1044
04:15 PM	27	5	41	0	73	45	4	8	0	57	24	341	11	0	376	59	486	3	0	548	1054
04:30 PM	31	2	69	0	102	16	4	11	0	31	10	399	21	0	430	56	492	5	0	553	1116
04:45 PM	26	1	75	0	102	23	2	8	0	33	10	395	23	0	428	64	589	2	0	655	1218
Total	115	14	242	0	371	122	14	38	0	174	63	1459	72	0	1594	250	2028	15	0	2293	4432
05:00 PM	31	5	72	0	108	40	6	9	0	55	8	326	19	0	353	68	532	9	0	609	1125
05:15 PM	34	6	43	0	83	28	3	10	0	41	16	376	28	0	420	68	546	11	0	625	1169
05:30 PM	31	5	91	0	127	26	5	24	0	55	5	370	16	0	391	72	523	4	0	599	1172
05:45 PM	37	3	67	0	107	26	3	5	0	34	11	321	24	0	356	48	461	2	0	511	1008
Total	133	19	273	0	425	120	17	48	0	185	40	1393	87	0	1520	256	2062	26	0	2344	4474
Grand Total	303	42	611	0	956	377	49	117	0	543	205	5930	283	0	6418	785	5991	96	0	6872	14789
Apprch %	31.7	4.4	63.9	0		69.4	9	21.5	0		3.2	92.4	4.4	0		11.4	87.2	1.4	0		
Total %	2	0.3	4.1	0	6.5	2.5	0.3	0.8	0	3.7	1.4	40.1	1.9	0	43.4	5.3	40.5	0.6	0	46.5	

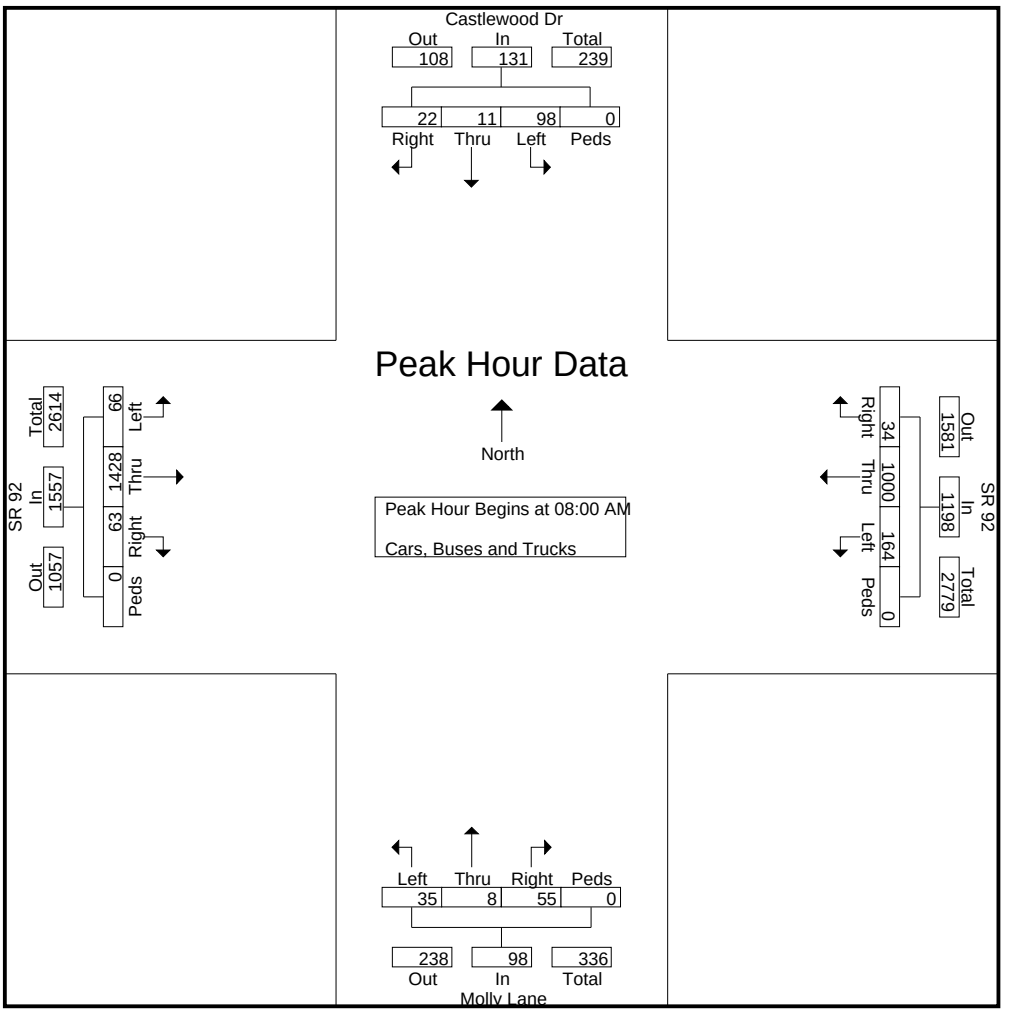
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Molly Lane
Woodstock, GA
7-9am I 4-6pm

File Name : 41220003
Site Code : 41220003
Start Date : 9/26/2017
Page No : 2

	Molly Lane Northbound					Castlewood Dr Southbound					SR 92 Eastbound					SR 92 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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	9	1	17	0	27	17	1	**7**	0	25	14	358	13	0	385	35	240	7	0	282	719
08:15 AM	4	2	12	0	18	20	4	4	0	28	**18**	**387**	10	0	**415**	35	247	**12**	0	294	755
08:30 AM	5	2	8	0	15	30	1	4	0	35	16	354	15	0	385	40	**258**	6	0	304	739
08:45 AM	**17**	**3**	**18**	0	**38**	**31**	**5**	7	0	**43**	18	329	**25**	0	372	**54**	255	9	0	**318**	**771**
Total Volume	35	8	55	0	98	98	11	22	0	131	66	1428	63	0	1557	164	1000	34	0	1198	2984
% App. Total	35.7	8.2	56.1	0		74.8	8.4	16.8	0		4.2	91.7	4	0		13.7	83.5	2.8	0		
PHF	.515	.667	.764	.000	.645	.790	.550	.786	.000	.762	.917	.922	.630	.000	.938	.759	.969	.708	.000	.942	.968



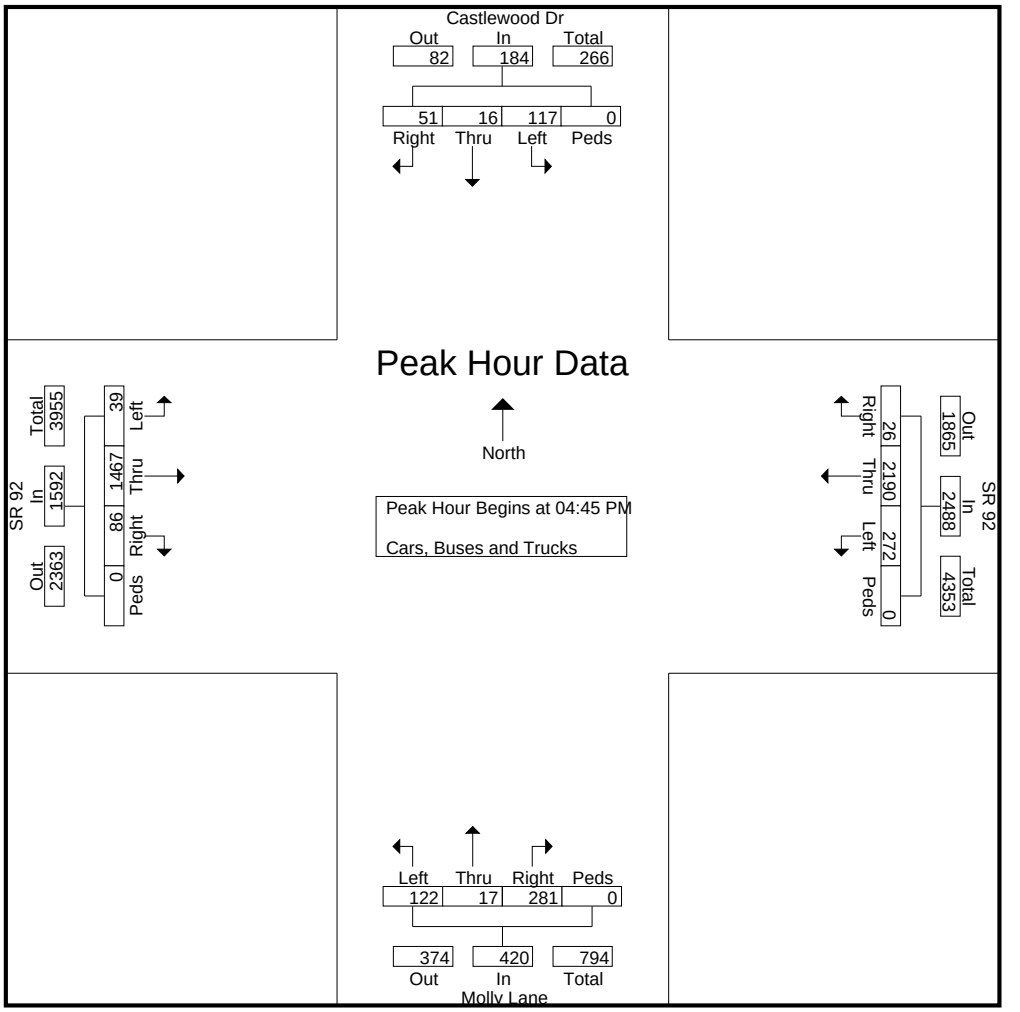
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Molly Lane
Woodstock, GA
7-9am I 4-6pm

File Name : 41220003
Site Code : 41220003
Start Date : 9/26/2017
Page No : 3

	Molly Lane Northbound					Castlewood Dr Southbound					SR 92 Eastbound					SR 92 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	26	1	75	0	102	23	2	8	0	33	10	**395**	23	0	**428**	64	**589**	2	0	**655**	**1218**
05:00 PM	31	5	72	0	108	**40**	**6**	9	0	**55**	8	326	19	0	353	68	532	9	0	609	1125
05:15 PM	**34**	**6**	43	0	83	28	3	10	0	41	**16**	376	**28**	0	420	68	546	**11**	0	625	1169
05:30 PM	31	5	**91**	0	**127**	26	5	**24**	0	55	5	370	16	0	391	**72**	523	4	0	599	1172
Total Volume	122	17	281	0	420	117	16	51	0	184	39	1467	86	0	1592	272	2190	26	0	2488	4684
% App. Total	29	4	66.9	0		63.6	8.7	27.7	0		2.4	92.1	5.4	0		10.9	88	1	0		
PHF	.897	.708	.772	.000	.827	.731	.667	.531	.000	.836	.609	.928	.768	.000	.930	.944	.930	.591	.000	.950	.961



Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Woodstock Square Ave
Woodstock, GA
7-9am I 4-6pm

File Name : 41220004
Site Code : 41220004
Start Date : 9/26/2017
Page No : 1

Groups Printed- Cars, Buses and Trucks

	Woodstock Square Ave Northbound					Big Lots Drwy Southbound					SR 92 Eastbound					SR 92 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	3	0	3	1	0	1	0	2	7	417	3	0	427	3	204	4	0	211	643
07:15 AM	0	0	3	0	3	2	0	1	0	3	9	414	4	0	427	3	211	9	0	223	656
07:30 AM	2	0	5	0	7	3	0	1	0	4	4	422	4	0	430	3	225	2	0	230	671
07:45 AM	1	1	3	0	5	2	0	1	0	3	7	436	3	0	446	11	228	5	0	244	698
Total	3	1	14	0	18	8	0	4	0	12	27	1689	14	0	1730	20	868	20	0	908	2668
08:00 AM	3	0	2	0	5	4	0	1	0	5	9	426	7	0	442	12	241	0	0	253	705
08:15 AM	1	0	3	0	4	0	1	4	0	5	5	377	4	0	386	12	234	5	0	251	646
08:30 AM	4	1	7	0	12	2	2	6	0	10	11	352	5	0	368	15	246	0	0	261	651
08:45 AM	5	0	5	0	10	3	0	4	0	7	5	347	9	0	361	15	255	5	0	275	653
Total	13	1	17	0	31	9	3	15	0	27	30	1502	25	0	1557	54	976	10	0	1040	2655
*** BREAK ***																					
04:00 PM	15	0	38	0	53	2	0	2	0	4	5	325	11	0	341	44	442	5	0	491	889
04:15 PM	18	3	42	0	63	5	2	4	0	11	7	342	18	0	367	42	469	4	0	515	956
04:30 PM	22	2	50	0	74	2	0	8	0	10	6	354	13	0	373	47	482	4	0	533	990
04:45 PM	15	0	46	0	61	6	0	6	0	12	7	367	15	0	389	46	546	2	0	594	1056
Total	70	5	176	0	251	15	2	20	0	37	25	1388	57	0	1470	179	1939	15	0	2133	3891
05:00 PM	22	0	39	0	61	2	4	17	0	23	11	326	25	0	362	38	528	8	0	574	1020
05:15 PM	21	0	38	0	59	5	0	6	0	11	11	338	22	0	371	47	534	7	0	588	1029
05:30 PM	31	1	47	0	79	6	0	10	0	16	10	326	15	0	351	38	526	3	0	567	1013
05:45 PM	24	2	45	0	71	4	1	10	0	15	8	323	15	0	346	26	475	3	0	504	936
Total	98	3	169	0	270	17	5	43	0	65	40	1313	77	0	1430	149	2063	21	0	2233	3998
Grand Total	184	10	376	0	570	49	10	82	0	141	122	5892	173	0	6187	402	5846	66	0	6314	13212
Apprch %	32.3	1.8	66	0		34.8	7.1	58.2	0		2	95.2	2.8	0		6.4	92.6	1	0		
Total %	1.4	0.1	2.8	0	4.3	0.4	0.1	0.6	0	1.1	0.9	44.6	1.3	0	46.8	3	44.2	0.5	0	47.8	

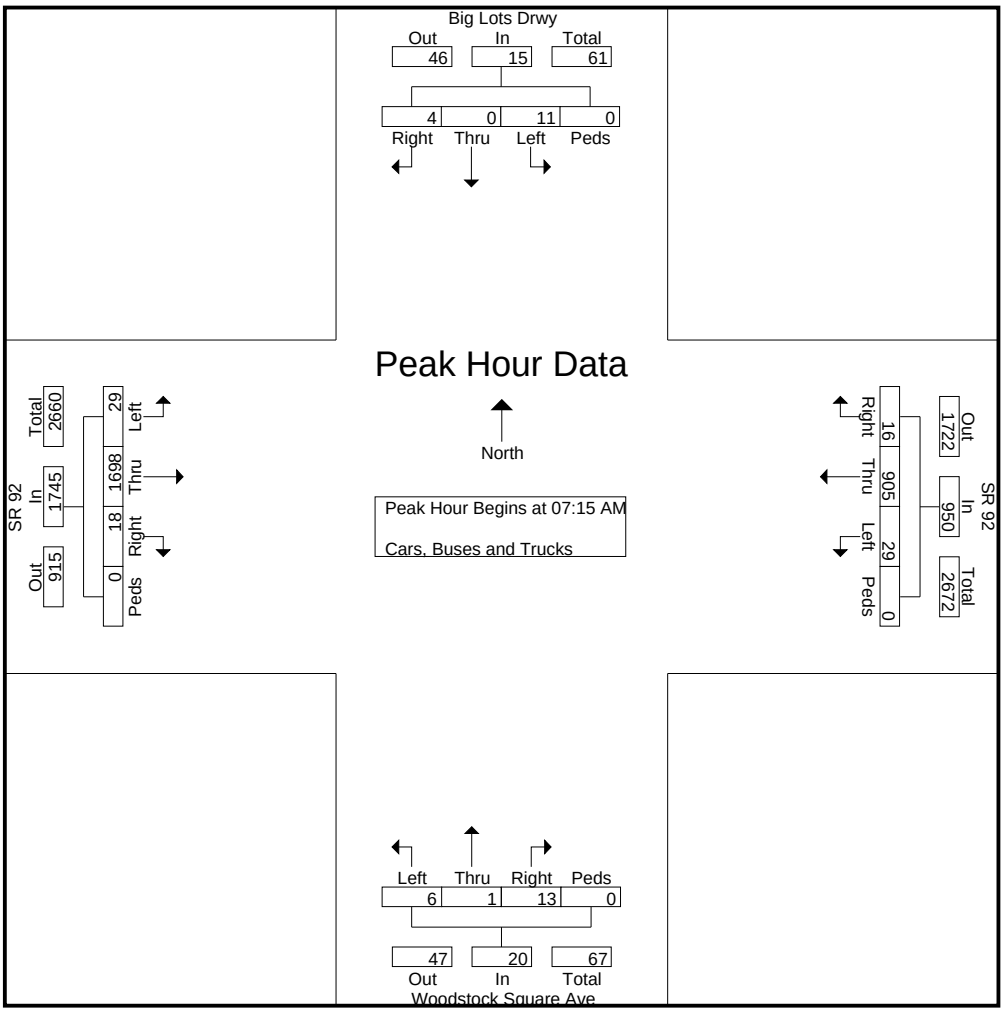
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Woodstock Square Ave
Woodstock, GA
7-9am I 4-6pm

File Name : 41220004
Site Code : 41220004
Start Date : 9/26/2017
Page No : 2

	Woodstock Square Ave Northbound					Big Lots Drwy Southbound					SR 92 Eastbound					SR 92 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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	3	0	3	2	0	**1**	0	3	**9**	414	4	0	427	3	211	**9**	0	223	656
07:30 AM	2	0	**5**	0	**7**	3	0	1	0	4	4	422	4	0	430	3	225	2	0	230	671
07:45 AM	1	**1**	3	0	5	2	0	1	0	3	7	**436**	3	0	**446**	11	228	5	0	244	698
08:00 AM	**3**	0	2	0	5	**4**	0	1	0	**5**	9	426	**7**	0	442	**12**	**241**	0	0	**253**	**705**
Total Volume	6	1	13	0	20	11	0	4	0	15	29	1698	18	0	1745	29	905	16	0	950	2730
% App. Total	30	5	65	0		73.3	0	26.7	0		1.7	97.3	1	0		3.1	95.3	1.7	0		
PHF	.500	.250	.650	.000	.714	.688	.000	1.00	.000	.750	.806	.974	.643	.000	.978	.604	.939	.444	.000	.939	.968



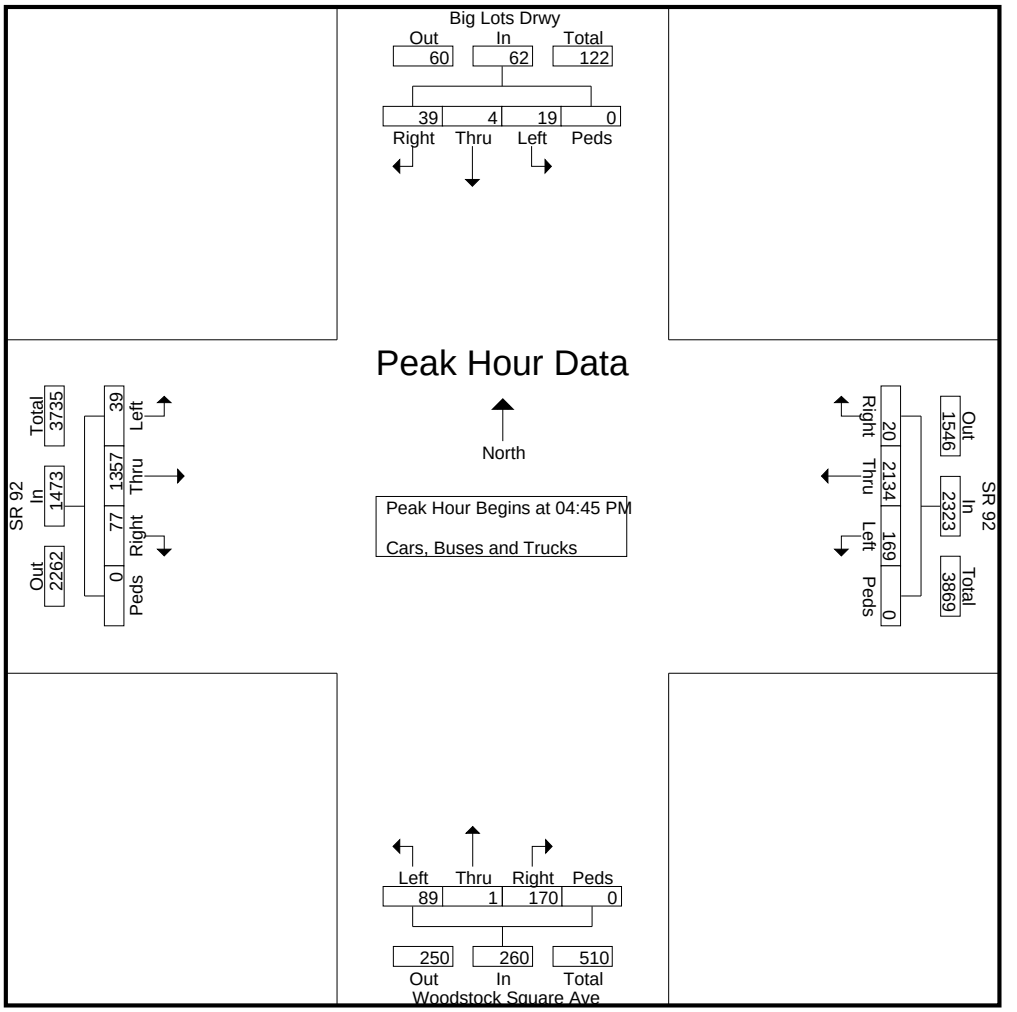
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Woodstock Square Ave
Woodstock, GA
7-9am I 4-6pm

File Name : 41220004
Site Code : 41220004
Start Date : 9/26/2017
Page No : 3

	Woodstock Square Ave Northbound					Big Lots Drwy Southbound					SR 92 Eastbound					SR 92 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	15	0	46	0	61	**6**	0	6	0	12	7	**367**	15	0	**389**	46	**546**	2	0	**594**	**1056**
05:00 PM	22	0	39	0	61	2	**4**	**17**	0	**23**	**11**	326	**25**	0	362	38	528	**8**	0	574	1020
05:15 PM	21	0	38	0	59	5	0	6	0	11	11	338	22	0	371	**47**	534	7	0	588	1029
05:30 PM	**31**	**1**	**47**	0	**79**	6	0	10	0	16	10	326	15	0	351	38	526	3	0	567	1013
Total Volume	89	1	170	0	260	19	4	39	0	62	39	1357	77	0	1473	169	2134	20	0	2323	4118
% App. Total	34.2	0.4	65.4	0		30.6	6.5	62.9	0		2.6	92.1	5.2	0		7.3	91.9	0.9	0		
PHF	.718	.250	.904	.000	.823	.792	.250	.574	.000	.674	.886	.924	.770	.000	.947	.899	.977	.625	.000	.978	.975



Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Lovejoy Lane
Woodstock, GA
7-9am I 4-6pm

File Name : 41220005
Site Code : 41220005
Start Date : 9/26/2017
Page No : 1

Groups Printed- Cars, Buses and Trucks

	Target Drwy Northbound					Lovejoy Lane Southbound					SR 92 Eastbound					SR 92 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	54	0	2	0	56	24	334	1	0	359	4	178	20	0	202	617
07:15 AM	2	0	6	0	8	72	2	0	0	74	34	373	1	0	408	7	199	18	0	224	714
07:30 AM	3	0	2	0	5	78	3	0	0	81	50	386	1	0	437	10	202	21	0	233	756
07:45 AM	0	0	0	0	0	74	14	3	0	91	38	326	4	0	368	12	208	22	0	242	701
Total	5	0	8	0	13	278	19	5	0	302	146	1419	7	0	1572	33	787	81	0	901	2788
08:00 AM	4	2	1	0	7	74	13	3	0	90	27	347	1	0	375	17	203	25	0	245	717
08:15 AM	2	1	1	0	4	82	3	3	0	88	26	332	2	0	360	10	217	20	0	247	699
08:30 AM	5	2	1	0	8	76	3	2	0	81	27	328	3	0	358	5	209	25	0	239	686
08:45 AM	3	1	0	0	4	70	9	0	0	79	19	304	4	0	327	15	204	26	0	245	655
Total	14	6	3	0	23	302	28	8	0	338	99	1311	10	0	1420	47	833	96	0	976	2757
*** BREAK ***																					
04:00 PM	9	10	2	0	21	45	11	4	0	60	49	284	14	0	347	14	386	77	0	477	905
04:15 PM	16	14	1	0	31	42	11	3	0	56	46	289	11	0	346	17	391	79	0	487	920
04:30 PM	17	11	0	0	28	48	12	2	0	62	41	327	15	0	383	15	396	82	0	493	966
04:45 PM	10	16	0	0	26	47	9	4	0	60	46	336	10	0	392	15	402	85	0	502	980
Total	52	51	3	0	106	182	43	13	0	238	182	1236	50	0	1468	61	1575	323	0	1959	3771
05:00 PM	12	18	3	0	33	48	5	3	0	56	41	322	11	0	374	17	389	109	0	515	978
05:15 PM	18	21	0	0	39	46	13	4	0	63	58	323	14	0	395	15	401	123	0	539	1036
05:30 PM	16	15	1	0	32	50	17	3	0	70	53	268	13	0	334	9	424	128	0	561	997
05:45 PM	17	8	0	0	25	49	10	8	0	67	53	260	15	0	328	12	416	118	0	546	966
Total	63	62	4	0	129	193	45	18	0	256	205	1173	53	0	1431	53	1630	478	0	2161	3977
Grand Total	134	119	18	0	271	955	135	44	0	1134	632	5139	120	0	5891	194	4825	978	0	5997	13293
Apprch %	49.4	43.9	6.6	0		84.2	11.9	3.9	0		10.7	87.2	2	0		3.2	80.5	16.3	0		
Total %	1	0.9	0.1	0	2	7.2	1	0.3	0	8.5	4.8	38.7	0.9	0	44.3	1.5	36.3	7.4	0	45.1	

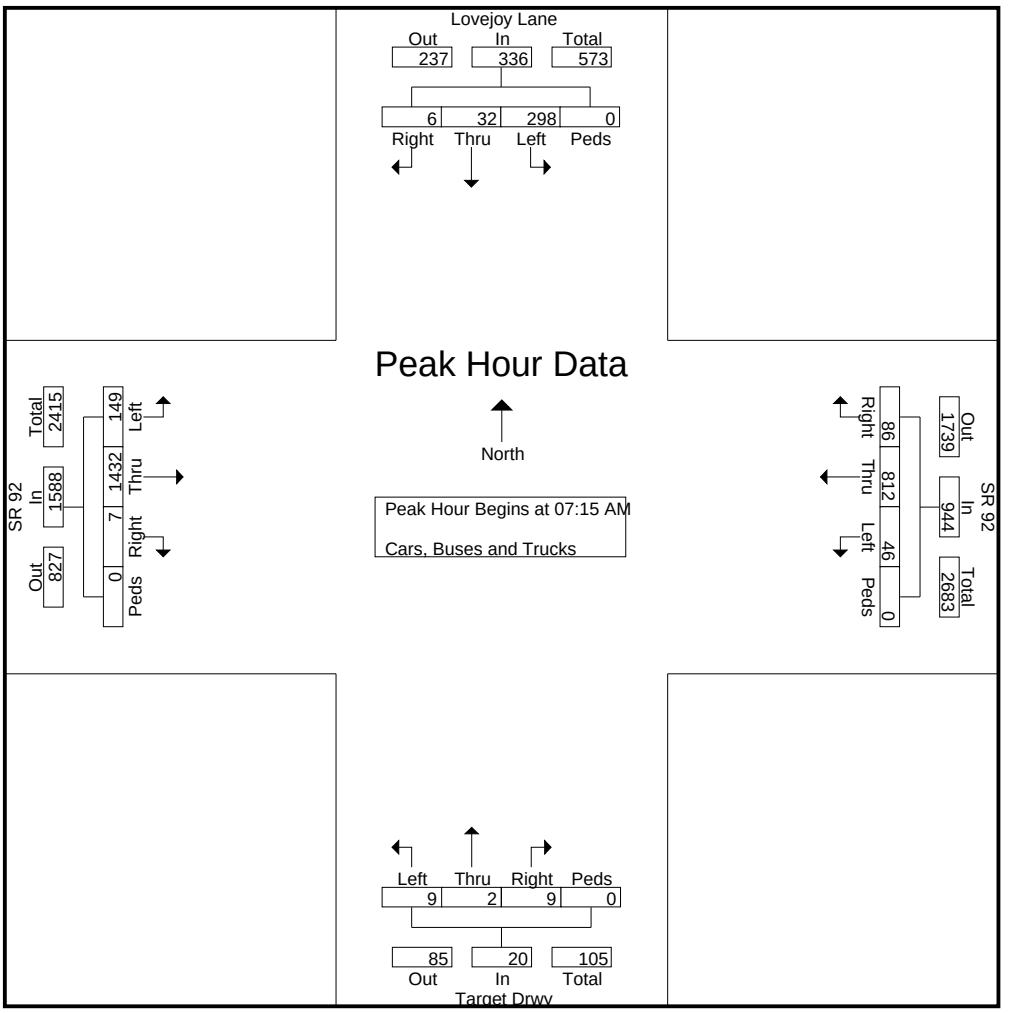
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Lovejoy Lane
Woodstock, GA
7-9am I 4-6pm

File Name : 41220005
Site Code : 41220005
Start Date : 9/26/2017
Page No : 2

	Target Drwy Northbound					Lovejoy Lane Southbound					SR 92 Eastbound					SR 92 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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	2	0	**6**	0	**8**	72	2	0	0	74	34	373	1	0	408	7	199	18	0	224	714
07:30 AM	3	0	2	0	5	**78**	3	0	0	81	**50**	**386**	1	0	**437**	10	202	21	0	233	**756**
07:45 AM	0	0	0	0	0	74	**14**	**3**	0	**91**	38	326	**4**	0	368	12	**208**	22	0	242	701
08:00 AM	**4**	**2**	1	0	7	74	13	3	0	90	27	347	1	0	375	**17**	203	**25**	0	**245**	717
Total Volume	9	2	9	0	20	298	32	6	0	336	149	1432	7	0	1588	46	812	86	0	944	2888
% App. Total	45	10	45	0		88.7	9.5	1.8	0		9.4	90.2	0.4	0		4.9	86	9.1	0		
PHF	.563	.250	.375	.000	.625	.955	.571	.500	.000	.923	.745	.927	.438	.000	.908	.676	.976	.860	.000	.963	.955



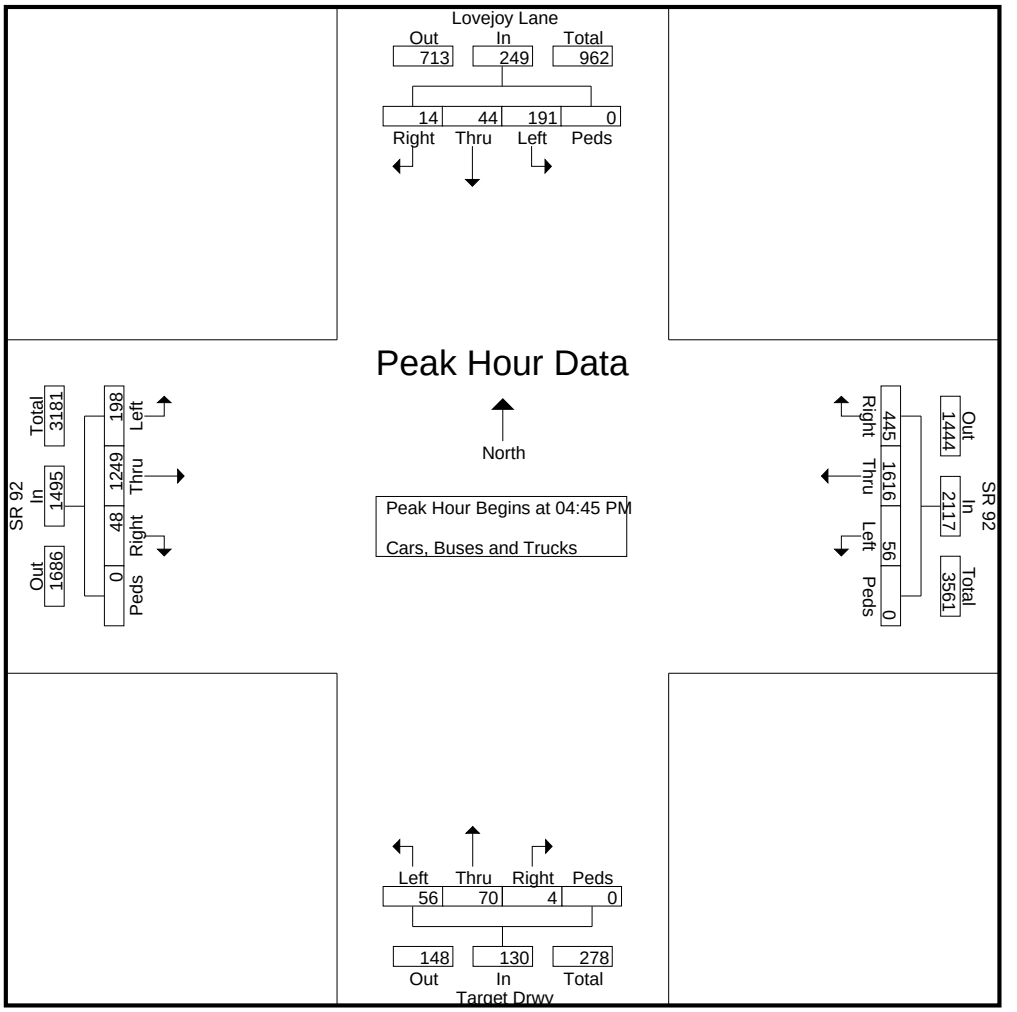
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
SR 92 @ Lovejoy Lane
Woodstock, GA
7-9am I 4-6pm

File Name : 41220005
Site Code : 41220005
Start Date : 9/26/2017
Page No : 3

	Target Drwy Northbound					Lovejoy Lane Southbound					SR 92 Eastbound					SR 92 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	10	16	0	0	26	47	9	**4**	0	60	46	**336**	10	0	392	15	402	85	0	502	980
05:00 PM	12	18	**3**	0	33	48	5	3	0	56	41	322	11	0	374	**17**	389	109	0	515	978
05:15 PM	**18**	**21**	0	0	**39**	46	13	4	0	63	**58**	323	**14**	0	**395**	15	401	123	0	539	**1036**
05:30 PM	16	15	1	0	32	**50**	**17**	3	0	**70**	53	268	13	0	334	9	**424**	**128**	0	**561**	997
Total Volume	56	70	4	0	130	191	44	14	0	249	198	1249	48	0	1495	56	1616	445	0	2117	3991
% App. Total	43.1	53.8	3.1	0		76.7	17.7	5.6	0		13.2	83.5	3.2	0		2.6	76.3	21	0		
PHF	.778	.833	.333	.000	.833	.955	.647	.875	.000	.889	.853	.929	.857	.000	.946	.824	.953	.869	.000	.943	.963



Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Molly Lane @ Long Dr
Woodstock, GA
7-9am I 4-6pm

File Name : 41220006
Site Code : 41220006
Start Date : 9/26/2017
Page No : 1

Groups Printed- Cars, Buses and Trucks

	Molly Lane Northbound					Molly Lane Southbound					Long Dr Eastbound					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	6	0	0	6	0	11	4	0	15	7	0	1	0	8	0	0	0	0	0	29
07:15 AM	0	0	0	0	0	0	10	5	0	15	1	0	0	0	1	0	0	0	0	0	16
07:30 AM	0	3	0	0	3	0	12	4	0	16	4	0	0	0	4	0	0	0	0	0	23
07:45 AM	0	4	0	0	4	0	24	6	0	30	9	0	0	0	9	0	0	0	0	0	43
Total	0	13	0	0	13	0	57	19	0	76	21	0	1	0	22	0	0	0	0	0	111
08:00 AM	1	2	0	0	3	0	22	7	0	29	8	0	2	0	10	0	0	0	0	0	42
08:15 AM	0	1	0	0	1	0	13	7	0	20	5	0	4	0	9	0	0	0	0	0	30
08:30 AM	0	1	0	0	1	0	17	7	0	24	4	0	0	0	4	0	0	0	0	0	29
08:45 AM	0	5	0	0	5	0	13	14	0	27	7	0	3	0	10	0	0	0	0	0	42
Total	1	9	0	0	10	0	65	35	0	100	24	0	9	0	33	0	0	0	0	0	143
*** BREAK ***																					
04:00 PM	2	27	0	0	29	0	13	29	0	42	31	0	1	0	32	0	0	0	0	0	103
04:15 PM	0	13	0	0	13	0	4	32	0	36	21	0	2	0	23	0	0	0	0	0	72
04:30 PM	2	16	0	0	18	0	3	27	0	30	21	0	1	0	22	0	0	0	0	0	70
04:45 PM	2	15	0	0	17	0	7	27	0	34	30	0	0	0	30	0	0	0	0	0	81
Total	6	71	0	0	77	0	27	115	0	142	103	0	4	0	107	0	0	0	0	0	326
05:00 PM	2	30	0	0	32	0	3	39	0	42	33	0	1	0	34	0	0	0	0	0	108
05:15 PM	2	23	0	0	25	0	3	40	0	43	31	0	0	0	31	0	0	0	0	0	99
05:30 PM	2	17	0	0	19	0	2	37	0	39	26	0	1	0	27	0	0	0	0	0	85
05:45 PM	1	17	0	0	18	0	5	32	0	37	21	0	3	0	24	0	0	0	0	0	79
Total	7	87	0	0	94	0	13	148	0	161	111	0	5	0	116	0	0	0	0	0	371
Grand Total	14	180	0	0	194	0	162	317	0	479	259	0	19	0	278	0	0	0	0	0	951
Apprch %	7.2	92.8	0	0		0	33.8	66.2	0		93.2	0	6.8	0		0	0	0	0		
Total %	1.5	18.9	0	0	20.4	0	17	33.3	0	50.4	27.2	0	2	0	29.2	0	0	0	0	0	

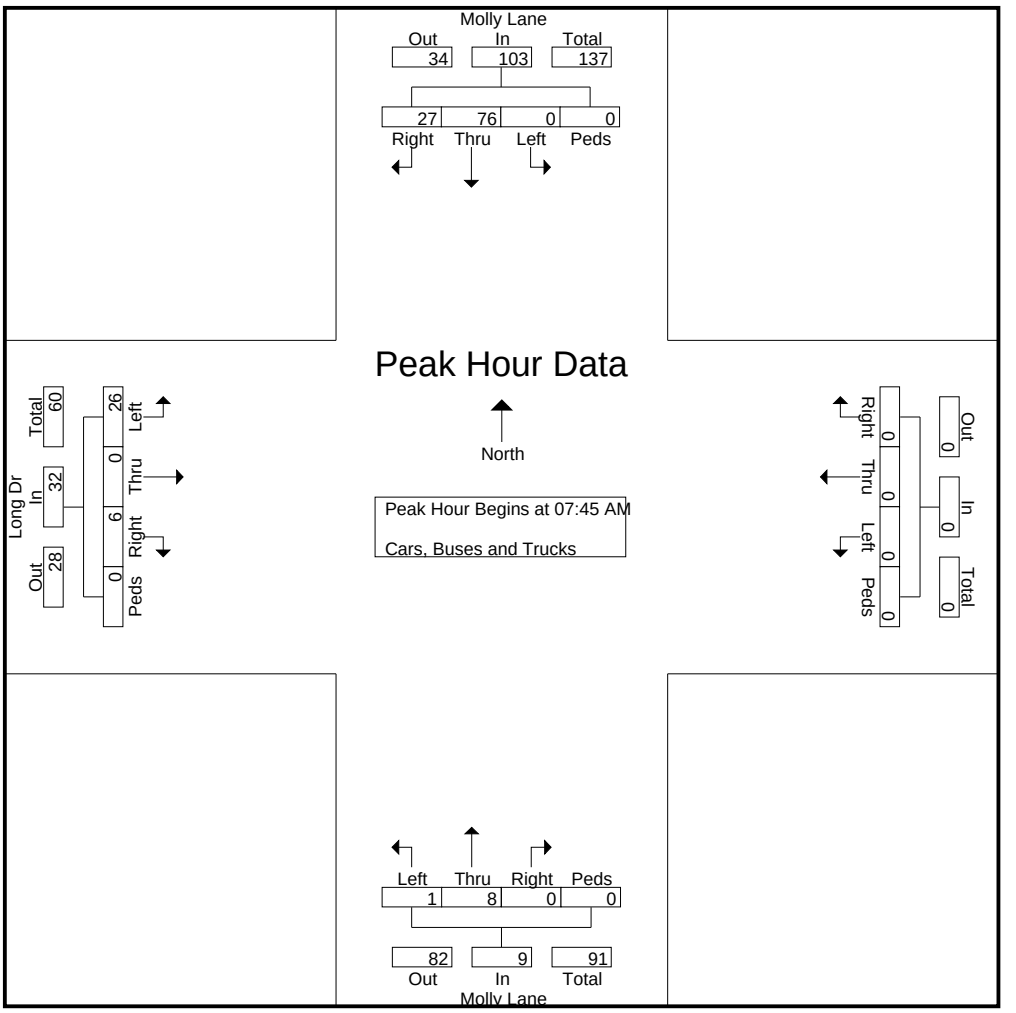
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Molly Lane @ Long Dr
Woodstock, GA
7-9am I 4-6pm

File Name : 41220006
Site Code : 41220006
Start Date : 9/26/2017
Page No : 2

	Molly Lane Northbound					Molly Lane Southbound					Long Dr Eastbound					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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**4**	0	0	**4**	0	**24**	6	0	**30**	**9**	0	0	0	9	0	0	0	0	0	**43**
08:00 AM	**1**	2	0	0	3	0	22	**7**	0	29	8	0	2	0	**10**	0	0	0	0	0	42
08:15 AM	0	1	0	0	1	0	13	7	0	20	5	0	**4**	0	9	0	0	0	0	0	30
08:30 AM	0	1	0	0	1	0	17	7	0	24	4	0	0	0	4	0	0	0	0	0	29
Total Volume	1	8	0	0	9	0	76	27	0	103	26	0	6	0	32	0	0	0	0	0	144
% App. Total	11.1	88.9	0	0		0	73.8	26.2	0		81.2	0	18.8	0		0	0	0	0		
PHF	.250	.500	.000	.000	.563	.000	.792	.964	.000	.858	.722	.000	.375	.000	.800	.000	.000	.000	.000	.000	.837



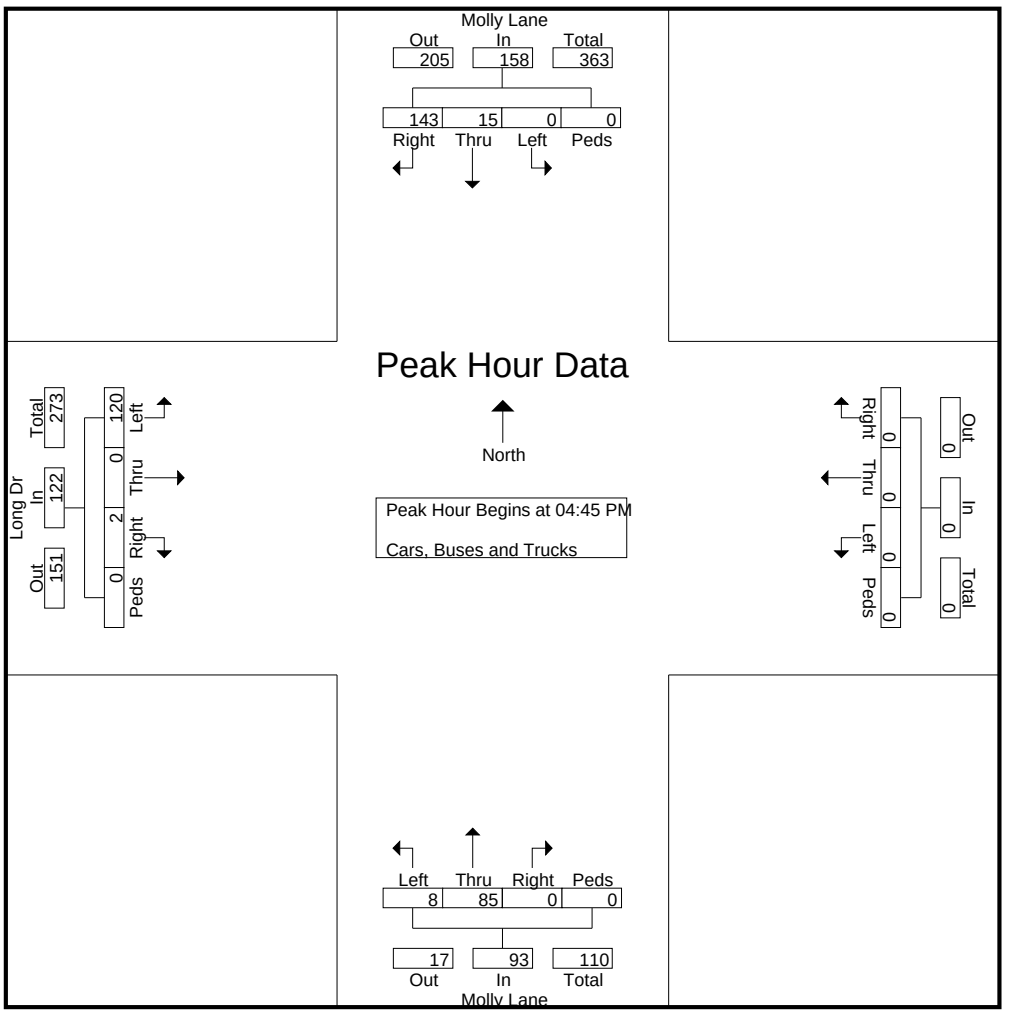
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Molly Lane @ Long Dr
Woodstock, GA
7-9am I 4-6pm

File Name : 41220006
Site Code : 41220006
Start Date : 9/26/2017
Page No : 3

	Molly Lane Northbound					Molly Lane Southbound					Long Dr Eastbound					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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**2**	15	0	0	17	0	**7**	27	0	34	30	0	0	0	30	0	0	0	0	0	81
05:00 PM	2	**30**	0	0	**32**	0	3	39	0	42	**33**	0	**1**	0	**34**	0	0	0	0	0	**108**
05:15 PM	2	23	0	0	25	0	3	**40**	0	**43**	31	0	0	0	31	0	0	0	0	0	99
05:30 PM	2	17	0	0	19	0	2	37	0	39	26	0	1	0	27	0	0	0	0	0	85
Total Volume	8	85	0	0	93	0	15	143	0	158	120	0	2	0	122	0	0	0	0	0	373
% App. Total	8.6	91.4	0	0		0	9.5	90.5	0		98.4	0	1.6	0		0	0	0	0		
PHF	1.00	.708	.000	.000	.727	.000	.536	.894	.000	.919	.909	.000	.500	.000	.897	.000	.000	.000	.000	.000	.863



Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Woodstock Square Ave @ Long Dr
Woodstock, GA
7-9am I 4-6pm

File Name : 41220007
Site Code : 41220007
Start Date : 9/26/2017
Page No : 1

Groups Printed- Cars, Buses and Trucks

	Northbound					Woodstock Square Ave Southbound					Long Dr (Closed) Eastbound					Long 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	3	0	0	0	3	0	0	0	0	0	0	0	2	0	2	5
07:15 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	5	0	5	10
07:30 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	1	0	1	6
07:45 AM	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	6	0	6	13
Total	0	0	0	0	0	20	0	0	0	20	0	0	0	0	0	0	0	14	0	14	34
08:00 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	4	0	4	9
08:15 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	3	0	3	8
08:30 AM	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	5	0	5	12
08:45 AM	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	7	0	7	16
Total	0	0	0	0	0	26	0	0	0	26	0	0	0	0	0	0	0	19	0	19	45
*** BREAK ***																					
04:00 PM	0	0	0	0	0	13	0	0	0	13	0	0	0	0	0	0	0	29	0	29	42
04:15 PM	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	25	0	25	35
04:30 PM	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	18	0	18	27
04:45 PM	0	0	0	0	0	15	0	0	0	15	0	0	0	0	0	0	0	27	0	27	42
Total	0	0	0	0	0	47	0	0	0	47	0	0	0	0	0	0	0	99	0	99	146
05:00 PM	0	0	0	0	0	12	0	0	0	12	0	0	0	0	0	0	0	20	0	20	32
05:15 PM	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	28	0	28	37
05:30 PM	0	0	0	0	0	12	0	0	0	12	0	0	0	0	0	0	0	26	0	26	38
05:45 PM	0	0	0	0	0	19	0	0	0	19	0	0	0	0	0	0	0	22	0	22	41
Total	0	0	0	0	0	52	0	0	0	52	0	0	0	0	0	0	0	96	0	96	148
Grand Total	0	0	0	0	0	145	0	0	0	145	0	0	0	0	0	0	0	228	0	228	373
Apprch %	0	0	0	0		100	0	0	0		0	0	0	0		0	0	100	0		
Total %	0	0	0	0	0	38.9	0	0	0	38.9	0	0	0	0	0	0	0	61.1	0	61.1	

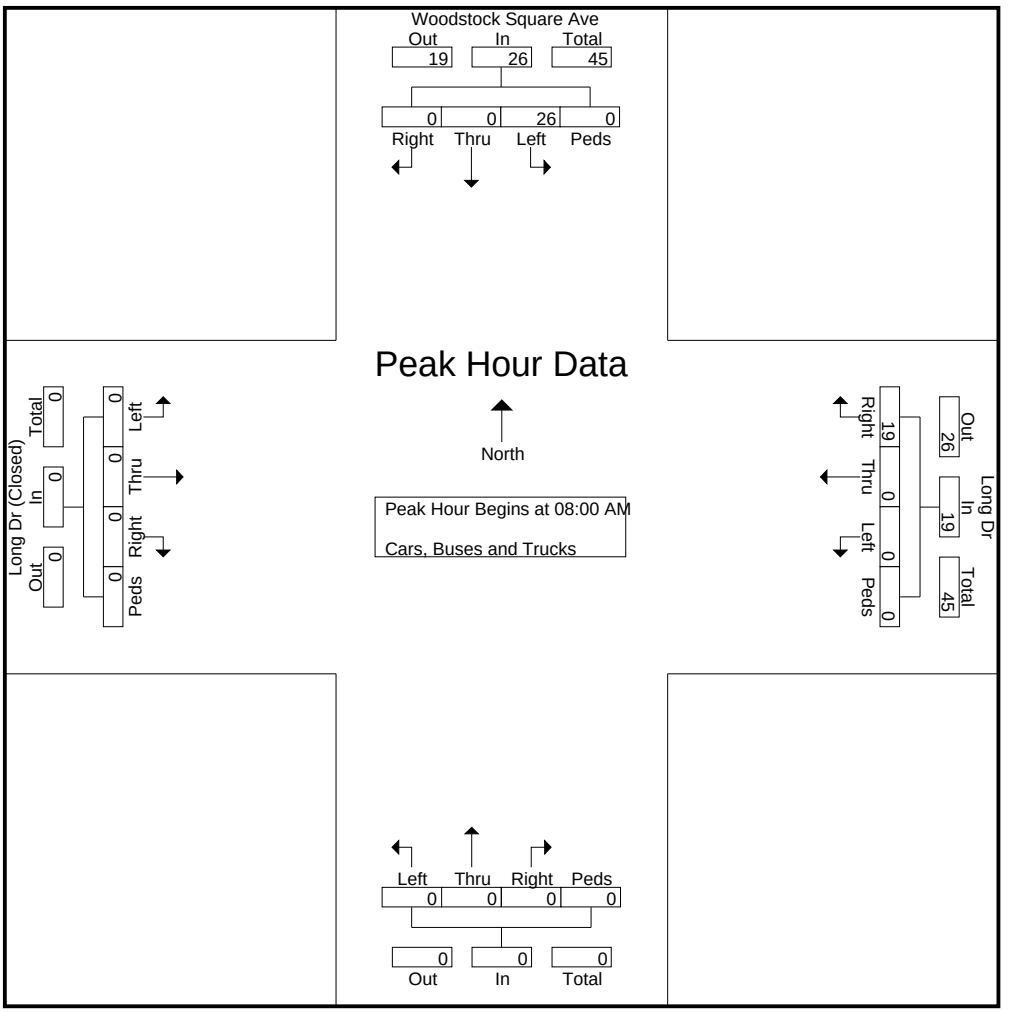
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Woodstock Square Ave @ Long Dr
Woodstock, GA
7-9am I 4-6pm

File Name : 41220007
Site Code : 41220007
Start Date : 9/26/2017
Page No : 2

	Northbound					Woodstock Square Ave Southbound					Long Dr (Closed) Eastbound					Long 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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	4	0	4	9
08:15 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	3	0	3	8
08:30 AM	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	5	0	5	12
08:45 AM	0	0	0	0	0	**9**	0	0	0	**9**	0	0	0	0	0	0	0	**7**	0	**7**	**16**
Total Volume	0	0	0	0	0	26	0	0	0	26	0	0	0	0	0	0	0	19	0	19	45
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.722	.000	.000	.000	.722	.000	.000	.000	.000	.000	.000	.000	.679	.000	.679	.703



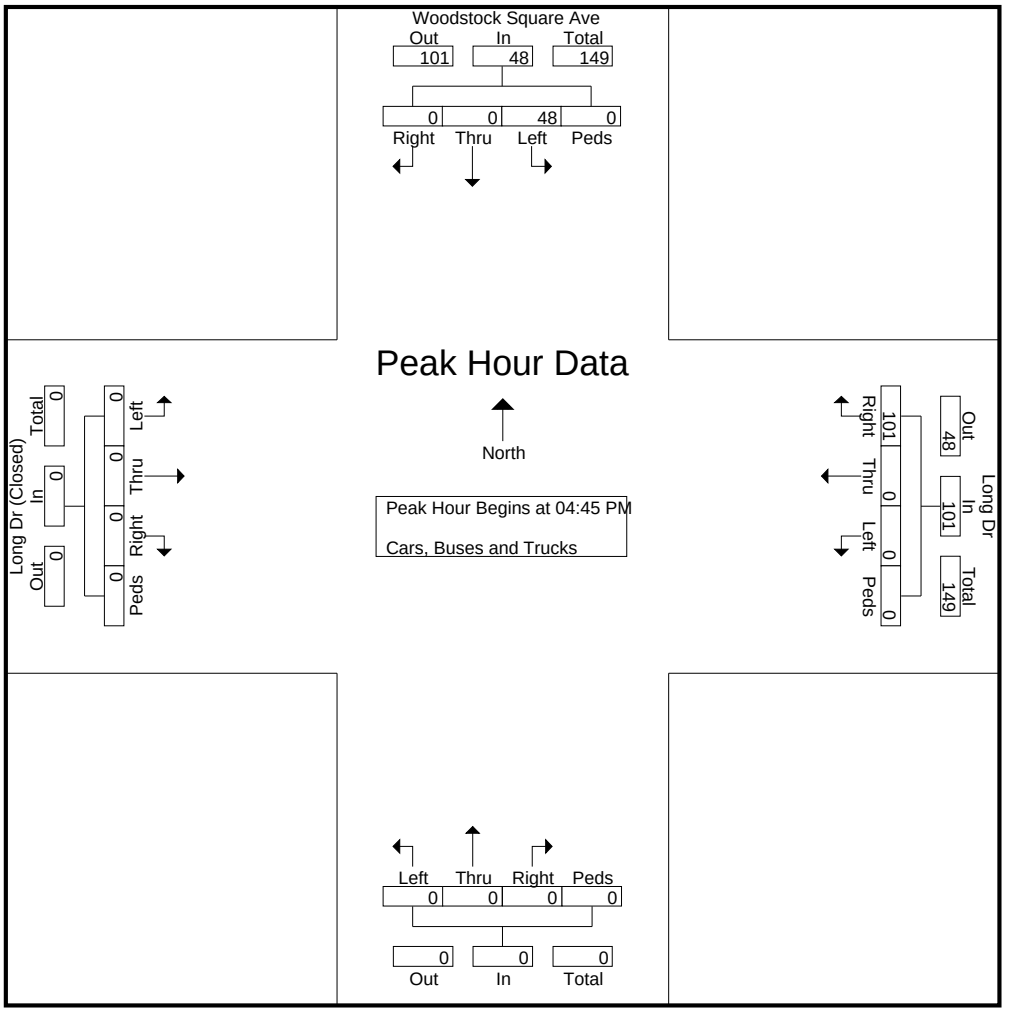
Reliable Traffic Data Services, LLC

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Woodstock Square Ave @ Long Dr
Woodstock, GA
7-9am I 4-6pm

File Name : 41220007
Site Code : 41220007
Start Date : 9/26/2017
Page No : 3

	Northbound					Woodstock Square Ave Southbound					Long Dr (Closed) Eastbound					Long 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	**15**	0	0	0	**15**	0	0	0	0	0	0	0	27	0	27	**42**
05:00 PM	0	0	0	0	0	12	0	0	0	12	0	0	0	0	0	0	0	20	0	20	32
05:15 PM	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	**28**	0	**28**	37
05:30 PM	0	0	0	0	0	12	0	0	0	12	0	0	0	0	0	0	0	26	0	26	38
Total Volume	0	0	0	0	0	48	0	0	0	48	0	0	0	0	0	0	0	101	0	101	149
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.800	.000	.000	.000	.800	.000	.000	.000	.000	.000	.000	.000	.902	.000	.902	.887



GRTA Letter of Understanding

LETTER OF UNDERSTANDING

November 9, 2017

Daren Collier
The Worthing Companies
5909 Peachtree Dunwoody Road
Suite 400
Atlanta, GA 30328

RE: **DRI 2741 The Heights at Woodstock**

Dear Mr. Collier:

The purpose of this letter is to document the discussions during the Pre-Review and Methodology Meeting held at ARC's office on November 6, 2017 regarding **DRI 2741 The Heights at Woodstock.** Some of the following items were discussed in this meeting and should assist you and your consultant team in preparing the DRI Review Package.

PROJECT OVERVIEW

- The project is located in the City of Woodstock and unincorporated Cherokee County. The proposed development is approximately a 42-acre site, southeast of the interchange of I-575 and Alabama Road (SR 92) on Long Drive.
- The DRI trigger for this development is a rezoning and annexation.
- The project is planned as a residential development with 417 apartments and 200 townhome units.
- The vehicular trip generation is estimated to be 3,742 gross daily trips based on the *ITE Trip Generation Manual 10th edition*.
- The development site proposes one access driveway on Long Drive.
- The projected build-out is one phase, to be completed by 2020.
- The applicant is applying for approval under GRTA's non-expedited review process.

STUDY NETWORK

1. SR 92 at I- 575 Northbound Ramps
2. SR 92 at I-575 Southbound Ramps
3. SR 92 at Molly Lane
4. Molly Lane at Long Drive
5. Woodstock Square Avenue at Long Drive
6. SR 92 at Woodstock Square Avenue
7. SR 92 at Lovejoy Lane

METHODOLOGY

- All intersections identified as within the study network shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future "no-build" conditions [may not be applicable for the site driveways, and (3) future "build" conditions. This DRI shall be reviewed in one phase to be completed by 2020.

- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA. As appropriate, pedestrian counts and heavy vehicle counts shall be collected with vehicle counts and considered within the capacity analysis. Turning movement counts shall be collected while local schools are in session and ordinarily not between the week of Thanksgiving and the second week of January or any week of a major holiday.

- A 3.0% annual background traffic growth rate shall be used for all roadways. Trip generation information for any other major developments currently underway in the study area shall be taken into consideration.

- The Level of Service (LOS) standard for all analyses shall be LOS D.

- An alternate mode trip reduction of 1% is allowed for this development.

- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account.

- The applicant shall research TIP, STIP, RTP, and GDOT's construction work program, as well as any local government plans (SPLOST, CIP, etc.), to determine the open-to-traffic date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. This information shall be included within the traffic analysis.

ADDITIONAL INFORMATION

Every roadway segment and intersection listed above will be analyzed for "required improvements." If the existing LOS for the segment or intersection is below the applicable level of service for a particular time period (e.g., A.M. peak period, P.M. peak period, etc.), then the measured LOS service for that segment and time periods is the standard by which the "base" and "future" traffic conditions will be designed. For example, if the County's LOS standard is LOS D, but an intersection or segment currently operates at LOS E for a certain peak period, then the LOS standard for that intersection or segment for "base" and "future" conditions becomes LOS E (only for that intersection and only for that peak period). The "base" is the phase year traffic without the development traffic (also called future "no-build" conditions) and the "future" is the phase year with the development traffic (also called future "build" conditions). As required in the technical guidelines, specific "required improvements" will be identified to bring the "base" LOS and "future" LOS for every roadway segment and intersection up to the applicable LOS standard. If the existing LOS for the segment or intersection is LOS F, then the future "no-build' and future "build" LOS standard will be LOS E. The improvements required to achieve the desired LOS standard will be provided in a table and graphic within the study. The traffic study should indicate the existing roadway laneage at each studied intersection as well as the laneage required (to meet the LOS standard) for future "no-build" and future "build" conditions. The improvements may include both programmed improvements and improvements identified in the study.

The planned and programmed improvement should indicate the project sponsor, the anticipated funding by source (federal, state, city/county, developer, CID, etc.), the year open-to-traffic, and estimate of the total project cost. All other required improvements identified in the study should, to the extent known, identify the cost, sponsor, funding, and timing. If any of these elements are not known, please state as "unknown."

The future "no-build" and the future "build" analyses should NOT automatically include/assume the additional lanes/capacity associated with planned and programmed improvement projects unless those roadway projects are currently under construction. Instead, the traffic consultant should recommend the additional laneage required to satisfy the level of service standard.

DRI REVIEW PACKAGE CHECKLIST

Please use the DRI Review Package Checklist to help you prepare your GRTA DRI Review Package for expedited review of your application. The Checklist reflects the understandings set forth in this letter, and is incorporated into this letter by reference.

The site plan shall be prepared in accordance with Section 4-104 of the DRI Review Package Technical Guidelines and it shall be dated, and shall be at a scale of 1"= 200' or larger (showing more detail). The site plan shall be

consistent with GRTA's Site Plan Information Guidelines, which represents the minimum required information on site plans.

The applicant shall indicate on the site plans all adjacent land uses, current zoning, and future land use as indicated on the future land use map. Additionally, all existing and proposed sidewalks, existing and proposed pedestrian trails, and existing and proposed roadway laneage should be indicated on the site plan.

DRI REVIEW PACKAGE SUBMITTAL

At the time you are ready to submit your DRI Review Package to GRTA, please note the following:

- Provide one (1) paper copy of all materials:
  - Transportation analysis
  - Site Plan
- Provide one (1) CD-ROM with electronic versions of all submittal documents:
  - Provide a PDF of each document
  - Provide the native format for each document
    - .dwg is the preferred CAD format (AutoCAD)
    - .doc is the preferred word processing format (Word)
    - .xls is the preferred spreadsheet format (Excel)
    - .sy8, .sy9 or .sy10 is the preferred capacity analysis format (Synchro)

As part of the completeness certification process, please have your consultant forward one copy of the completed GRTA DRI Review Package (traffic analysis, site plan, CD) to the GDOT District Office, Regional Commission and local government Planning & Development and Transportation group (contact information provided below). GRTA shall be copied on each of the transmittal letters.

GRTA	ATLANTA REGIONAL COMMISSION	CITY OF WOODSTOCK	GDOT DISTRICT 6	CHEROKEE COUNTY
Emily Estes 245 Peachtree Center Ave. Suite 2200 Atlanta, GA 30303	Andrew Smith International Tower 229 Peachtree Street NE Suite 100 Atlanta, GA 30303	Brantley Day 12453 Highway 92 Woodstock, GA 30188	Dee Corson P.O. Box 10 Cartersville, GA 30120-0010	Brett Buchanan 1130 Bluffs Parkway Canton, GA 30114

If you have any questions, please feel free to contact me directly at 404-893-6171 or eestes@srta.ga.gov.

Sincerely,
Emily Estes
Planner

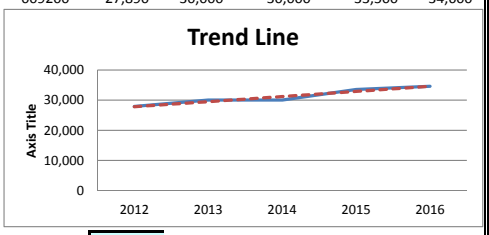
cc:

Jon West, DCA
Andrew Smith, ARC
Jon Tuley, ARC
Annie Gillespie, GRTA/SRTA
Dee Corson, GDOT District 6
Margaret Stallings, Cherokee County
Brett Buchanan, Cherokee County
Brantley Day, City of Woodstock
Janis Steinbrenner, City of Woodstock
Jamieson E. Palmer, City of Woodstock
Tania Celis, City of Woodstock
Chris Harrell, Summit Engineering
Abby Rettig, A & R Engineering
Abdul Amer, A & R Engineering
Parks Huff, Sams, Larkin, Huff and Balli LLP

Linear Regression of Daily Traffic

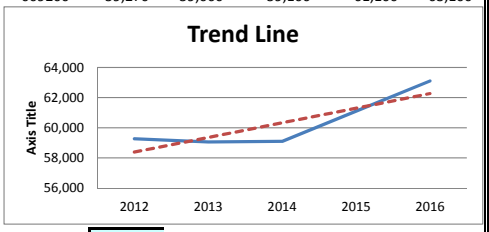
Location	Growth Rate	R Squared	Station ID	Route	2012	2013	2014	2015	2016
SR 92 (West of Emma Ln)	5.6%	0.93	0570078	009200	27,890	30,000	30,000	33,500	34,600
SR 92 (West of Parkway 575)	1.6%	0.75	0570080	009200	59,270	59,060	59,100	61,100	63,100
I-575 NB Off-Ramp at SR 92	0.5%	0.16	057r001	417015	10,380	10,110	10,100	10,200	10,600
I-575 SB On-Ramp at SR 92	0.2%	0.02	057r602	417018	9,940	10,450	10,500	9,950	10,300
I-575 SB Off-Ramp at SR 92	7.6%	0.79	057r601	417017	13,580	13,580	13,600	16,800	17,400
Weighted Average	**3.1%**	0.89	Sum of Count Stations =		121,060	123,200	123,300	131,550	136,000

Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
SR 92 (West of Emma Ln)	0570078	009200	27,890	30,000	30,000	33,500	34,600



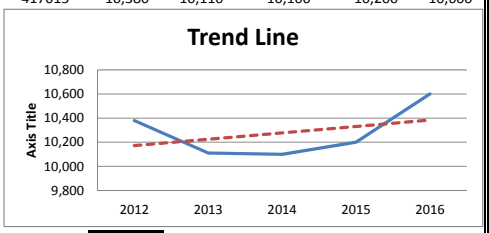
Growth Rate	5.6%	Intercept	-3,376,490	Slope	1,692.00
Trend Line	27,814	29,506	31,198	32,890	34,582

Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
SR 92 (West of Parkway 575)	0570080	009200	59,270	59,060	59,100	61,100	63,100



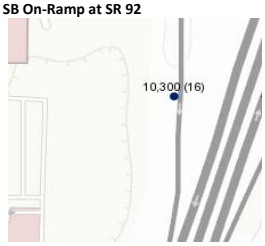
Growth Rate	1.6%	Intercept	-1,893,254	Slope	970.00
Trend Line	58,386	59,356	60,326	61,296	62,266

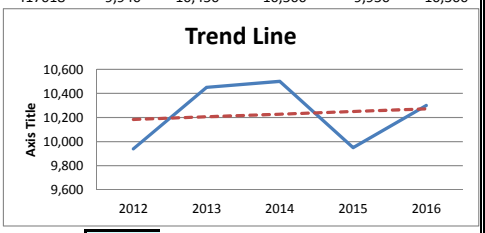
Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
I-575 NB Off-Ramp at SR 92	057r001	417015	10,380	10,110	10,100	10,200	10,600



Growth Rate	0.5%	Intercept	-96,464	Slope	53.00
Trend Line	10,172	10,225	10,278	10,331	10,384

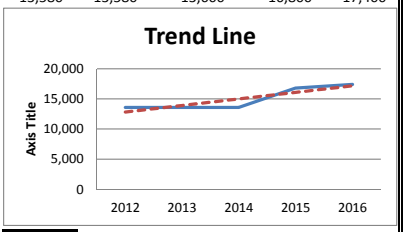
Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
I-575 SB On-Ramp at SR 92	057r602	417018	9,940	10,450	10,500	9,950	10,300





Growth Rate	0.2%	Intercept	-34,080	Slope	22.00
Trend Line	10,184	10,206	10,228	10,250	10,272

Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016
I-575 SB Off-Ramp at SR 92	057r601	417017	13,580	13,580	13,600	16,800	17,400



Growth Rate	7.6%	Intercept	-2,172,212	Slope	1,086.00
Trend Line	12,820	13,906	14,992	16,078	17,164

Fact Sheets for Planned and Programmed Improvements

PRECONSTRUCTION STATUS REPORT

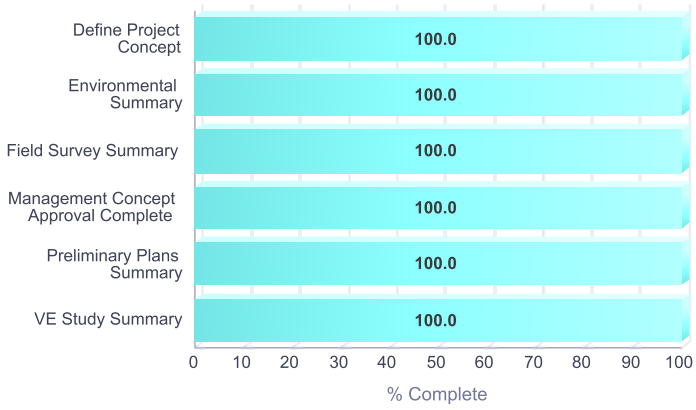
PROJ ID	COUNTY	DESCRIPTION
0008256	Cobb	I-75/I-575 MANAGED LANES IN COBB & CHEROKEE

Mgmt Let Date:

This project begins on I-75 where the current HOV system ends at Akers Mill Road. It will be two bi-directional lanes, one lane in each direction, from Akers Mill to I-285. At I-285, the project will construct two reversible managed lanes on west side of I-75 between I-285 and I-575, adjacent to the southbound lanes. Near the I-575 interchange the managed lanes will move to the median. One lane will continue north on I-75 to north of Hickory Groove Road. One lane will continue north on I-575 to Sixes Road. System will be barrier separated and access points on I-75 will be provided which will not interfere with general purpose interchange operation. I-575 will have slip ramps to or from GP lanes. The operation of the manage lanes will be tolled to improve effectiveness. Access points on I-75 will be provided at I-285, Terrell Mill, Roswell Road, I-575, Big Shanty and Hickory Grove. The project length is 16.8 miles on I-75, 11.3 miles on I-575 and 1.6 miles on I-285.

PROJ NO:	CSNHS-0008-00(256)	**SPONSOR:**	GDOT
MPO TIP#:	AR-ML-930	**PROJ MGR:**	Hancock, John D
MPO:	Atlanta TMA	**DOT DIST:**	6, 7
PROJ LENGTH (MI):	26.86	**CONG DIST:**	006, 011
TYPE WORK:	Managed Lanes	**HOUSE DIST:**	020, 021, 034, 035, 037, 042, 043, 044, 046
LET RESPONSIBILITY:	Not a Let Project	**SENATE DIST:**	006, 014, 021, 032, 033, 037
BIKE PROVISIONS INCLUDED?	N		

Phase	FY Approved	Approved FY Estimate*	Fund	Phase Status
Construction	2017	$6,168,404.99	RPS9	AUTHORIZED
Construction	2014	$25,000,000.00	M001	AUTHORIZED
Right of Way	2013	$539,940.00	LY10S	AUTHORIZED
Engineering	2006	$38,500,000.00	L010	AUTHORIZED
Construction	2014	$275,000,000.00	TIFIA	AUTHORIZED
Construction	2018	$25,000,000.00	Z001	PRECST
Construction	2014	$300,000,000.00	OTH	AUTHORIZED
Construction	2014	$59,863,386.00	PPP	AUTHORIZED
Right of Way	2013	$1,124,874.95	LY20S	AUTHORIZED
Construction	2015	$50,000,000.00	M001	AUTHORIZED
Construction	2017	$19,984,239.00	Z230S	AUTHORIZED
Construction	2017	$5,000,000.00	Z230	AUTHORIZED
Right of Way	2013	$5,000,000.00	60411	AUTHORIZED
Right of Way	2013	$23,296,689.05	M001	AUTHORIZED
Engineering	2007	$26,852,656.88	L010	AUTHORIZED
Engineering	2013	$502,517.31	60411	AUTHORIZED
Construction	2016	$50,000,000.00	Z001	AUTHORIZED
SRTA	2014	$3,349,937.00	M001	AUTHORIZED
Engineering	2012	$35,000,000.00	L230S	AUTHORIZED



Activity	Actual Start Date	Actual Finish Date
Environmental Summary	2006-02-13	
Preliminary Plans Summary	2006-06-01	2009-12-31
Define Project Concept	2001-02-15	2001-06-20
Management Concept Approval Complete	2011-09-15	2011-09-15
VE Study Summary	2009-08-14	2010-06-17
Field Survey Summary	2004-01-05	2008-08-05

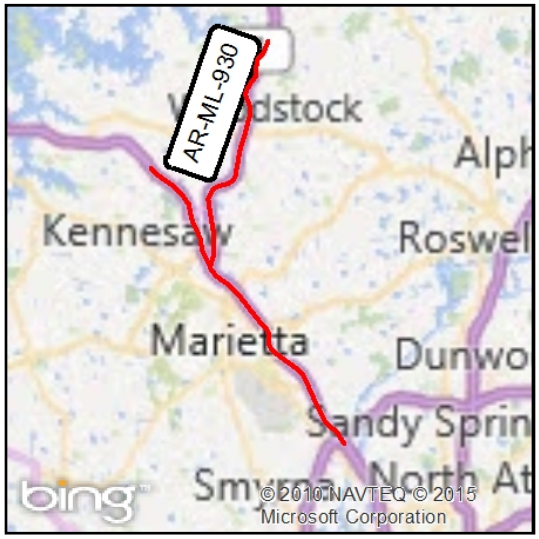
Right of Way Acquisition Information:

Preliminary Parcel Count: **Total Parcel Count:** 88 **Acquired by :** DOT

AR-ML-930

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	NORTHWEST CORRIDOR (I-75 AND I-575) MANAGED LANES AT AKERS MILL ROAD TO HICKORY GROVE ROAD ON I-75 AND FROM I-75 TO SIXES ROAD ON I-575
GDOT Project No.	0008256
Federal ID No.	
Status	Programmed
Service Type	Roadway / Managed Lanes
Sponsor	GDOT
Jurisdiction	Regional - Northwest
Analysis Level	In the Region's Air Quality Conformity Analysis



Existing Thru Lane	0	**LCI**		**Network Year**	2020
Planned Thru Lane	2-Jan	**Flex**		**Corridor Length**	26.9 miles

Detailed Description and Justification

This project will consist of a managed lane system along the I-75 (Akers Mill Road to Hickory Grove Road) and I-575 (I-75 to Sixes Road) corridors in the northwest portion of the Atlanta region. This project will consist of two reversible lanes along the west side of I-75 and transition to the median just north of Bells Ferry Road. It will then reduce to one reversible lane constructed in the median from I-575 to Hickory Grove Road. Access points along I-75 are proposed at I-285, Terrell Mill Road, Roswell Road, I-575, Big Shanty Road, and Hickory Grove Road. At these locations, managed-lane interchanges would be constructed separate from the existing general-purpose interchanges. Along I-575, there will be one reversible manage lane constructed in the median. The managed lane on I-575 would include three pairs of slip ramp accesses between the managed lane and the general-purpose lane systems. In the southbound direction, slip ramp access points are proposed south of Barrett Parkway, south of Shallowford Road and south of Sixes Road. In the northbound direction, the slip-ramp access points are proposed north of Barrett Parkway, north of Shallowford Road and south of Sixes Road.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Interstate Maintenance	AUTH	2006	**$38,500,000**	~~$34,650,000~~	~~$3,850,000~~	~~$0,000~~	~~$0,000~~
PE	Interstate Maintenance	AUTH	2007	**$26,852,657**	~~$24,167,391~~	~~$2,685,266~~	~~$0,000~~	~~$0,000~~
PE	STP - Urban (>200K) (ARC)	AUTH	2012	**$35,000,000**	~~$31,500,000~~	~~$3,500,000~~	~~$0,000~~	~~$0,000~~
PE	Fuel Funds	AUTH	2013	**$502,517**	~~$0,000~~	~~$502,517~~	~~$0,000~~	~~$0,000~~
ROW	Federal Earmark Funding	AUTH	2013	**$539,940**	~~$431,952~~	~~$107,988~~	~~$0,000~~	~~$0,000~~
ROW	Federal Earmark Funding	AUTH	2013	**$1,124,875**	~~$899,900~~	~~$224,975~~	~~$0,000~~	~~$0,000~~
ROW	Fuel Funds	AUTH	2013	**$5,000,000**	~~$0,000~~	~~$5,000,000~~	~~$0,000~~	~~$0,000~~
ROW	National Highway Performance Program (NHPP)	AUTH	2013	**$23,296,689**	~~$18,637,351~~	~~$4,659,338~~	~~$0,000~~	~~$0,000~~
CST	National Highway Performance Program (NHPP)	AUTH	2014	**$25,000,000**	~~$20,000,000~~	~~$5,000,000~~	~~$0,000~~	~~$0,000~~
CST	OTHER	AUTH	2014	**$300,000,000**	~~$0,000~~	~~$300,000,000~~	~~$0,000~~	~~$0,000~~
CST	Public Private Partnership	AUTH	2014	**$59,863,386**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$59,863,386~~
CST	TIFIA Loan	AUTH	2014	**$275,000,000**	~~$275,000,000~~	~~$0,000~~	~~$0,000~~	~~$0,000~~

CST	National Highway Performance Program (NHPP)	AUTH	2015	**$50,000,000**	~~$40,000,000~~	~~$10,000,000~~	~~$0,000~~	~~$0,000~~
CST	National Highway Performance Program (NHPP)	AUTH	2016	**$50,000,000**	~~$40,000,000~~	~~$10,000,000~~	~~$0,000~~	~~$0,000~~
CST	National Highway Performance Program (NHPP)	AUTH	2017	**$19,984,239**	~~$15,987,391~~	~~$3,996,848~~	~~$0,000~~	~~$0,000~~
CST	Repurposed Earmark	AUTH	2017	**$6,168,405**	~~$4,934,724~~	~~$1,233,681~~	~~$0,000~~	~~$0,000~~
CST	Surface Transportation Block Grant (STBG) Program - Urban (>200K) (ARC)	AUTH	2017	**$5,000,000**	~~$4,000,000~~	~~$0,000~~	~~$0,000~~	~~$1,000,000~~
CST	National Highway Performance Program (NHPP)		2018	**$25,000,000**	$20,000,000	$5,000,000	$0,000	$0,000
				$946,832,708	**$530,208,709**	**$355,760,613**	**$0,000**	**$60,863,386**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

Existing Intersection Analysis

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	526	2329	945	554	184	0	474
Future Volume (vph)	526	2329	945	554	184	0	474
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	1	6	2		8	8	
Permitted Phases				2			8
Detector Phase	1	6	2	2	8	8	8
Switch Phase							
Minimum Initial (s)	6.0	12.0	12.0	12.0	8.0	8.0	8.0
Minimum Split (s)	15.5	25.0	23.5	23.5	55.2	55.2	55.2
Total Split (s)	35.0	108.0	73.0	73.0	52.0	52.0	52.0
Total Split (%)	21.9%	67.5%	45.6%	45.6%	32.5%	32.5%	32.5%
Yellow Time (s)	5.3	5.0	5.0	5.0	4.7	4.7	4.7
All-Red Time (s)	2.5	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	0.0	-1.5
Total Lost Time (s)	6.3	5.5	5.5	5.5	5.7	7.2	5.7
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?							
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Splits and Phases: 1: I-575 NB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	526	2329	0	0	945	554	184	0	474	0	0	0
Future Volume (veh/h)	526	2329	0	0	945	554	184	0	474	0	0	0
Number	1	6	16	5	2	12	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	711	2617	0	0	1016	0	236	0	0			
Adj No. of Lanes	2	3	0	0	4	1	2	0	1			
Peak Hour Factor	0.74	0.89	0.92	0.92	0.93	0.87	0.78	0.92	0.79			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	617	4260	0	0	3966	980	327	0	146			
Arrive On Green	0.36	1.00	0.00	0.00	0.62	0.00	0.09	0.00	0.00			
Sat Flow, veh/h	3442	5253	0	0	6669	1583	3548	0	1583			
Grp Volume(v), veh/h	711	2617	0	0	1016	0	236	0	0			
Grp Sat Flow(s),veh/h/ln	1721	1695	0	0	1602	1583	1774	0	1583			
Q Serve(g_s), s	28.7	0.0	0.0	0.0	11.5	0.0	10.3	0.0	0.0			
Cycle Q Clear(g_c), s	28.7	0.0	0.0	0.0	11.5	0.0	10.3	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	617	4260	0	0	3966	980	327	0	146			
V/C Ratio(X)	1.15	0.61	0.00	0.00	0.26	0.00	0.72	0.00	0.00			
Avail Cap(c_a), veh/h	617	4260	0	0	3966	980	1027	0	458			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.59	0.59	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	51.3	0.0	0.0	0.0	13.8	0.0	70.6	0.0	0.0			
Incr Delay (d2), s/veh	79.4	0.4	0.0	0.0	0.2	0.0	3.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	36.6	0.3	0.0	0.0	8.8	0.0	9.0	0.0	0.0			
LnGrp Delay(d),s/veh	130.7	0.4	0.0	0.0	14.0	0.0	73.6	0.0	0.0			
LnGrp LOS	F	A			B		E					
Approach Vol, veh/h		3328			1016			236				
Approach Delay, s/veh		28.2			14.0			73.6				
Approach LOS		C			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	35.0	104.5				139.5		20.5
Change Period (Y+Rc), s	7.8	7.0				7.0		7.2
Max Green Setting (Gmax), s	27.2	66.0				101.0		44.8
Max Q Clear Time (g_c+I1), s	30.7	13.5				2.0		12.3
Green Ext Time (p_c), s	0.0	52.4				98.5		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.4
HCM 2010 LOS	C

Notes

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1568	101	325	735	1192	1	541
Future Volume (vph)	1568	101	325	735	1192	1	541
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	6		5	2	4	4	
Permitted Phases		6					4
Detector Phase	6	6	5	2	4	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	6.0	12.0	8.0	8.0	8.0
Minimum Split (s)	27.5	27.5	12.5	26.5	53.9	53.9	53.9
Total Split (s)	78.0	78.0	30.0	108.0	52.0	52.0	52.0
Total Split (%)	48.8%	48.8%	18.8%	67.5%	32.5%	32.5%	32.5%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.4	5.4	5.4
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 135 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-575 SB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1568	101	325	735	0	0	0	0	1192	1	541
Future Volume (veh/h)	0	1568	101	325	735	0	0	0	0	1192	1	541
Number	1	6	16	5	2	12				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1616	0	374	790	0				1258	0	0
Adj No. of Lanes	0	4	1	2	3	0				2	0	1
Peak Hour Factor	0.92	0.97	0.72	0.87	0.93	0.92				0.95	0.25	0.93
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	3097	765	444	3274	0				1033	0	461
Arrive On Green	0.00	0.48	0.00	0.26	1.00	0.00				0.29	0.00	0.00
Sat Flow, veh/h	0	6669	1583	3442	5253	0				3548	0	1583
Grp Volume(v), veh/h	0	1616	0	374	790	0				1258	0	0
Grp Sat Flow(s),veh/h/ln	0	1602	1583	1721	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	27.9	0.0	16.5	0.0	0.0				46.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	27.9	0.0	16.5	0.0	0.0				46.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3097	765	444	3274	0				1033	0	461
V/C Ratio(X)	0.00	0.52	0.00	0.84	0.24	0.00				1.22	0.00	0.00
Avail Cap(c_a), veh/h	0	3097	765	538	3274	0				1033	0	461
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.83	0.00	0.94	0.94	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	28.6	0.0	57.8	0.0	0.0				56.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	9.3	0.2	0.0				106.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	17.7	0.0	13.0	0.1	0.0				68.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	29.1	0.0	67.1	0.2	0.0				163.5	0.0	0.0
LnGrp LOS		C		E	A					F		
Approach Vol, veh/h		1616			1164						1258	
Approach Delay, s/veh		29.1			21.7						163.5	
Approach LOS		C			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		108.0		52.0	25.7	82.3		
Change Period (Y+Rc), s		6.5		6.9	6.5	6.5		
Max Green Setting (Gmax), s		101.5		45.1	23.5	71.5		
Max Q Clear Time (g_c+I1), s		2.0		48.6	18.5	29.9		
Green Ext Time (p_c), s		97.7		0.0	0.7	41.3		

Intersection Summary	
HCM 2010 Ctrl Delay	68.8
HCM 2010 LOS	E

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	1428	63	164	1000	34	35	8	55	98	11	22
Future Volume (vph)	66	1428	63	164	1000	34	35	8	55	98	11	22
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase							8			4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	6.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.9	27.0	27.0	15.5	28.0	28.0	12.1	41.8	41.8	11.7	43.8	43.8
Total Split (s)	25.0	70.0	70.0	30.0	75.0	75.0	20.0	40.0	40.0	20.0	40.0	40.0
Total Split (%)	15.6%	43.8%	43.8%	18.8%	46.9%	46.9%	12.5%	25.0%	25.0%	12.5%	25.0%	25.0%
Yellow Time (s)	4.4	5.0	5.0	3.5	5.0	5.0	3.6	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.4	5.5	5.5	4.5	5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 10 (6%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 3: Molly Ln & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1428	63	164	1000	34	35	8	55	98	11	22
Future Volume (veh/h)	66	1428	63	164	1000	34	35	8	55	98	11	22
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	72	1552	0	216	1031	0	67	12	0	124	20	0
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.63	0.76	0.97	0.71	0.52	0.67	0.76	0.79	0.55	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	3001	935	255	3402	1059	223	109	93	270	162	138
Arrive On Green	0.12	1.00	0.00	0.05	0.22	0.00	0.05	0.06	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	72	1552	0	216	1031	0	67	12	0	124	20	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.2	0.0	0.0	19.3	27.1	0.0	5.6	1.0	0.0	10.1	1.6	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0	19.3	27.1	0.0	5.6	1.0	0.0	10.1	1.6	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	105	3001	935	255	3402	1059	223	109	93	270	162	138
V/C Ratio(X)	0.68	0.52	0.00	0.85	0.30	0.00	0.30	0.11	0.00	0.46	0.12	0.00
Avail Cap(c_a), veh/h	217	3001	935	283	3402	1059	297	404	343	294	404	343
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.00	0.83	0.83	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	69.1	0.0	0.0	74.5	31.2	0.0	65.3	71.3	0.0	61.2	67.4	0.0
Incr Delay (d2), s/veh	7.0	0.6	0.0	16.4	0.2	0.0	0.7	0.4	0.0	1.2	0.3	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(95%),veh/ln	5.8	0.3	0.0	15.6	18.2	0.0	5.0	0.9	0.0	8.7	1.5	0.0
LnGrp Delay(d),s/veh	76.1	0.6	0.0	90.9	31.4	0.0	66.1	71.8	0.0	62.4	67.8	0.0
LnGrp LOS	E	A		F	C		E	E		E	E	
Approach Vol, veh/h		1624			1247			79			144	
Approach Delay, s/veh		3.9			41.7			67.0			63.2	
Approach LOS		A			D			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	14.9	112.6	13.3	19.2	27.5	99.9	17.9	14.7
Change Period (Y+Rc), s	6.9	7.0	6.1	6.8	6.0	7.0	* 5.7	6.8
Max Green Setting (Gmax), s	18.1	68.0	13.9	33.2	24.0	63.0	* 14	33.2
Max Q Clear Time (g_c+I1), s	8.2	29.1	7.6	3.6	21.3	2.0	12.1	3.0
Green Ext Time (p_c), s	0.1	38.8	0.1	0.1	0.2	60.8	0.1	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

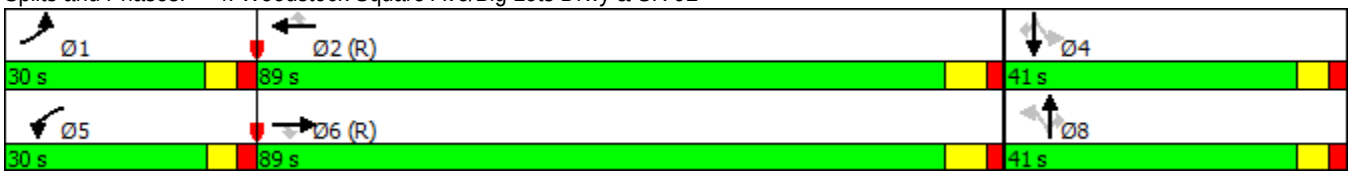
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	1698	18	29	905	16	6	1	13	11	0	4
Future Volume (vph)	29	1698	18	29	905	16	6	1	13	11	0	4
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	8	8	8	4	4	4
Switch Phase	9											
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.1	29.0	29.0	12.0	46.0	46.0	44.1	44.1	44.1	51.1	51.1	51.1
Total Split (s)	30.0	89.0	89.0	30.0	89.0	89.0	41.0	41.0	41.0	41.0	41.0	41.0
Total Split (%)	18.8%	55.6%	55.6%	18.8%	55.6%	55.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%
Yellow Time (s)	3.6	5.0	5.0	3.5	5.0	5.0	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)	4.6	5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 4: Woodstock Square Ave/Big Lots Drwy & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	1698	18	29	905	16	6	1	13	11	0	4
Future Volume (veh/h)	29	1698	18	29	905	16	6	1	13	11	0	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	36	1751	0	48	963	36	12	4	0	16	0	0
Adj No. of Lanes	1	3	1	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.81	0.97	0.64	0.60	0.94	0.44	0.50	0.25	0.65	0.69	0.92	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	4158	1295	78	2907	1301	89	24	75	115	0	75
Arrive On Green	0.04	0.82	0.00	0.09	1.00	1.00	0.05	0.05	0.00	0.05	0.00	0.00
Sat Flow, veh/h	1774	5085	1583	1774	3539	1583	1050	513	1583	1472	0	1583
Grp Volume(v), veh/h	36	1751	0	48	963	36	16	0	0	16	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1770	1583	1563	0	1583	1472	0	1583
Q Serve(g_s), s	3.2	15.3	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	3.2	15.3	0.0	4.2	0.0	0.0	1.3	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.75		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	70	4158	1295	78	2907	1301	113	0	75	115	0	75
V/C Ratio(X)	0.52	0.42	0.00	0.62	0.33	0.03	0.14	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	282	4158	1295	283	2907	1301	384	0	360	368	0	360
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.00	0.96	0.96	0.96	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	75.4	4.1	0.0	71.7	0.0	0.0	73.2	0.0	0.0	73.3	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.2	0.0	7.4	0.3	0.0	0.6	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	10.5	0.0	4.0	0.2	0.0	1.3	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	78.6	4.2	0.0	79.1	0.3	0.0	73.8	0.0	0.0	73.8	0.0	0.0
LnGrp LOS	E	A		E	A	A	E			E		
Approach Vol, veh/h		1787			1047			16			16	
Approach Delay, s/veh		5.7			3.9			73.8			73.8	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	136.9		12.2	11.5	136.3		12.2
Change Period (Y+Rc), s	6.1	7.0		6.1	6.0	7.0		6.1
Max Green Setting (Gmax), s	23.9	82.0		34.9	24.0	82.0		34.9
Max Q Clear Time (g_c+I1), s	5.2	2.0		3.4	6.2	17.3		3.3
Green Ext Time (p_c), s	0.1	79.6		0.1	0.1	64.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	5.8
HCM 2010 LOS	A

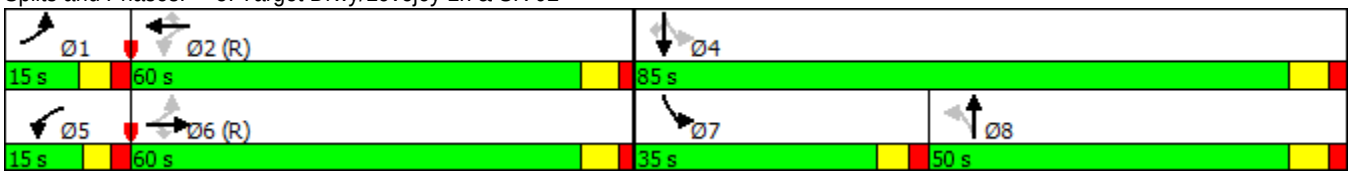
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	149	1432	7	46	812	86	9	2	298	32	6
Future Volume (vph)	149	1432	7	46	812	86	9	2	298	32	6
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2			8	7	4	
Permitted Phases	6		6	2		2	8		4		4
Detector Phase	1	6	6	5	2	2	8	8	7	4	4
Switch Phase	6			2					4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.1	34.5	34.5	11.8	31.5	31.5	50.1	50.1	12.1	54.1	54.1
Total Split (s)	15.0	60.0	60.0	15.0	60.0	60.0	50.0	50.0	35.0	85.0	85.0
Total Split (%)	9.4%	37.5%	37.5%	9.4%	37.5%	37.5%	31.3%	31.3%	21.9%	53.1%	53.1%
Yellow Time (s)	3.6	4.5	4.5	3.3	4.5	4.5	4.6	4.6	3.6	4.6	4.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	4.6	5.0	5.0	4.3	5.0	5.0		5.6	4.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 15 (9%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 5: Target Drwy/Lovejoy Ln & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	1432	7	46	812	86	9	2	9	298	32	6
Future Volume (veh/h)	149	1432	7	46	812	86	9	2	9	298	32	6
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	201	1540	0	68	829	100	16	8	24	314	56	12
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	1	1	1
Peak Hour Factor	0.74	0.93	0.44	0.68	0.98	0.86	0.56	0.25	0.38	0.95	0.57	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	502	2091	935	217	2014	901	54	22	46	460	505	429
Arrive On Green	0.06	0.59	0.00	0.09	1.00	1.00	0.06	0.06	0.05	0.18	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	402	380	781	1774	1863	1583
Grp Volume(v), veh/h	201	1540	0	68	829	100	48	0	0	314	56	12
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1563	0	0	1774	1863	1583
Q Serve(g_s), s	7.4	50.4	0.0	2.4	0.0	0.0	2.7	0.0	0.0	25.6	3.6	0.9
Cycle Q Clear(g_c), s	7.4	50.4	0.0	2.4	0.0	0.0	4.7	0.0	0.0	25.6	3.6	0.9
Prop In Lane	1.00		1.00	1.00		1.00	0.33		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	502	2091	935	217	2014	901	122	0	0	460	505	429
V/C Ratio(X)	0.40	0.74	0.00	0.31	0.41	0.11	0.39	0.00	0.00	0.68	0.11	0.03
Avail Cap(c_a), veh/h	502	2091	935	256	2014	901	455	0	0	472	924	786
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.96	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	23.7	0.0	19.9	0.0	0.0	73.3	0.0	0.0	54.0	43.8	42.8
Incr Delay (d2), s/veh	0.4	2.4	0.0	0.6	0.6	0.2	2.0	0.0	0.0	3.9	0.1	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(95%),veh/ln	6.4	33.5	0.0	2.2	0.3	0.1	3.9	0.0	0.0	19.0	3.4	0.7
LnGrp Delay(d),s/veh	12.1	26.1	0.0	20.5	0.6	0.2	75.4	0.0	0.0	57.9	43.9	42.9
LnGrp LOS	B	C		C	A	A	E			E	D	D
Approach Vol, veh/h		1741			997			48			382	
Approach Delay, s/veh		24.5			1.9			75.4			55.4	
Approach LOS		C			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	96.0		49.0	11.5	99.5	33.9	15.1
Change Period (Y+Rc), s	6.1	6.5		7.1	* 5.8	6.5	6.1	7.1
Max Green Setting (Gmax), s	8.9	53.5		77.9	* 9.2	53.5	28.9	42.9
Max Q Clear Time (g_c+I1), s	9.4	2.0		5.6	4.4	52.4	27.6	6.7
Green Ext Time (p_c), s	0.0	51.1		0.4	0.0	1.1	0.2	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	6	1	8	76	27
Future Vol, veh/h	26	6	1	8	76	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	38	25	50	79	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	16	4	16	96	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	126	62	124	0	-	0
Stage 1	110	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	856	990	1461	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	1004	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	853	990	1461	-	-	-
Mov Cap-2 Maneuver	812	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1461	-	812	990	-	-
HCM Lane V/C Ratio	0.003	-	0.044	0.016	-	-
HCM Control Delay (s)	7.5	-	9.6	8.7	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	19	26	0
Future Vol, veh/h	0	0	0	19	26	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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	68	72	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	28	36	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	28	0	-	0	14	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1584	-	-	-	1003	1062
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	1003	1062
Mov Cap-2 Maneuver	-	-	-	-	1003	-
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1584	-	-	-	1003	-
HCM Lane V/C Ratio	-	-	-	-	0.036	-
HCM Control Delay (s)	0	-	-	-	8.7	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	850	1655	2035	830	205	0	187
Future Volume (vph)	850	1655	2035	830	205	0	187
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	1	6	2		8	8	
Permitted Phases				2			8
Detector Phase	1	6	2	2	8	8	8
Switch Phase							
Minimum Initial (s)	6.0	12.0	12.0	12.0	8.0	8.0	8.0
Minimum Split (s)	15.5	25.0	23.5	23.5	55.2	55.2	55.2
Total Split (s)	45.0	128.0	83.0	83.0	52.0	52.0	52.0
Total Split (%)	25.0%	71.1%	46.1%	46.1%	28.9%	28.9%	28.9%
Yellow Time (s)	5.3	5.0	5.0	5.0	4.7	4.7	4.7
All-Red Time (s)	2.5	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	0.0	-1.5
Total Lost Time (s)	6.3	5.5	5.5	5.5	5.7	7.2	5.7
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?							
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 115 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 1: I-575 NB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	850	1655	0	0	2035	830	205	0	187	0	0	0
Future Volume (veh/h)	850	1655	0	0	2035	830	205	0	187	0	0	0
Number	1	6	16	5	2	12	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	1863	1863			
Adj Flow Rate, veh/h	1024	1672	0	0	2188	0	241	0	0			
Adj No. of Lanes	2	3	0	0	4	1	2	0	1			
Peak Hour Factor	0.83	0.99	0.92	0.92	0.93	0.95	0.85	0.92	0.85			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	740	4307	0	0	3825	945	322	0	144			
Arrive On Green	0.43	1.00	0.00	0.00	0.60	0.00	0.09	0.00	0.00			
Sat Flow, veh/h	3442	5253	0	0	6669	1583	3548	0	1583			
Grp Volume(v), veh/h	1024	1672	0	0	2188	0	241	0	0			
Grp Sat Flow(s),veh/h/ln	1721	1695	0	0	1602	1583	1774	0	1583			
Q Serve(g_s), s	38.7	0.0	0.0	0.0	37.6	0.0	11.9	0.0	0.0			
Cycle Q Clear(g_c), s	38.7	0.0	0.0	0.0	37.6	0.0	11.9	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	740	4307	0	0	3825	945	322	0	144			
V/C Ratio(X)	1.38	0.39	0.00	0.00	0.57	0.00	0.75	0.00	0.00			
Avail Cap(c_a), veh/h	740	4307	0	0	3825	945	913	0	407			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.62	0.62	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	51.3	0.0	0.0	0.0	22.2	0.0	79.8	0.0	0.0			
Incr Delay (d2), s/veh	178.0	0.2	0.0	0.0	0.6	0.0	3.5	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	65.9	0.1	0.0	0.0	23.4	0.0	10.0	0.0	0.0			
LnGrp Delay(d),s/veh	229.3	0.2	0.0	0.0	22.8	0.0	83.3	0.0	0.0			
LnGrp LOS	F	A			C		F					
Approach Vol, veh/h		2696			2188			241				
Approach Delay, s/veh		87.2			22.8			83.3				
Approach LOS		F			C			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	45.0	112.9				157.9		22.1
Change Period (Y+Rc), s	7.8	7.0				7.0		7.2
Max Green Setting (Gmax), s	37.2	76.0				121.0		44.8
Max Q Clear Time (g_c+I1), s	40.7	39.6				2.0		13.9
Green Ext Time (p_c), s	0.0	36.3				118.2		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	59.5
HCM 2010 LOS	E

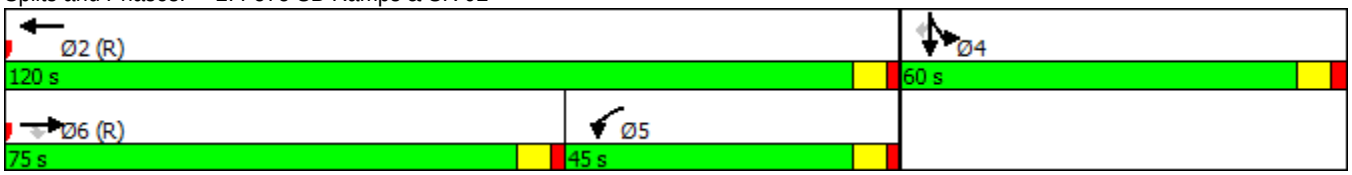
Notes

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1679	193	464	1732	794	0	554
Future Volume (vph)	1679	193	464	1732	794	0	554
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	6		5	2	4	4	
Permitted Phases		6					4
Detector Phase	6	6	5	2	4	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	6.0	12.0	8.0	8.0	8.0
Minimum Split (s)	27.5	27.5	12.5	26.5	53.9	53.9	53.9
Total Split (s)	75.0	75.0	45.0	120.0	60.0	60.0	60.0
Total Split (%)	41.7%	41.7%	25.0%	66.7%	33.3%	33.3%	33.3%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.4	5.4	5.4
Lead/Lag	Lead	Lead	Lag				
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-575 SB Ramps & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1679	193	464	1732	0	0	0	0	794	0	554
Future Volume (veh/h)	0	1679	193	464	1732	0	0	0	0	794	0	554
Number	1	6	16	5	2	12				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1731	0	499	1767	0				863	0	0
Adj No. of Lanes	0	4	1	2	3	0				2	0	1
Peak Hour Factor	0.92	0.97	0.91	0.93	0.98	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2457	607	899	3420	0				957	0	427
Arrive On Green	0.00	0.51	0.00	0.09	0.22	0.00				0.27	0.00	0.00
Sat Flow, veh/h	0	6669	1583	3442	5253	0				3548	0	1583
Grp Volume(v), veh/h	0	1731	0	499	1767	0				863	0	0
Grp Sat Flow(s),veh/h/ln	0	1602	1583	1721	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	37.2	0.0	25.0	55.0	0.0				42.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	37.2	0.0	25.0	55.0	0.0				42.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2457	607	899	3420	0				957	0	427
V/C Ratio(X)	0.00	0.70	0.00	0.56	0.52	0.00				0.90	0.00	0.00
Avail Cap(c_a), veh/h	0	2492	616	899	3420	0				1076	0	480
HCM Platoon Ratio	1.00	1.33	1.33	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.65	0.00	0.53	0.53	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	36.3	0.0	72.2	44.3	0.0				63.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.4	0.3	0.0				9.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.9	0.0	16.2	32.0	0.0				29.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	37.4	0.0	72.6	44.6	0.0				73.2	0.0	0.0
LnGrp LOS		D		E	D					E		
Approach Vol, veh/h		1731			2266						863	
Approach Delay, s/veh		37.4			50.8						73.2	
Approach LOS		D			D						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		126.0		54.0	52.0	74.0		
Change Period (Y+Rc), s		6.5		6.9	6.5	6.5		
Max Green Setting (Gmax), s		113.5		53.1	38.5	68.5		
Max Q Clear Time (g_c+I1), s		57.0		44.2	27.0	39.2		
Green Ext Time (p_c), s		54.4		2.8	11.3	28.3		

Intersection Summary	
HCM 2010 Ctrl Delay	50.0
HCM 2010 LOS	D

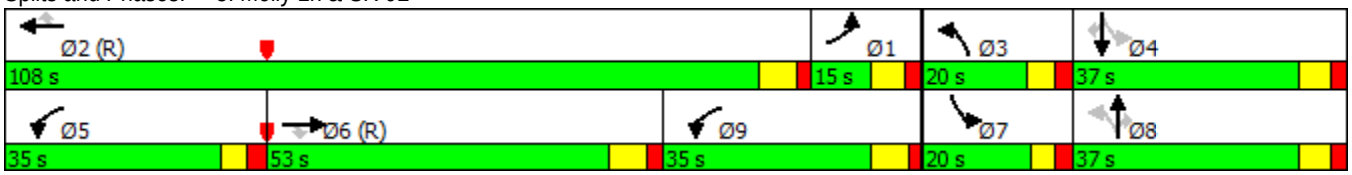
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1467	86	272	2190	26	122	17	281	117	16	51
Future Volume (vph)	39	1467	86	272	2190	26	122	17	281	117	16	51
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5 9	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5 9	2	2	3	8	8	7	4	4
Switch Phase							8			4		
Minimum Initial (s)	6.0	12.0	12.0		12.0	12.0	6.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.9	27.0	27.0		28.0	28.0	12.1	41.8	41.8	11.7	43.8	43.8
Total Split (s)	15.0	53.0	53.0		108.0	108.0	20.0	37.0	37.0	20.0	37.0	37.0
Total Split (%)	8.3%	29.4%	29.4%		60.0%	60.0%	11.1%	20.6%	20.6%	11.1%	20.6%	20.6%
Yellow Time (s)	4.4	5.0	5.0		5.0	5.0	3.6	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	2.5	2.0	2.0		2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.4	5.5	5.5		5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min		C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 165 (92%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 3: Molly Ln & SR 92



Lane Group	Ø5	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Turn Type		
Protected Phases	5	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	15.5	42.5
Total Split (s)	35.0	35.0
Total Split (%)	19%	19%
Yellow Time (s)	3.5	5.0
All-Red Time (s)	2.5	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Recall Mode	None	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1467	86	272	2190	26	122	17	281	117	16	51
Future Volume (vph)	39	1467	86	272	2190	26	122	17	281	117	16	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.5	5.5	4.5	5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1381	1863	1583	1361	1863	1583
Peak-hour factor, PHF	0.61	0.93	0.77	0.94	0.93	0.59	0.90	0.71	0.77	0.73	0.67	0.53
Adj. Flow (vph)	64	1577	112	289	2355	44	136	24	365	160	24	96
RTOR Reduction (vph)	0	0	61	0	0	14	0	0	338	0	0	89
Lane Group Flow (vph)	64	1577	51	289	2355	30	136	24	27	160	24	7
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5 9	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	8.0	79.8	79.8	42.0	119.9	119.9	25.1	11.6	11.6	25.9	11.8	11.8
Effective Green, g (s)	9.5	81.3	81.3	45.0	121.4	121.4	28.1	13.1	13.1	28.9	13.3	13.3
Actuated g/C Ratio	0.05	0.45	0.45	0.25	0.67	0.67	0.16	0.07	0.07	0.16	0.07	0.07
Clearance Time (s)	6.9	7.0	7.0		7.0	7.0	6.1	6.8	6.8	5.7	6.8	6.8
Vehicle Extension (s)	3.0	6.0	6.0		6.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	93	2296	714	442	3429	1067	248	135	115	253	137	116
v/s Ratio Prot	0.04	0.31		c0.16	c0.46		0.05	0.01		c0.05	0.01	
v/s Ratio Perm			0.03			0.02	0.04		0.02	c0.05		0.00
v/c Ratio	0.69	0.69	0.07	0.65	0.69	0.03	0.55	0.18	0.23	0.63	0.18	0.06
Uniform Delay, d1	83.8	39.2	28.0	60.5	17.8	9.7	69.4	78.4	78.7	69.7	78.2	77.5
Progression Factor	0.86	1.30	1.00	0.89	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.0	1.6	0.2	2.7	0.9	0.0	2.5	0.6	1.0	5.1	0.6	0.2
Delay (s)	90.0	52.5	28.1	56.7	13.6	9.8	71.9	79.0	79.7	74.8	78.8	77.8
Level of Service	F	D	C	E	B	A	E	E	E	E	E	E
Approach Delay (s)		52.3			18.2			77.7			76.2	
Approach LOS		D			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

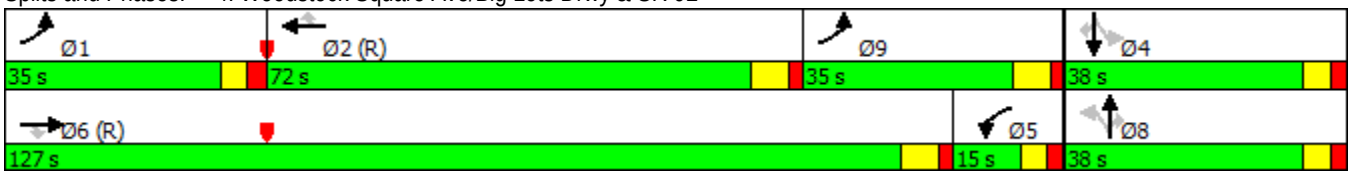
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1357	77	169	2134	20	89	1	170	19	4	39
Future Volume (vph)	39	1357	77	169	2134	20	89	1	170	19	4	39
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 9	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	8	8	8	4	4	4
Switch Phase	9											
Minimum Initial (s)		12.0	12.0	6.0	12.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)		29.0	29.0	12.0	46.0	46.0	44.1	44.1	44.1	51.1	51.1	51.1
Total Split (s)		127.0	127.0	15.0	72.0	72.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)		70.6%	70.6%	8.3%	40.0%	40.0%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%
Yellow Time (s)		5.0	5.0	3.5	5.0	5.0	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)		2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)		5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lead/Lag		Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode		C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

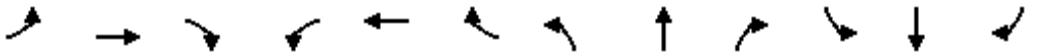
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 165 (92%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 4: Woodstock Square Ave/Big Lots Drwy & SR 92



Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	12.1	13.5
Total Split (s)	35.0	35.0
Total Split (%)	19%	19%
Yellow Time (s)	3.6	5.0
All-Red Time (s)	2.5	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Recall Mode	Min	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1357	77	169	2134	20	89	1	170	19	4	39
Future Volume (vph)	39	1357	77	169	2134	20	89	1	170	19	4	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.97	1.00
Satd. Flow (prot)	1770	5085	1583	1770	3539	1583		1777	1583		1808	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.70	1.00		0.69	1.00
Satd. Flow (perm)	1770	5085	1583	1770	3539	1583		1310	1583		1285	1583
Peak-hour factor, PHF	0.89	0.92	0.77	0.90	0.98	0.62	0.72	0.25	0.90	0.79	0.25	0.57
Adj. Flow (vph)	44	1475	100	188	2178	32	124	4	189	24	16	68
RTOR Reduction (vph)	0	0	25	0	0	9	0	0	126	0	0	59
Lane Group Flow (vph)	44	1475	75	188	2178	23	0	128	63	0	40	9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 9	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	10.0	129.0	129.0	9.0	127.9	127.9		22.9	22.9		22.9	22.9
Effective Green, g (s)	11.5	130.5	130.5	10.5	129.4	129.4		24.4	24.4		24.4	24.4
Actuated g/C Ratio	0.06	0.72	0.72	0.06	0.72	0.72		0.14	0.14		0.14	0.14
Clearance Time (s)		7.0	7.0	6.0	7.0	7.0		6.1	6.1		6.1	6.1
Vehicle Extension (s)		5.0	5.0	3.0	5.0	5.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	113	3686	1147	103	2544	1138		177	214		174	214
v/s Ratio Prot	0.02	c0.29		c0.11	c0.62							
v/s Ratio Perm			0.05			0.01		c0.10	0.04		0.03	0.01
v/c Ratio	0.39	0.40	0.07	1.83	0.86	0.02		0.72	0.29		0.23	0.04
Uniform Delay, d1	80.9	9.6	7.1	84.8	18.5	7.2		74.6	70.0		69.4	67.6
Progression Factor	0.91	0.97	1.42	0.92	0.76	1.00		1.11	1.49		1.00	1.00
Incremental Delay, d2	1.8	0.3	0.1	398.2	3.0	0.0		13.6	0.8		0.7	0.1
Delay (s)	75.4	9.6	10.3	476.2	17.0	7.2		96.1	104.9		70.1	67.7
Level of Service	E	A	B	F	B	A		F	F		E	E
Approach Delay (s)		11.4			52.8			101.3			68.6	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	198	1249	48	56	1616	445	56	70	191	44	14
Future Volume (vph)	198	1249	48	56	1616	445	56	70	191	44	14
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2			8	7	4	
Permitted Phases	6		6	2		2	8		4		4
Detector Phase	1	6	6	5	2	2	8	8	7	4	4
Switch Phase	6			2					4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.1	34.5	34.5	11.8	31.5	31.5	50.1	50.1	12.1	54.1	54.1
Total Split (s)	20.0	92.0	92.0	20.0	92.0	92.0	48.0	48.0	20.0	68.0	68.0
Total Split (%)	11.1%	51.1%	51.1%	11.1%	51.1%	51.1%	26.7%	26.7%	11.1%	37.8%	37.8%
Yellow Time (s)	3.6	4.5	4.5	3.3	4.5	4.5	4.6	4.6	3.6	4.6	4.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	4.6	5.0	5.0	4.3	5.0	5.0		5.6	4.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 15 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Target Drwy/Lovejoy Ln & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	1249	48	56	1616	445	56	70	4	191	44	14
Future Volume (veh/h)	198	1249	48	56	1616	445	56	70	4	191	44	14
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	233	1343	0	68	1701	511	72	84	12	201	68	16
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	1	1	1
Peak Hour Factor	0.85	0.93	0.86	0.82	0.95	0.87	0.78	0.83	0.33	0.95	0.65	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	2256	1009	280	2091	936	110	106	14	319	445	379
Arrive On Green	0.09	0.64	0.00	0.03	0.40	0.40	0.13	0.13	0.12	0.09	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	635	826	112	1774	1863	1583
Grp Volume(v), veh/h	233	1343	0	68	1701	511	168	0	0	201	68	16
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1574	0	0	1774	1863	1583
Q Serve(g_s), s	15.4	39.9	0.0	2.6	77.1	44.8	17.6	0.0	0.0	15.4	5.2	1.4
Cycle Q Clear(g_c), s	15.4	39.9	0.0	2.6	77.1	44.8	18.7	0.0	0.0	15.4	5.2	1.4
Prop In Lane	1.00		1.00	1.00		1.00	0.43		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	220	2256	1009	280	2091	936	230	0	0	319	445	379
V/C Ratio(X)	1.06	0.60	0.00	0.24	0.81	0.55	0.73	0.00	0.00	0.63	0.15	0.04
Avail Cap(c_a), veh/h	220	2256	1009	363	2091	936	398	0	0	319	646	549
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	0.44	0.44	0.44	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.6	19.1	0.0	16.3	45.5	35.8	76.6	0.0	0.0	61.2	54.1	52.6
Incr Delay (d2), s/veh	77.0	1.2	0.0	0.1	1.6	1.0	4.4	0.0	0.0	4.0	0.2	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(95%),veh/ln	28.2	27.1	0.0	2.3	45.0	24.8	13.2	0.0	0.0	3.0	4.9	1.1
LnGrp Delay(d),s/veh	137.6	20.2	0.0	16.4	47.1	36.8	81.0	0.0	0.0	65.2	54.2	52.7
LnGrp LOS	F	C		B	D	D	F			E	D	D
Approach Vol, veh/h		1576			2280			168			285	
Approach Delay, s/veh		37.6			43.9			81.0			61.9	
Approach LOS		D			D			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	111.4		48.6	11.6	119.8	20.0	28.6
Change Period (Y+Rc), s	6.1	6.5		7.1	* 5.8	6.5	6.1	7.1
Max Green Setting (Gmax), s	13.9	85.5		60.9	* 14	85.5	13.9	40.9
Max Q Clear Time (g_c+I1), s	17.4	79.1		7.2	4.6	41.9	17.4	20.7
Green Ext Time (p_c), s	0.0	6.4		0.9	0.1	43.5	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	44.2
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	120	2	8	85	15	143
Future Vol, veh/h	120	2	8	85	15	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	50	100	71	54	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	4	8	120	28	161

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	184	94	188	0	-	0
Stage 1	108	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	788	944	1384	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	783	944	1384	-	-	-
Mov Cap-2 Maneuver	776	-	-	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	932	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1384	-	776	944	-	-
HCM Lane V/C Ratio	0.006	-	0.17	0.004	-	-
HCM Control Delay (s)	7.6	-	10.6	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	101	48	0
Future Vol, veh/h	0	0	0	101	48	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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	90	80	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	112	60	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	112	0	-	0	56	56
Stage 1	-	-	-	-	56	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1475	-	-	-	945	999
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1475	-	-	-	945	999
Mov Cap-2 Maneuver	-	-	-	-	945	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1475	-	-	-	945	-
HCM Lane V/C Ratio	-	-	-	-	0.063	-
HCM Control Delay (s)	0	-	-	-	9.1	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

Future “No-Build” Intersection Analysis

Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	575	2545	1033	605	201	518
Future Volume (vph)	575	2545	1033	605	201	518
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases				2		8
Detector Phase	1	6	2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	15.5	25.0	23.5	23.5	55.2	55.2
Total Split (s)	35.0	108.0	73.0	73.0	52.0	52.0
Total Split (%)	21.9%	67.5%	45.6%	45.6%	32.5%	32.5%
Yellow Time (s)	5.3	5.0	5.0	5.0	4.7	4.7
All-Red Time (s)	2.5	2.0	2.0	2.0	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	6.3	5.5	5.5	5.5	5.7	5.7
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Recall Mode	None	C-Min	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 1: I-575 NB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	2545	0	0	1033	605	201	0	518	0	0	0
Future Volume (veh/h)	575	2545	0	0	1033	605	201	0	518	0	0	0
Number	1	6	16	5	2	12	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	777	2860	0	0	1111	0	258	0	0			
Adj No. of Lanes	2	3	0	0	4	1	2	0	1			
Peak Hour Factor	0.74	0.89	0.92	0.92	0.93	0.87	0.78	0.92	0.79			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	617	4216	0	0	3910	966	348	0	160			
Arrive On Green	0.36	1.00	0.00	0.00	0.61	0.00	0.10	0.00	0.00			
Sat Flow, veh/h	3442	5253	0	0	6669	1583	3442	0	1583			
Grp Volume(v), veh/h	777	2860	0	0	1111	0	258	0	0			
Grp Sat Flow(s),veh/h/ln	1721	1695	0	0	1602	1583	1721	0	1583			
Q Serve(g_s), s	28.7	0.0	0.0	0.0	13.1	0.0	11.7	0.0	0.0			
Cycle Q Clear(g_c), s	28.7	0.0	0.0	0.0	13.1	0.0	11.7	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	617	4216	0	0	3910	966	348	0	160			
V/C Ratio(X)	1.26	0.68	0.00	0.00	0.28	0.00	0.74	0.00	0.00			
Avail Cap(c_a), veh/h	617	4216	0	0	3910	966	996	0	458			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.47	0.47	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	51.3	0.0	0.0	0.0	14.7	0.0	69.9	0.0	0.0			
Incr Delay (d2), s/veh	122.6	0.4	0.0	0.0	0.2	0.0	3.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	43.3	0.3	0.0	0.0	9.8	0.0	9.6	0.0	0.0			
LnGrp Delay(d),s/veh	173.9	0.4	0.0	0.0	14.9	0.0	73.0	0.0	0.0			
LnGrp LOS	F	A			B		E					
Approach Vol, veh/h		3637			1111			258				
Approach Delay, s/veh		37.5			14.9			73.0				
Approach LOS		D			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	35.0	103.1				138.1		21.9
Change Period (Y+Rc), s	7.8	7.0				7.0		7.2
Max Green Setting (Gmax), s	27.2	66.0				101.0		44.8
Max Q Clear Time (g_c+I1), s	30.7	15.1				2.0		13.7
Green Ext Time (p_c), s	0.0	50.8				98.4		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Notes

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1713	110	355	803	1303	1	591
Future Volume (vph)	1713	110	355	803	1303	1	591
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	6		5	2	4	4	
Permitted Phases		6					4
Detector Phase	6	6	5	2	4	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	6.0	12.0	8.0	8.0	8.0
Minimum Split (s)	27.5	27.5	12.5	26.5	53.9	53.9	53.9
Total Split (s)	78.0	78.0	30.0	108.0	52.0	52.0	52.0
Total Split (%)	48.8%	48.8%	18.8%	67.5%	32.5%	32.5%	32.5%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.4	5.4	5.4
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 135 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-575 SB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1713	110	355	803	0	0	0	0	1303	1	591
Future Volume (veh/h)	0	1713	110	355	803	0	0	0	0	1303	1	591
Number	1	6	16	5	2	12				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1766	0	408	863	0				1375	0	0
Adj No. of Lanes	0	4	1	2	3	0				2	0	1
Peak Hour Factor	0.92	0.97	0.72	0.87	0.93	0.92				0.95	0.25	0.93
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	3041	751	475	3274	0				1033	0	461
Arrive On Green	0.00	0.47	0.00	0.28	1.00	0.00				0.29	0.00	0.00
Sat Flow, veh/h	0	6669	1583	3442	5253	0				3548	0	1583
Grp Volume(v), veh/h	0	1766	0	408	863	0				1375	0	0
Grp Sat Flow(s),veh/h/ln	0	1602	1583	1721	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	32.0	0.0	18.0	0.0	0.0				46.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	32.0	0.0	18.0	0.0	0.0				46.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3041	751	475	3274	0				1033	0	461
V/C Ratio(X)	0.00	0.58	0.00	0.86	0.26	0.00				1.33	0.00	0.00
Avail Cap(c_a), veh/h	0	3041	751	538	3274	0				1033	0	461
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.77	0.00	0.93	0.93	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	30.5	0.0	56.4	0.0	0.0				56.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	11.3	0.2	0.0				155.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	19.7	0.0	14.1	0.1	0.0				81.2	0.0	0.0
LnGrp Delay(d),s/veh	0.0	31.1	0.0	67.8	0.2	0.0				212.2	0.0	0.0
LnGrp LOS		C		E	A					F		
Approach Vol, veh/h		1766			1271						1375	
Approach Delay, s/veh		31.1			21.9						212.2	
Approach LOS		C			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		108.0		52.0	27.1	80.9		
Change Period (Y+Rc), s		6.5		6.9	6.5	6.5		
Max Green Setting (Gmax), s		101.5		45.1	23.5	71.5		
Max Q Clear Time (g_c+I1), s		2.0		48.6	20.0	34.0		
Green Ext Time (p_c), s		98.6		0.0	0.6	37.4		

Intersection Summary	
HCM 2010 Ctrl Delay	84.9
HCM 2010 LOS	F

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1560	69	179	1093	37	38	9	60	107	12	24
Future Volume (vph)	72	1560	69	179	1093	37	38	9	60	107	12	24
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase							8			4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	6.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.9	27.0	27.0	15.5	28.0	28.0	12.1	41.8	41.8	11.7	43.8	43.8
Total Split (s)	25.0	70.0	70.0	30.0	75.0	75.0	20.0	40.0	40.0	20.0	40.0	40.0
Total Split (%)	15.6%	43.8%	43.8%	18.8%	46.9%	46.9%	12.5%	25.0%	25.0%	12.5%	25.0%	25.0%
Yellow Time (s)	4.4	5.0	5.0	3.5	5.0	5.0	3.6	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.4	5.5	5.5	4.5	5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 10 (6%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 3: Molly Ln & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1560	69	179	1093	37	38	9	60	107	12	24
Future Volume (veh/h)	72	1560	69	179	1093	37	38	9	60	107	12	24
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	1696	0	236	1127	0	73	13	0	135	22	0
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.63	0.76	0.97	0.71	0.52	0.67	0.76	0.79	0.55	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	2918	909	274	3354	1044	230	110	93	279	166	141
Arrive On Green	0.13	1.00	0.00	0.05	0.22	0.00	0.06	0.06	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	78	1696	0	236	1127	0	73	13	0	135	22	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.7	0.0	0.0	21.1	29.9	0.0	6.1	1.1	0.0	11.0	1.7	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	21.1	29.9	0.0	6.1	1.1	0.0	11.0	1.7	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	112	2918	909	274	3354	1044	230	110	93	279	166	141
V/C Ratio(X)	0.70	0.58	0.00	0.86	0.34	0.00	0.32	0.12	0.00	0.48	0.13	0.00
Avail Cap(c_a), veh/h	217	2918	909	283	3354	1044	297	404	343	293	404	343
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.00	0.76	0.76	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.5	0.0	0.0	74.2	33.0	0.0	65.0	71.3	0.0	60.8	67.2	0.0
Incr Delay (d2), s/veh	6.8	0.8	0.0	18.0	0.2	0.0	0.8	0.5	0.0	1.3	0.4	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(95%),veh/ln	6.3	0.4	0.0	16.7	19.5	0.0	5.4	1.0	0.0	9.3	1.6	0.0
LnGrp Delay(d),s/veh	75.3	0.8	0.0	92.2	33.2	0.0	65.8	71.8	0.0	62.1	67.5	0.0
LnGrp LOS	E	A		F	C		E	E		E	E	
Approach Vol, veh/h		1774			1363			86			157	
Approach Delay, s/veh		4.0			43.4			66.7			62.8	
Approach LOS		A			D			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	15.5	111.0	13.9	19.6	29.2	97.3	18.8	14.7
Change Period (Y+Rc), s	6.9	7.0	6.1	6.8	6.0	7.0	* 5.7	6.8
Max Green Setting (Gmax), s	18.1	68.0	13.9	33.2	24.0	63.0	* 14	33.2
Max Q Clear Time (g_c+I1), s	8.7	31.9	8.1	3.7	23.1	2.0	13.0	3.1
Green Ext Time (p_c), s	0.1	36.0	0.1	0.1	0.1	60.8	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

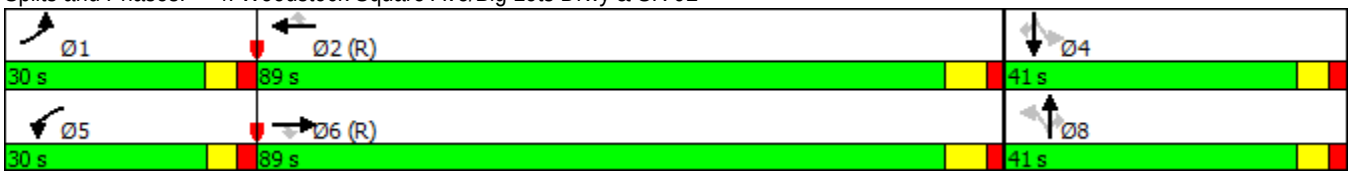
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	1855	20	32	989	17	7	1	14	12	0	4
Future Volume (vph)	32	1855	20	32	989	17	7	1	14	12	0	4
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	8	8	8	4	4	4
Switch Phase	9											
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.1	29.0	29.0	12.0	46.0	46.0	44.1	44.1	44.1	51.1	51.1	51.1
Total Split (s)	30.0	89.0	89.0	30.0	89.0	89.0	41.0	41.0	41.0	41.0	41.0	41.0
Total Split (%)	18.8%	55.6%	55.6%	18.8%	55.6%	55.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%
Yellow Time (s)	3.6	5.0	5.0	3.5	5.0	5.0	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)	4.6	5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 4: Woodstock Square Ave/Big Lots Drwy & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	1855	20	32	989	17	7	1	14	12	0	4
Future Volume (veh/h)	32	1855	20	32	989	17	7	1	14	12	0	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	40	1912	0	53	1052	39	14	4	0	17	0	0
Adj No. of Lanes	1	3	1	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.81	0.97	0.64	0.60	0.94	0.44	0.50	0.25	0.65	0.69	0.92	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	4133	1287	84	2898	1296	94	22	77	117	0	77
Arrive On Green	0.04	0.81	0.00	0.09	1.00	1.00	0.05	0.05	0.00	0.05	0.00	0.00
Sat Flow, veh/h	1774	5085	1583	1774	3539	1583	1103	451	1583	1479	0	1583
Grp Volume(v), veh/h	40	1912	0	53	1052	39	18	0	0	17	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1770	1583	1554	0	1583	1479	0	1583
Q Serve(g_s), s	3.5	18.1	0.0	4.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	18.1	0.0	4.6	0.0	0.0	1.5	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.78		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	4133	1287	84	2898	1296	116	0	77	117	0	77
V/C Ratio(X)	0.56	0.46	0.00	0.63	0.36	0.03	0.16	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	282	4133	1287	283	2898	1296	382	0	360	369	0	360
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.38	0.38	0.00	0.95	0.95	0.95	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	75.3	4.5	0.0	71.1	0.0	0.0	73.1	0.0	0.0	73.1	0.0	0.0
Incr Delay (d2), s/veh	2.5	0.1	0.0	7.2	0.3	0.0	0.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	11.3	0.0	4.4	0.2	0.0	1.4	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	77.9	4.6	0.0	78.3	0.3	0.0	73.7	0.0	0.0	73.6	0.0	0.0
LnGrp LOS	E	A		E	A	A	E			E		
Approach Vol, veh/h		1952			1144			18			17	
Approach Delay, s/veh		6.1			3.9			73.7			73.6	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	136.5		12.4	12.1	135.5		12.4
Change Period (Y+Rc), s	6.1	7.0		6.1	6.0	7.0		6.1
Max Green Setting (Gmax), s	23.9	82.0		34.9	24.0	82.0		34.9
Max Q Clear Time (g_c+I1), s	5.5	2.0		3.5	6.6	20.1		3.5
Green Ext Time (p_c), s	0.1	79.7		0.1	0.1	61.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	6.1
HCM 2010 LOS	A

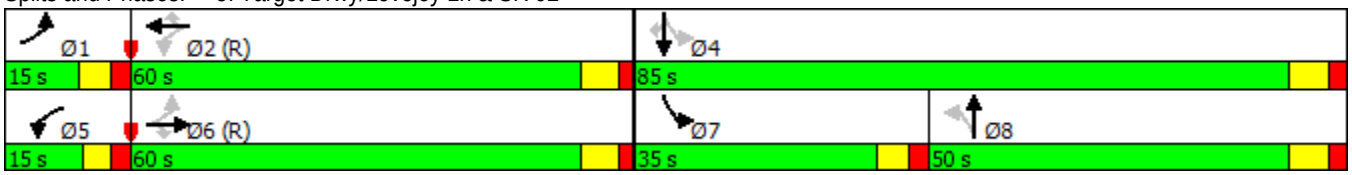
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	163	1565	8	50	887	94	10	2	326	35	7
Future Volume (vph)	163	1565	8	50	887	94	10	2	326	35	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2			8	7	4	
Permitted Phases	6		6	2		2	8		4		4
Detector Phase	1	6	6	5	2	2	8	8	7	4	4
Switch Phase	6			2					4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.1	34.5	34.5	11.8	31.5	31.5	50.1	50.1	12.1	54.1	54.1
Total Split (s)	15.0	60.0	60.0	15.0	60.0	60.0	50.0	50.0	35.0	85.0	85.0
Total Split (%)	9.4%	37.5%	37.5%	9.4%	37.5%	37.5%	31.3%	31.3%	21.9%	53.1%	53.1%
Yellow Time (s)	3.6	4.5	4.5	3.3	4.5	4.5	4.6	4.6	3.6	4.6	4.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	4.6	5.0	5.0	4.3	5.0	5.0		5.6	4.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 15 (9%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Target Drwy/Lovejoy Ln & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1565	8	50	887	94	10	2	10	326	35	7
Future Volume (veh/h)	163	1565	8	50	887	94	10	2	10	326	35	7
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	220	1683	0	74	905	109	18	8	26	343	61	14
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	1	1	1
Peak Hour Factor	0.74	0.93	0.44	0.68	0.98	0.86	0.56	0.25	0.38	0.95	0.57	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	2065	924	186	1989	890	55	21	46	470	518	440
Arrive On Green	0.06	0.58	0.00	0.09	1.00	1.00	0.06	0.06	0.05	0.19	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	426	350	775	1774	1863	1583
Grp Volume(v), veh/h	220	1683	0	74	905	109	52	0	0	343	61	14
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1551	0	0	1774	1863	1583
Q Serve(g_s), s	8.3	60.4	0.0	2.7	0.0	0.0	3.4	0.0	0.0	28.3	3.9	1.0
Cycle Q Clear(g_c), s	8.3	60.4	0.0	2.7	0.0	0.0	5.1	0.0	0.0	28.3	3.9	1.0
Prop In Lane	1.00		1.00	1.00		1.00	0.35		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	472	2065	924	186	1989	890	122	0	0	470	518	440
V/C Ratio(X)	0.47	0.82	0.00	0.40	0.45	0.12	0.43	0.00	0.00	0.73	0.12	0.03
Avail Cap(c_a), veh/h	472	2065	924	224	1989	890	452	0	0	470	924	786
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.94	0.94	0.94	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	26.5	0.0	25.0	0.0	0.0	73.5	0.0	0.0	54.1	43.1	42.1
Incr Delay (d2), s/veh	0.5	3.7	0.0	1.0	0.7	0.3	2.3	0.0	0.0	5.7	0.1	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(95%),veh/ln	7.4	39.6	0.0	2.7	0.4	0.1	4.2	0.0	0.0	20.8	3.7	0.8
LnGrp Delay(d),s/veh	12.9	30.1	0.0	26.0	0.7	0.3	75.9	0.0	0.0	59.8	43.2	42.1
LnGrp LOS	B	C		C	A	A	E			E	D	D
Approach Vol, veh/h		1903			1088			52			418	
Approach Delay, s/veh		28.2			2.4			75.9			56.8	
Approach LOS		C			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	94.9		50.1	11.6	98.4	35.0	15.1
Change Period (Y+Rc), s	6.1	6.5		7.1	* 5.8	6.5	6.1	7.1
Max Green Setting (Gmax), s	8.9	53.5		77.9	* 9.2	53.5	28.9	42.9
Max Q Clear Time (g_c+I1), s	10.3	2.0		5.9	4.7	62.4	30.3	7.1
Green Ext Time (p_c), s	0.0	51.3		0.5	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	7	1	9	83	30
Future Vol, veh/h	28	7	1	9	83	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	38	25	50	79	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	18	4	18	105	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	138	68	136	0	-	0
Stage 1	121	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	841	981	1446	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	838	981	1446	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	1000	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1446	-	801	981	-	-
HCM Lane V/C Ratio	0.003	-	0.049	0.019	-	-
HCM Control Delay (s)	7.5	-	9.7	8.7	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	21	28	0
Future Vol, veh/h	0	0	0	21	28	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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	68	72	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	31	39	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	31	0	-	0	15	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1580	-	-	-	1001	1061
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1580	-	-	-	1001	1061
Mov Cap-2 Maneuver	-	-	-	-	1001	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1580	-	-	-	1001	-
HCM Lane V/C Ratio	-	-	-	-	0.039	-
HCM Control Delay (s)	0	-	-	-	8.7	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	929	1808	2224	907	224	204
Future Volume (vph)	929	1808	2224	907	224	204
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases				2		8
Detector Phase	1	6	2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	15.5	25.0	23.5	23.5	55.2	55.2
Total Split (s)	45.0	128.0	83.0	83.0	52.0	52.0
Total Split (%)	25.0%	71.1%	46.1%	46.1%	28.9%	28.9%
Yellow Time (s)	5.3	5.0	5.0	5.0	4.7	4.7
All-Red Time (s)	2.5	2.0	2.0	2.0	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	6.3	5.5	5.5	5.5	5.7	5.7
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Recall Mode	None	C-Min	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 115 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 1: I-575 NB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	929	1808	0	0	2224	907	224	0	204	0	0	0
Future Volume (veh/h)	929	1808	0	0	2224	907	224	0	204	0	0	0
Number	1	6	16	5	2	12	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	1119	1826	0	0	2391	0	264	0	0			
Adj No. of Lanes	2	3	0	0	4	1	2	0	1			
Peak Hour Factor	0.83	0.99	0.92	0.92	0.93	0.95	0.85	0.92	0.85			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	740	4261	0	0	3767	931	344	0	158			
Arrive On Green	0.43	1.00	0.00	0.00	0.59	0.00	0.10	0.00	0.00			
Sat Flow, veh/h	3442	5253	0	0	6669	1583	3442	0	1583			
Grp Volume(v), veh/h	1119	1826	0	0	2391	0	264	0	0			
Grp Sat Flow(s),veh/h/ln	1721	1695	0	0	1602	1583	1721	0	1583			
Q Serve(g_s), s	38.7	0.0	0.0	0.0	44.2	0.0	13.5	0.0	0.0			
Cycle Q Clear(g_c), s	38.7	0.0	0.0	0.0	44.2	0.0	13.5	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	740	4261	0	0	3767	931	344	0	158			
V/C Ratio(X)	1.51	0.43	0.00	0.00	0.63	0.00	0.77	0.00	0.00			
Avail Cap(c_a), veh/h	740	4261	0	0	3767	931	885	0	407			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.51	0.51	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	51.3	0.0	0.0	0.0	24.4	0.0	79.0	0.0	0.0			
Incr Delay (d2), s/veh	234.1	0.2	0.0	0.0	0.8	0.0	3.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	76.2	0.1	0.0	0.0	26.9	0.0	10.8	0.0	0.0			
LnGrp Delay(d),s/veh	285.4	0.2	0.0	0.0	25.2	0.0	82.6	0.0	0.0			
LnGrp LOS	F	A			C		F					
Approach Vol, veh/h		2945			2391			264				
Approach Delay, s/veh		108.6			25.2			82.6				
Approach LOS		F			C			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	45.0	111.3				156.3		23.7
Change Period (Y+Rc), s	7.8	7.0				7.0		7.2
Max Green Setting (Gmax), s	37.2	76.0				121.0		44.8
Max Q Clear Time (g_c+I1), s	40.7	46.2				2.0		15.5
Green Ext Time (p_c), s	0.0	29.8				118.2		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	71.7
HCM 2010 LOS	E

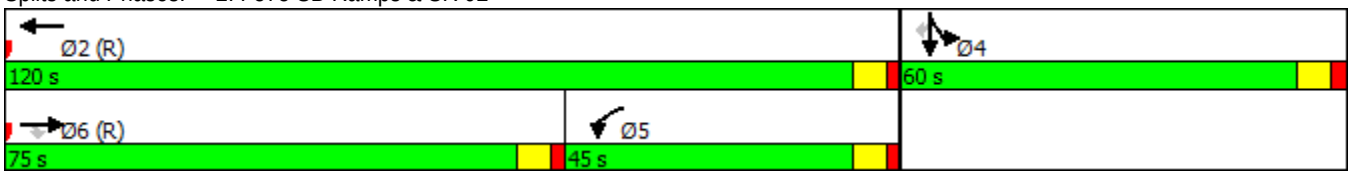
Notes

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1835	211	507	1893	868	0	605
Future Volume (vph)	1835	211	507	1893	868	0	605
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	6		5	2	4	4	
Permitted Phases		6					4
Detector Phase	6	6	5	2	4	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	6.0	12.0	8.0	8.0	8.0
Minimum Split (s)	27.5	27.5	12.5	26.5	53.9	53.9	53.9
Total Split (s)	75.0	75.0	45.0	120.0	60.0	60.0	60.0
Total Split (%)	41.7%	41.7%	25.0%	66.7%	33.3%	33.3%	33.3%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.4	5.4	5.4
Lead/Lag	Lead	Lead	Lag				
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-575 SB Ramps & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1835	211	507	1893	0	0	0	0	868	0	605
Future Volume (veh/h)	0	1835	211	507	1893	0	0	0	0	868	0	605
Number	1	6	16	5	2	12				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1892	0	545	1932	0				943	0	0
Adj No. of Lanes	0	4	1	2	3	0				2	0	1
Peak Hour Factor	0.92	0.97	0.91	0.93	0.98	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2477	612	825	3326	0				1023	0	456
Arrive On Green	0.00	0.51	0.00	0.08	0.22	0.00				0.29	0.00	0.00
Sat Flow, veh/h	0	6669	1583	3442	5253	0				3548	0	1583
Grp Volume(v), veh/h	0	1892	0	545	1932	0				943	0	0
Grp Sat Flow(s),veh/h/ln	0	1602	1583	1721	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	42.5	0.0	27.7	61.3	0.0				46.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	42.5	0.0	27.7	61.3	0.0				46.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2477	612	825	3326	0				1023	0	456
V/C Ratio(X)	0.00	0.76	0.00	0.66	0.58	0.00				0.92	0.00	0.00
Avail Cap(c_a), veh/h	0	2492	616	825	3326	0				1076	0	480
HCM Platoon Ratio	1.00	1.33	1.33	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.55	0.00	0.44	0.44	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	37.1	0.0	75.8	48.5	0.0				62.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.9	0.3	0.0				12.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	24.3	0.0	17.3	34.8	0.0				32.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	38.4	0.0	76.7	48.8	0.0				74.5	0.0	0.0
LnGrp LOS		D		E	D					E		
Approach Vol, veh/h		1892			2477						943	
Approach Delay, s/veh		38.4			54.9						74.5	
Approach LOS		D			D						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		122.7		57.3	48.1	74.6		
Change Period (Y+Rc), s		6.5		6.9	6.5	6.5		
Max Green Setting (Gmax), s		113.5		53.1	38.5	68.5		
Max Q Clear Time (g_c+I1), s		63.3		48.4	29.7	44.5		
Green Ext Time (p_c), s		49.2		2.0	8.8	23.6		

Intersection Summary	
HCM 2010 Ctrl Delay	52.5
HCM 2010 LOS	D

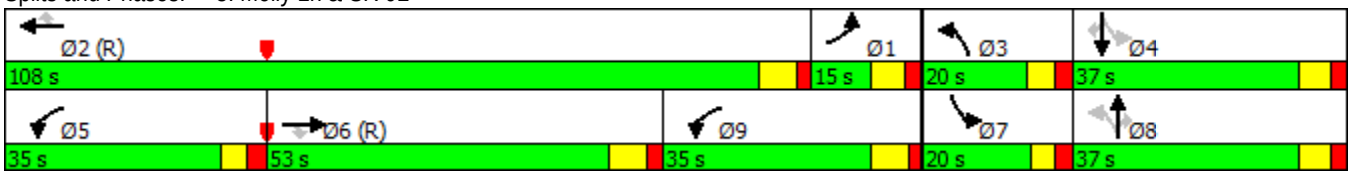
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1603	94	297	2393	28	133	19	307	128	17	56
Future Volume (vph)	43	1603	94	297	2393	28	133	19	307	128	17	56
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5 9	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5 9	2	2	3	8	8	7	4	4
Switch Phase							8			4		
Minimum Initial (s)	6.0	12.0	12.0		12.0	12.0	6.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.9	27.0	27.0		28.0	28.0	12.1	41.8	41.8	11.7	43.8	43.8
Total Split (s)	15.0	53.0	53.0		108.0	108.0	20.0	37.0	37.0	20.0	37.0	37.0
Total Split (%)	8.3%	29.4%	29.4%		60.0%	60.0%	11.1%	20.6%	20.6%	11.1%	20.6%	20.6%
Yellow Time (s)	4.4	5.0	5.0		5.0	5.0	3.6	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	2.5	2.0	2.0		2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.4	5.5	5.5		5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min		C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

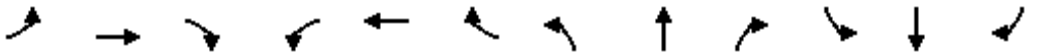
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 165 (92%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 3: Molly Ln & SR 92



Lane Group	Ø5	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Turn Type		
Protected Phases	5	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	15.5	42.5
Total Split (s)	35.0	35.0
Total Split (%)	19%	19%
Yellow Time (s)	3.5	5.0
All-Red Time (s)	2.5	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Recall Mode	None	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1603	94	297	2393	28	133	19	307	128	17	56
Future Volume (vph)	43	1603	94	297	2393	28	133	19	307	128	17	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.5	5.5	4.5	5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1380	1863	1583	1348	1863	1583
Peak-hour factor, PHF	0.61	0.93	0.77	0.94	0.93	0.59	0.90	0.71	0.77	0.73	0.67	0.53
Adj. Flow (vph)	70	1724	122	316	2573	47	148	27	399	175	25	106
RTOR Reduction (vph)	0	0	68	0	0	15	0	0	369	0	0	98
Lane Group Flow (vph)	70	1724	54	316	2573	32	148	27	30	175	25	8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5 9	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	8.1	78.0	78.0	43.3	119.3	119.3	25.5	11.9	11.9	26.5	12.2	12.2
Effective Green, g (s)	9.6	79.5	79.5	46.3	120.8	120.8	28.5	13.4	13.4	29.5	13.7	13.7
Actuated g/C Ratio	0.05	0.44	0.44	0.26	0.67	0.67	0.16	0.07	0.07	0.16	0.08	0.08
Clearance Time (s)	6.9	7.0	7.0		7.0	7.0	6.1	6.8	6.8	5.7	6.8	6.8
Vehicle Extension (s)	3.0	6.0	6.0		6.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	94	2245	699	455	3412	1062	251	138	117	257	141	120
v/s Ratio Prot	0.04	0.34		c0.18	c0.51		0.05	0.01		c0.06	0.01	
v/s Ratio Perm			0.03			0.02	0.04		0.02	c0.05		0.01
v/c Ratio	0.74	0.77	0.08	0.69	0.75	0.03	0.59	0.20	0.25	0.68	0.18	0.07
Uniform Delay, d1	84.0	42.5	29.0	60.5	19.7	9.9	69.6	78.2	78.6	69.8	77.9	77.2
Progression Factor	0.89	1.25	13.24	0.92	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.1	2.4	0.2	3.4	1.2	0.0	3.5	0.7	1.1	7.2	0.6	0.2
Delay (s)	100.0	55.5	384.6	58.8	16.9	10.0	73.1	78.9	79.7	77.1	78.5	77.5
Level of Service	F	E	F	E	B	A	E	E	E	E	E	E
Approach Delay (s)		78.1			21.3			78.0			77.3	
Approach LOS		E			C			E			E	

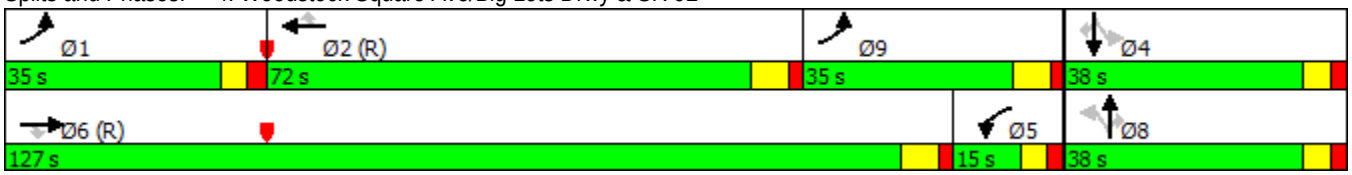
Intersection Summary			
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1483	84	185	2332	22	97	1	186	21	4	43
Future Volume (vph)	43	1483	84	185	2332	22	97	1	186	21	4	43
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 9	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	8	8	8	4	4	4
Switch Phase	9											
Minimum Initial (s)		12.0	12.0	6.0	12.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)		29.0	29.0	12.0	46.0	46.0	44.1	44.1	44.1	51.1	51.1	51.1
Total Split (s)		127.0	127.0	15.0	72.0	72.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)		70.6%	70.6%	8.3%	40.0%	40.0%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%
Yellow Time (s)		5.0	5.0	3.5	5.0	5.0	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)		2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)		5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lead/Lag		Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode		C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

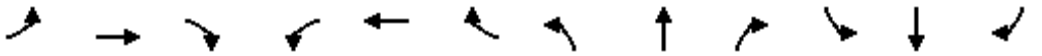
Intersection Summary
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 165 (92%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 4: Woodstock Square Ave/Big Lots Drwy & SR 92



Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	12.1	13.5
Total Split (s)	35.0	35.0
Total Split (%)	19%	19%
Yellow Time (s)	3.6	5.0
All-Red Time (s)	2.5	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Recall Mode	Min	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1483	84	185	2332	22	97	1	186	21	4	43
Future Volume (vph)	43	1483	84	185	2332	22	97	1	186	21	4	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.97	1.00
Satd. Flow (prot)	1770	5085	1583	1770	3539	1583		1776	1583		1806	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.70	1.00		0.65	1.00
Satd. Flow (perm)	1770	5085	1583	1770	3539	1583		1305	1583		1202	1583
Peak-hour factor, PHF	0.89	0.92	0.77	0.90	0.98	0.62	0.72	0.25	0.90	0.79	0.25	0.57
Adj. Flow (vph)	48	1612	109	206	2380	35	135	4	207	27	16	75
RTOR Reduction (vph)	0	0	26	0	0	10	0	0	125	0	0	64
Lane Group Flow (vph)	48	1612	83	206	2380	25	0	139	82	0	43	11
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 9	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	10.4	127.8	127.8	9.0	126.3	126.3		24.1	24.1		24.1	24.1
Effective Green, g (s)	11.9	129.3	129.3	10.5	127.8	127.8		25.6	25.6		25.6	25.6
Actuated g/C Ratio	0.07	0.72	0.72	0.06	0.71	0.71		0.14	0.14		0.14	0.14
Clearance Time (s)		7.0	7.0	6.0	7.0	7.0		6.1	6.1		6.1	6.1
Vehicle Extension (s)		5.0	5.0	3.0	5.0	5.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	117	3652	1137	103	2512	1123		185	225		170	225
v/s Ratio Prot	0.03	c0.32		c0.12	c0.67							
v/s Ratio Perm			0.05			0.02		c0.11	0.05		0.04	0.01
v/c Ratio	0.41	0.44	0.07	2.00	0.95	0.02		0.75	0.36		0.25	0.05
Uniform Delay, d1	80.7	10.5	7.5	84.8	23.1	7.7		74.1	69.8		68.7	66.7
Progression Factor	0.87	1.19	2.17	0.95	0.83	1.00		1.10	1.35		1.00	1.00
Incremental Delay, d2	1.7	0.3	0.1	472.4	6.8	0.0		15.7	1.0		0.8	0.1
Delay (s)	71.8	12.7	16.4	552.9	25.8	7.7		97.0	95.3		69.5	66.8
Level of Service	E	B	B	F	C	A		F	F		E	E
Approach Delay (s)		14.5			67.0			96.0			67.7	
Approach LOS		B			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	216	1365	52	61	1766	486	61	76	209	48	15
Future Volume (vph)	216	1365	52	61	1766	486	61	76	209	48	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2			8	7	4	
Permitted Phases	6		6	2		2	8		4		4
Detector Phase	1	6	6	5	2	2	8	8	7	4	4
Switch Phase	6			2					4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.1	34.5	34.5	11.8	31.5	31.5	50.1	50.1	12.1	54.1	54.1
Total Split (s)	20.0	92.0	92.0	20.0	92.0	92.0	48.0	48.0	20.0	68.0	68.0
Total Split (%)	11.1%	51.1%	51.1%	11.1%	51.1%	51.1%	26.7%	26.7%	11.1%	37.8%	37.8%
Yellow Time (s)	3.6	4.5	4.5	3.3	4.5	4.5	4.6	4.6	3.6	4.6	4.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	4.6	5.0	5.0	4.3	5.0	5.0		5.6	4.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 15 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Target Drwy/Lovejoy Ln & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	1365	52	61	1766	486	61	76	4	209	48	15
Future Volume (veh/h)	216	1365	52	61	1766	486	61	76	4	209	48	15
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	254	1468	0	74	1859	559	78	92	12	220	74	17
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	1	1	1
Peak Hour Factor	0.85	0.93	0.86	0.82	0.95	0.87	0.78	0.83	0.33	0.95	0.65	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	2222	994	243	2058	921	116	114	14	325	463	393
Arrive On Green	0.09	0.63	0.00	0.03	0.39	0.39	0.14	0.14	0.13	0.09	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	638	827	103	1774	1863	1583
Grp Volume(v), veh/h	254	1468	0	74	1859	559	182	0	0	220	74	17
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1568	0	0	1774	1863	1583
Q Serve(g_s), s	15.4	47.5	0.0	3.0	89.1	50.8	19.3	0.0	0.0	15.4	5.6	1.5
Cycle Q Clear(g_c), s	15.4	47.5	0.0	3.0	89.1	50.8	20.3	0.0	0.0	15.4	5.6	1.5
Prop In Lane	1.00		1.00	1.00		1.00	0.43		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	204	2222	994	243	2058	921	244	0	0	325	463	393
V/C Ratio(X)	1.24	0.66	0.00	0.30	0.90	0.61	0.75	0.00	0.00	0.68	0.16	0.04
Avail Cap(c_a), veh/h	204	2222	994	326	2058	921	397	0	0	325	646	549
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	0.26	0.26	0.26	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	21.3	0.0	19.0	50.2	38.5	75.7	0.0	0.0	60.8	52.9	51.4
Incr Delay (d2), s/veh	144.3	1.6	0.0	0.1	2.0	0.8	4.5	0.0	0.0	5.5	0.2	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(95%),veh/ln	33.0	31.5	0.0	2.5	49.7	26.4	14.1	0.0	0.0	5.2	5.2	1.2
LnGrp Delay(d),s/veh	209.3	22.9	0.0	19.2	52.2	39.3	80.2	0.0	0.0	66.3	53.1	51.4
LnGrp LOS	F	C		B	D	D	F			E	D	D
Approach Vol, veh/h		1722			2492			182			311	
Approach Delay, s/veh		50.4			48.3			80.2			62.3	
Approach LOS		D			D			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	109.7		50.3	11.7	118.0	20.0	30.3
Change Period (Y+Rc), s	6.1	6.5		7.1	* 5.8	6.5	6.1	7.1
Max Green Setting (Gmax), s	13.9	85.5		60.9	* 14	85.5	13.9	40.9
Max Q Clear Time (g_c+I1), s	17.4	91.1		7.6	5.0	49.5	17.4	22.3
Green Ext Time (p_c), s	0.0	0.0		1.0	0.1	35.9	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	51.2
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	131	2	9	93	16	156
Future Vol, veh/h	131	2	9	93	16	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	50	100	71	54	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	144	4	9	131	30	175

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	200	102	205	0	-	0
Stage 1	117	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	770	933	1364	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	765	933	1364	-	-	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1364	-	764	933	-	-
HCM Lane V/C Ratio	0.007	-	0.188	0.004	-	-
HCM Control Delay (s)	7.7	-	10.8	8.9	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.7	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	110	52	0
Future Vol, veh/h	0	0	0	110	52	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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	90	80	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	122	65	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	122	0	-	0	61	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1463	-	-	-	938	991
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1463	-	-	-	938	991
Mov Cap-2 Maneuver	-	-	-	-	938	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1463	-	-	-	938	-
HCM Lane V/C Ratio	-	-	-	-	0.069	-
HCM Control Delay (s)	0	-	-	-	9.1	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

Future “Build” Intersections Analysis

Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	609	2562	1039	605	229	518
Future Volume (vph)	609	2562	1039	605	229	518
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases				2		8
Detector Phase	1	6	2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	15.5	25.0	23.5	23.5	55.2	55.2
Total Split (s)	35.0	108.0	73.0	73.0	52.0	52.0
Total Split (%)	21.9%	67.5%	45.6%	45.6%	32.5%	32.5%
Yellow Time (s)	5.3	5.0	5.0	5.0	4.7	4.7
All-Red Time (s)	2.5	2.0	2.0	2.0	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	6.3	5.5	5.5	5.5	5.7	5.7
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Recall Mode	None	C-Min	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 1: I-575 NB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	609	2562	0	0	1039	605	229	0	518	0	0	0
Future Volume (veh/h)	609	2562	0	0	1039	605	229	0	518	0	0	0
Number	1	6	16	5	2	12	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	823	2879	0	0	1117	0	294	0	0			
Adj No. of Lanes	2	3	0	0	4	1	2	0	1			
Peak Hour Factor	0.74	0.89	0.92	0.92	0.93	0.87	0.78	0.92	0.79			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	617	4160	0	0	3840	949	385	0	177			
Arrive On Green	0.36	1.00	0.00	0.00	0.60	0.00	0.11	0.00	0.00			
Sat Flow, veh/h	3442	5253	0	0	6669	1583	3442	0	1583			
Grp Volume(v), veh/h	823	2879	0	0	1117	0	294	0	0			
Grp Sat Flow(s),veh/h/ln	1721	1695	0	0	1602	1583	1721	0	1583			
Q Serve(g_s), s	28.7	0.0	0.0	0.0	13.5	0.0	13.3	0.0	0.0			
Cycle Q Clear(g_c), s	28.7	0.0	0.0	0.0	13.5	0.0	13.3	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	617	4160	0	0	3840	949	385	0	177			
V/C Ratio(X)	1.33	0.69	0.00	0.00	0.29	0.00	0.76	0.00	0.00			
Avail Cap(c_a), veh/h	617	4160	0	0	3840	949	996	0	458			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.45	0.45	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	51.3	0.0	0.0	0.0	15.6	0.0	69.0	0.0	0.0			
Incr Delay (d2), s/veh	155.0	0.4	0.0	0.0	0.2	0.0	3.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	48.3	0.3	0.0	0.0	10.0	0.0	10.7	0.0	0.0			
LnGrp Delay(d),s/veh	206.3	0.4	0.0	0.0	15.8	0.0	72.1	0.0	0.0			
LnGrp LOS	F	A			B		E					
Approach Vol, veh/h		3702			1117			294				
Approach Delay, s/veh		46.2			15.8			72.1				
Approach LOS		D			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	35.0	101.4				136.4		23.6
Change Period (Y+Rc), s	7.8	7.0				7.0		7.2
Max Green Setting (Gmax), s	27.2	66.0				101.0		44.8
Max Q Clear Time (g_c+I1), s	30.7	15.5				2.0		15.3
Green Ext Time (p_c), s	0.0	50.3				98.4		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	41.0
HCM 2010 LOS	D

Notes

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1765	196	355	837	1303	1	602
Future Volume (vph)	1765	196	355	837	1303	1	602
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	6		5	2	4	4	
Permitted Phases		6					4
Detector Phase	6	6	5	2	4	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	6.0	12.0	8.0	8.0	8.0
Minimum Split (s)	27.5	27.5	12.5	26.5	53.9	53.9	53.9
Total Split (s)	78.0	78.0	30.0	108.0	52.0	52.0	52.0
Total Split (%)	48.8%	48.8%	18.8%	67.5%	32.5%	32.5%	32.5%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.4	5.4	5.4
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 135 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-575 SB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1765	196	355	837	0	0	0	0	1303	1	602
Future Volume (veh/h)	0	1765	196	355	837	0	0	0	0	1303	1	602
Number	1	6	16	5	2	12				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1820	0	408	900	0				1375	0	0
Adj No. of Lanes	0	4	1	2	3	0				2	0	1
Peak Hour Factor	0.92	0.97	0.72	0.87	0.93	0.92				0.95	0.25	0.93
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	3041	751	475	3274	0				1033	0	461
Arrive On Green	0.00	0.47	0.00	0.28	1.00	0.00				0.29	0.00	0.00
Sat Flow, veh/h	0	6669	1583	3442	5253	0				3548	0	1583
Grp Volume(v), veh/h	0	1820	0	408	900	0				1375	0	0
Grp Sat Flow(s),veh/h/ln	0	1602	1583	1721	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	33.4	0.0	18.0	0.0	0.0				46.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	33.4	0.0	18.0	0.0	0.0				46.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3041	751	475	3274	0				1033	0	461
V/C Ratio(X)	0.00	0.60	0.00	0.86	0.27	0.00				1.33	0.00	0.00
Avail Cap(c_a), veh/h	0	3041	751	538	3274	0				1033	0	461
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.67	0.00	0.93	0.93	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	30.9	0.0	56.4	0.0	0.0				56.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	11.3	0.2	0.0				155.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	20.1	0.0	14.0	0.1	0.0				81.2	0.0	0.0
LnGrp Delay(d),s/veh	0.0	31.4	0.0	67.8	0.2	0.0				212.2	0.0	0.0
LnGrp LOS		C		E	A					F		
Approach Vol, veh/h		1820			1308						1375	
Approach Delay, s/veh		31.4			21.3						212.2	
Approach LOS		C			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		108.0		52.0	27.1	80.9		
Change Period (Y+Rc), s		6.5		6.9	6.5	6.5		
Max Green Setting (Gmax), s		101.5		45.1	23.5	71.5		
Max Q Clear Time (g_c+I1), s		2.0		48.6	20.0	35.4		
Green Ext Time (p_c), s		98.8		0.0	0.6	36.0		

Intersection Summary	
HCM 2010 Ctrl Delay	83.7
HCM 2010 LOS	F

Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1560	70	215	1102	37	40	9	198	107	12	24
Future Volume (vph)	72	1560	70	215	1102	37	40	9	198	107	12	24
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase							8			4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	6.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.9	27.0	27.0	15.5	28.0	28.0	12.1	41.8	41.8	11.7	43.8	43.8
Total Split (s)	25.0	70.0	70.0	30.0	75.0	75.0	20.0	40.0	40.0	20.0	40.0	40.0
Total Split (%)	15.6%	43.8%	43.8%	18.8%	46.9%	46.9%	12.5%	25.0%	25.0%	12.5%	25.0%	25.0%
Yellow Time (s)	4.4	5.0	5.0	3.5	5.0	5.0	3.6	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.4	5.5	5.5	4.5	5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 10 (6%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 3: Molly Ln & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1560	70	215	1102	37	40	9	198	107	12	24
Future Volume (veh/h)	72	1560	70	215	1102	37	40	9	198	107	12	24
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	78	1696	0	283	1136	0	77	13	0	135	22	0
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.63	0.76	0.97	0.71	0.52	0.67	0.76	0.79	0.55	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	2892	901	283	3354	1044	234	110	93	279	162	138
Arrive On Green	0.13	1.00	0.00	0.05	0.22	0.00	0.06	0.06	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	78	1696	0	283	1136	0	77	13	0	135	22	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	6.7	0.0	0.0	25.5	30.2	0.0	6.4	1.1	0.0	11.0	1.7	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	25.5	30.2	0.0	6.4	1.1	0.0	11.0	1.7	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	112	2892	901	283	3354	1044	234	110	93	279	162	138
V/C Ratio(X)	0.70	0.59	0.00	1.00	0.34	0.00	0.33	0.12	0.00	0.48	0.14	0.00
Avail Cap(c_a), veh/h	217	2892	901	283	3354	1044	297	404	343	293	404	343
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.00	0.74	0.74	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.5	0.0	0.0	75.8	33.1	0.0	64.8	71.3	0.0	60.8	67.5	0.0
Incr Delay (d2), s/veh	6.6	0.7	0.0	46.4	0.2	0.0	0.8	0.5	0.0	1.3	0.4	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(95%),veh/ln	6.3	0.4	0.0	29.1	19.6	0.0	5.7	1.0	0.0	9.3	1.6	0.0
LnGrp Delay(d),s/veh	75.0	0.7	0.0	122.2	33.3	0.0	65.6	71.8	0.0	62.1	67.9	0.0
LnGrp LOS	E	A		F	C		E	E		E	E	
Approach Vol, veh/h		1774			1419			90			157	
Approach Delay, s/veh		4.0			51.0			66.5			62.9	
Approach LOS		A			D			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	15.5	111.0	14.3	19.2	30.0	96.5	18.8	14.7
Change Period (Y+Rc), s	6.9	7.0	6.1	6.8	6.0	7.0	* 5.7	6.8
Max Green Setting (Gmax), s	18.1	68.0	13.9	33.2	24.0	63.0	* 14	33.2
Max Q Clear Time (g_c+I1), s	8.7	32.2	8.4	3.7	27.5	2.0	13.0	3.1
Green Ext Time (p_c), s	0.1	35.8	0.1	0.1	0.0	60.8	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.7
HCM 2010 LOS	C

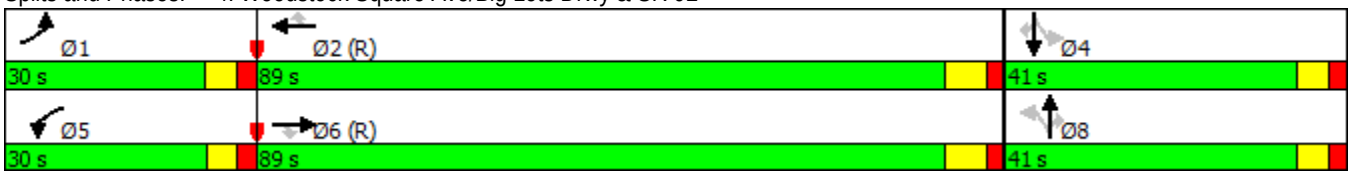
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	1856	28	41	991	17	31	1	14	12	0	4
Future Volume (vph)	32	1856	28	41	991	17	31	1	14	12	0	4
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	8	8	8	4	4	4
Switch Phase	9											
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.1	29.0	29.0	12.0	46.0	46.0	44.1	44.1	44.1	51.1	51.1	51.1
Total Split (s)	30.0	89.0	89.0	30.0	89.0	89.0	41.0	41.0	41.0	41.0	41.0	41.0
Total Split (%)	18.8%	55.6%	55.6%	18.8%	55.6%	55.6%	25.6%	25.6%	25.6%	25.6%	25.6%	25.6%
Yellow Time (s)	3.6	5.0	5.0	3.5	5.0	5.0	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)	4.6	5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 4: Woodstock Square Ave/Big Lots Drwy & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	1856	28	41	991	17	31	1	14	12	0	4
Future Volume (veh/h)	32	1856	28	41	991	17	31	1	14	12	0	4
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	40	1913	0	68	1054	39	62	4	0	17	0	0
Adj No. of Lanes	1	3	1	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.81	0.97	0.64	0.60	0.94	0.44	0.50	0.25	0.65	0.69	0.92	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	4002	1246	101	2841	1271	134	6	102	151	0	102
Arrive On Green	0.04	0.79	0.00	0.11	1.00	1.00	0.06	0.06	0.00	0.06	0.00	0.00
Sat Flow, veh/h	1774	5085	1583	1774	3539	1583	1392	90	1583	1639	0	1583
Grp Volume(v), veh/h	40	1913	0	68	1054	39	66	0	0	17	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1770	1583	1482	0	1583	1639	0	1583
Q Serve(g_s), s	3.5	20.5	0.0	5.9	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	20.5	0.0	5.9	0.0	0.0	6.9	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	4002	1246	101	2841	1271	140	0	102	151	0	102
V/C Ratio(X)	0.56	0.48	0.00	0.67	0.37	0.03	0.47	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	282	4002	1246	283	2841	1271	373	0	360	380	0	360
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.29	0.29	0.00	0.94	0.94	0.94	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	75.3	5.8	0.0	69.4	0.0	0.0	73.1	0.0	0.0	70.7	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.1	0.0	7.1	0.4	0.0	2.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	12.3	0.0	5.5	0.3	0.0	5.3	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	77.3	5.9	0.0	76.6	0.4	0.0	75.5	0.0	0.0	71.0	0.0	0.0
LnGrp LOS	E	A		E	A	A	E			E		
Approach Vol, veh/h		1953			1161			66			17	
Approach Delay, s/veh		7.4			4.8			75.5			71.0	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	134.0		15.0	13.6	131.4		15.0
Change Period (Y+Rc), s	6.1	7.0		6.1	6.0	7.0		6.1
Max Green Setting (Gmax), s	23.9	82.0		34.9	24.0	82.0		34.9
Max Q Clear Time (g_c+I1), s	5.5	2.0		3.5	7.9	22.5		8.9
Green Ext Time (p_c), s	0.1	79.7		0.2	0.1	59.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.2
HCM 2010 LOS	A

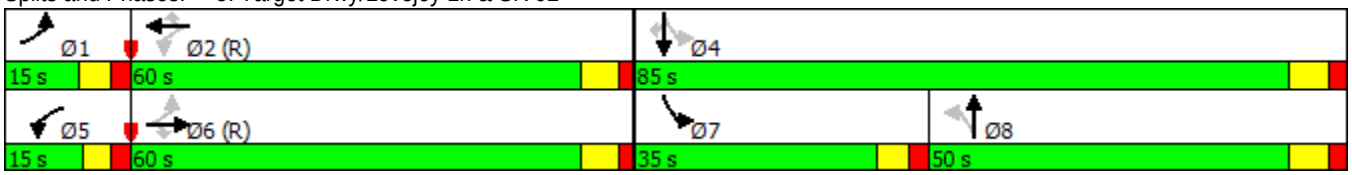
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	163	1569	9	50	901	106	13	7	330	37	7
Future Volume (vph)	163	1569	9	50	901	106	13	7	330	37	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2			8	7	4	
Permitted Phases	6		6	2		2	8		4		4
Detector Phase	1	6	6	5	2	2	8	8	7	4	4
Switch Phase	6			2					4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.1	34.5	34.5	11.8	31.5	31.5	50.1	50.1	12.1	54.1	54.1
Total Split (s)	15.0	60.0	60.0	15.0	60.0	60.0	50.0	50.0	35.0	85.0	85.0
Total Split (%)	9.4%	37.5%	37.5%	9.4%	37.5%	37.5%	31.3%	31.3%	21.9%	53.1%	53.1%
Yellow Time (s)	3.6	4.5	4.5	3.3	4.5	4.5	4.6	4.6	3.6	4.6	4.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	4.6	5.0	5.0	4.3	5.0	5.0		5.6	4.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 15 (9%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Target Drwy/Lovejoy Ln & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1569	9	50	901	106	13	7	10	330	37	7
Future Volume (veh/h)	163	1569	9	50	901	106	13	7	10	330	37	7
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	220	1687	0	74	919	123	23	28	26	347	65	14
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	1	1	1
Peak Hour Factor	0.74	0.93	0.44	0.68	0.98	0.86	0.56	0.25	0.38	0.95	0.57	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	2022	905	178	1946	871	56	49	39	470	540	459
Arrive On Green	0.06	0.57	0.00	0.09	1.00	1.00	0.07	0.07	0.06	0.19	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	381	683	543	1774	1863	1583
Grp Volume(v), veh/h	220	1687	0	74	919	123	77	0	0	347	65	14
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1608	0	0	1774	1863	1583
Q Serve(g_s), s	8.6	62.5	0.0	2.8	0.0	0.0	5.2	0.0	0.0	28.3	4.1	1.0
Cycle Q Clear(g_c), s	8.6	62.5	0.0	2.8	0.0	0.0	7.4	0.0	0.0	28.3	4.1	1.0
Prop In Lane	1.00		1.00	1.00		1.00	0.30		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	457	2022	905	178	1946	871	144	0	0	470	540	459
V/C Ratio(X)	0.48	0.83	0.00	0.42	0.47	0.14	0.53	0.00	0.00	0.74	0.12	0.03
Avail Cap(c_a), veh/h	457	2022	905	216	1946	871	468	0	0	470	924	786
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.93	0.93	0.93	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	28.1	0.0	26.7	0.0	0.0	72.6	0.0	0.0	52.4	41.8	40.7
Incr Delay (d2), s/veh	0.6	4.2	0.0	1.1	0.8	0.3	3.1	0.0	0.0	6.1	0.1	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(95%),veh/ln	7.7	40.9	0.0	2.8	0.4	0.1	6.2	0.0	0.0	20.8	3.8	0.8
LnGrp Delay(d),s/veh	13.8	32.3	0.0	27.8	0.8	0.3	75.6	0.0	0.0	58.5	41.9	40.7
LnGrp LOS	B	C		C	A	A	E			E	D	D
Approach Vol, veh/h		1907			1116			77			426	
Approach Delay, s/veh		30.2			2.5			75.6			55.4	
Approach LOS		C			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	93.0		52.0	11.6	96.4	35.0	17.0
Change Period (Y+Rc), s	6.1	6.5		7.1	* 5.8	6.5	6.1	7.1
Max Green Setting (Gmax), s	8.9	53.5		77.9	* 9.2	53.5	28.9	42.9
Max Q Clear Time (g_c+I1), s	10.6	2.0		6.1	4.8	64.5	30.3	9.4
Green Ext Time (p_c), s	0.0	51.3		0.6	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	25.5
HCM 2010 LOS	C

Notes

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	167	7	1	9	83	66
Future Vol, veh/h	167	7	1	9	83	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	38	25	50	79	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	232	18	4	18	105	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	156	87	174	0	-	0
Stage 1	139	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	820	954	1400	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	818	954	1400	-	-	-
Mov Cap-2 Maneuver	785	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	1000	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1400	-	785	954	-	-
HCM Lane V/C Ratio	0.003	-	0.295	0.019	-	-
HCM Control Delay (s)	7.6	-	11.5	8.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	139	36	21	28	20
Future Vol, veh/h	33	139	36	21	28	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	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	68	72	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	151	39	31	39	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	70	0	-	0	278	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1531	-	-	-	712	1012
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	814	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1531	-	-	-	695	1012
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	795	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1531	-	-	-	695	1012
HCM Lane V/C Ratio	0.023	-	-	-	0.056	0.021
HCM Control Delay (s)	7.4	-	-	-	10.5	8.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.1

Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	950	1819	2241	907	311	204
Future Volume (vph)	950	1819	2241	907	311	204
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases				2		8
Detector Phase	1	6	2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	15.5	25.0	23.5	23.5	55.2	55.2
Total Split (s)	45.0	128.0	83.0	83.0	52.0	52.0
Total Split (%)	25.0%	71.1%	46.1%	46.1%	28.9%	28.9%
Yellow Time (s)	5.3	5.0	5.0	5.0	4.7	4.7
All-Red Time (s)	2.5	2.0	2.0	2.0	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	6.3	5.5	5.5	5.5	5.7	5.7
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Recall Mode	None	C-Min	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 115 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 1: I-575 NB Ramps & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	950	1819	0	0	2241	907	311	0	204	0	0	0
Future Volume (veh/h)	950	1819	0	0	2241	907	311	0	204	0	0	0
Number	1	6	16	5	2	12	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	1145	1837	0	0	2410	0	366	0	0			
Adj No. of Lanes	2	3	0	0	4	1	2	0	1			
Peak Hour Factor	0.83	0.99	0.92	0.92	0.93	0.95	0.85	0.92	0.85			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	740	4104	0	0	3569	882	450	0	207			
Arrive On Green	0.43	1.00	0.00	0.00	0.56	0.00	0.13	0.00	0.00			
Sat Flow, veh/h	3442	5253	0	0	6669	1583	3442	0	1583			
Grp Volume(v), veh/h	1145	1837	0	0	2410	0	366	0	0			
Grp Sat Flow(s),veh/h/ln	1721	1695	0	0	1602	1583	1721	0	1583			
Q Serve(g_s), s	38.7	0.0	0.0	0.0	48.1	0.0	18.6	0.0	0.0			
Cycle Q Clear(g_c), s	38.7	0.0	0.0	0.0	48.1	0.0	18.6	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	740	4104	0	0	3569	882	450	0	207			
V/C Ratio(X)	1.55	0.45	0.00	0.00	0.68	0.00	0.81	0.00	0.00			
Avail Cap(c_a), veh/h	740	4104	0	0	3569	882	885	0	407			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.50	0.50	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	51.3	0.0	0.0	0.0	28.3	0.0	76.1	0.0	0.0			
Incr Delay (d2), s/veh	249.7	0.2	0.0	0.0	1.0	0.0	3.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	79.1	0.1	0.0	0.0	29.1	0.0	14.1	0.0	0.0			
LnGrp Delay(d),s/veh	301.0	0.2	0.0	0.0	29.4	0.0	79.7	0.0	0.0			
LnGrp LOS	F	A			C		E					
Approach Vol, veh/h		2982			2410			366				
Approach Delay, s/veh		115.7			29.4			79.7				
Approach LOS		F			C			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	45.0	105.8				150.8		29.2
Change Period (Y+Rc), s	7.8	7.0				7.0		7.2
Max Green Setting (Gmax), s	37.2	76.0				121.0		44.8
Max Q Clear Time (g_c+I1), s	40.7	50.1				2.0		20.6
Green Ext Time (p_c), s	0.0	25.9				118.2		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	77.3
HCM 2010 LOS	E

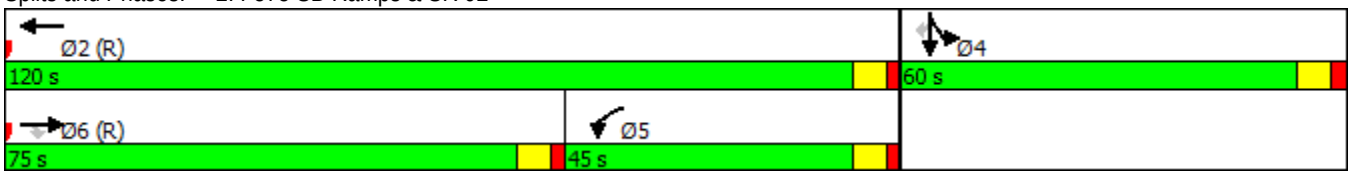
Notes

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1867	265	507	1997	868	0	640
Future Volume (vph)	1867	265	507	1997	868	0	640
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	6		5	2	4	4	
Permitted Phases		6					4
Detector Phase	6	6	5	2	4	4	4
Switch Phase							
Minimum Initial (s)	12.0	12.0	6.0	12.0	8.0	8.0	8.0
Minimum Split (s)	27.5	27.5	12.5	26.5	53.9	53.9	53.9
Total Split (s)	75.0	75.0	45.0	120.0	60.0	60.0	60.0
Total Split (%)	41.7%	41.7%	25.0%	66.7%	33.3%	33.3%	33.3%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.4	4.4	4.4
All-Red Time (s)	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.4	5.4	5.4
Lead/Lag	Lead	Lead	Lag				
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 170 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-575 SB Ramps & SR 92



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1867	265	507	1997	0	0	0	0	868	0	640
Future Volume (veh/h)	0	1867	265	507	1997	0	0	0	0	868	0	640
Number	1	6	16	5	2	12				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	1925	0	545	2038	0				943	0	0
Adj No. of Lanes	0	4	1	2	3	0				2	0	1
Peak Hour Factor	0.92	0.97	0.91	0.93	0.98	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2480	613	823	3326	0				1023	0	456
Arrive On Green	0.00	0.51	0.00	0.08	0.22	0.00				0.29	0.00	0.00
Sat Flow, veh/h	0	6669	1583	3442	5253	0				3548	0	1583
Grp Volume(v), veh/h	0	1925	0	545	2038	0				943	0	0
Grp Sat Flow(s),veh/h/ln	0	1602	1583	1721	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	43.7	0.0	27.7	65.2	0.0				46.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	43.7	0.0	27.7	65.2	0.0				46.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2480	613	823	3326	0				1023	0	456
V/C Ratio(X)	0.00	0.78	0.00	0.66	0.61	0.00				0.92	0.00	0.00
Avail Cap(c_a), veh/h	0	2492	616	823	3326	0				1076	0	480
HCM Platoon Ratio	1.00	1.33	1.33	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.45	0.00	0.41	0.41	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	37.4	0.0	75.8	50.0	0.0				62.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.8	0.4	0.0				12.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	24.3	0.0	17.2	36.6	0.0				32.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	38.5	0.0	76.7	50.3	0.0				74.5	0.0	0.0
LnGrp LOS		D		E	D					E		
Approach Vol, veh/h		1925			2583						943	
Approach Delay, s/veh		38.5			55.9						74.5	
Approach LOS		D			E						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		122.7		57.3	48.1	74.7		
Change Period (Y+Rc), s		6.5		6.9	6.5	6.5		
Max Green Setting (Gmax), s		113.5		53.1	38.5	68.5		
Max Q Clear Time (g_c+I1), s		67.2		48.4	29.7	45.7		
Green Ext Time (p_c), s		45.7		2.0	8.8	22.5		

Intersection Summary	
HCM 2010 Ctrl Delay	53.0
HCM 2010 LOS	D

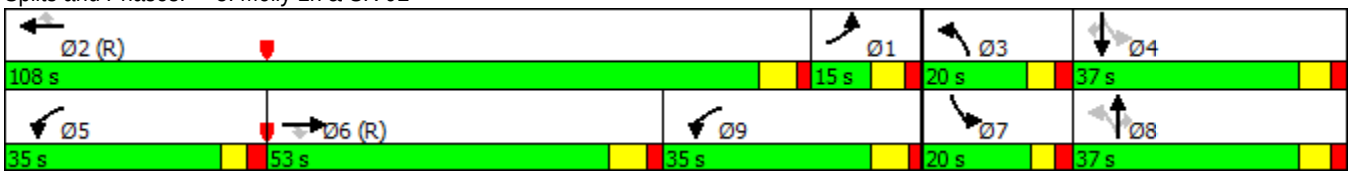
Notes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1603	96	408	2421	28	134	19	393	128	17	56
Future Volume (vph)	43	1603	96	408	2421	28	134	19	393	128	17	56
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5 9	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5 9	2	2	3	8	8	7	4	4
Switch Phase							8			4		
Minimum Initial (s)	6.0	12.0	12.0		12.0	12.0	6.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.9	27.0	27.0		28.0	28.0	12.1	41.8	41.8	11.7	43.8	43.8
Total Split (s)	15.0	53.0	53.0		108.0	108.0	20.0	37.0	37.0	20.0	37.0	37.0
Total Split (%)	8.3%	29.4%	29.4%		60.0%	60.0%	11.1%	20.6%	20.6%	11.1%	20.6%	20.6%
Yellow Time (s)	4.4	5.0	5.0		5.0	5.0	3.6	4.3	4.3	3.2	4.3	4.3
All-Red Time (s)	2.5	2.0	2.0		2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	5.4	5.5	5.5		5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lead/Lag	Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Min	C-Min		C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 165 (92%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 3: Molly Ln & SR 92



Lane Group	Ø5	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Turn Type		
Protected Phases	5	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	15.5	42.5
Total Split (s)	35.0	35.0
Total Split (%)	19%	19%
Yellow Time (s)	3.5	5.0
All-Red Time (s)	2.5	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Recall Mode	None	None

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1603	96	408	2421	28	134	19	393	128	17	56
Future Volume (vph)	43	1603	96	408	2421	28	134	19	393	128	17	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.5	5.5	4.5	5.5	5.5	4.6	5.3	5.3	4.2	5.3	5.3
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1380	1863	1583	1350	1863	1583
Peak-hour factor, PHF	0.61	0.93	0.77	0.94	0.93	0.59	0.90	0.71	0.77	0.73	0.67	0.53
Adj. Flow (vph)	70	1724	125	434	2603	47	149	27	510	175	25	106
RTOR Reduction (vph)	0	0	75	0	0	16	0	0	468	0	0	97
Lane Group Flow (vph)	70	1724	50	434	2603	31	149	27	42	175	25	9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5 9	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	8.1	71.2	71.2	48.8	118.0	118.0	26.8	13.2	13.2	27.8	13.5	13.5
Effective Green, g (s)	9.6	72.7	72.7	51.8	119.5	119.5	29.8	14.7	14.7	30.8	15.0	15.0
Actuated g/C Ratio	0.05	0.40	0.40	0.29	0.66	0.66	0.17	0.08	0.08	0.17	0.08	0.08
Clearance Time (s)	6.9	7.0	7.0		7.0	7.0	6.1	6.8	6.8	5.7	6.8	6.8
Vehicle Extension (s)	3.0	6.0	6.0		6.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	94	2053	639	509	3375	1050	261	152	129	267	155	131
v/s Ratio Prot	0.04	c0.34		c0.25	0.51		0.05	0.01		c0.06	0.01	
v/s Ratio Perm			0.03			0.02	0.05		0.03	c0.05		0.01
v/c Ratio	0.74	0.84	0.08	0.85	0.77	0.03	0.57	0.18	0.32	0.66	0.16	0.07
Uniform Delay, d1	84.0	48.4	33.0	60.5	20.8	10.4	68.4	77.0	78.0	68.6	76.7	76.1
Progression Factor	0.89	1.21	6.29	1.17	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.0	4.0	0.2	9.3	1.2	0.0	3.0	0.6	1.5	5.7	0.5	0.2
Delay (s)	100.2	62.7	208.0	80.1	18.9	10.4	71.4	77.6	79.4	74.3	77.1	76.3
Level of Service	F	E	F	F	B	B	E	E	E	E	E	E
Approach Delay (s)		73.6			27.4			77.6			75.2	
Approach LOS		E			C			E			E	

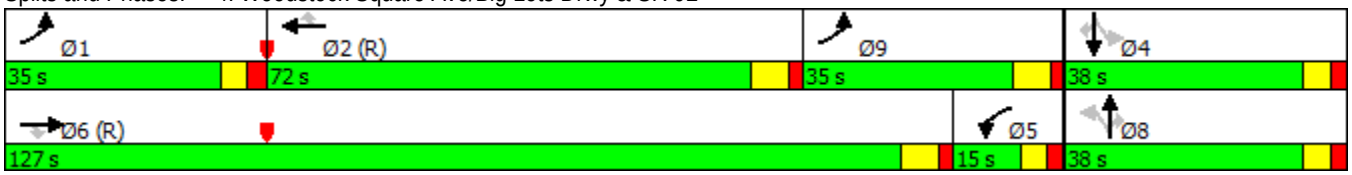
Intersection Summary			
HCM 2000 Control Delay	50.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	25.4
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1485	108	213	2333	22	112	1	186	21	4	43
Future Volume (vph)	43	1485	108	213	2333	22	112	1	186	21	4	43
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 9	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Detector Phase	1	6	6	5	2	2	8	8	8	4	4	4
Switch Phase	9											
Minimum Initial (s)		12.0	12.0	6.0	12.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)		29.0	29.0	12.0	46.0	46.0	44.1	44.1	44.1	51.1	51.1	51.1
Total Split (s)		127.0	127.0	15.0	72.0	72.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)		70.6%	70.6%	8.3%	40.0%	40.0%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%
Yellow Time (s)		5.0	5.0	3.5	5.0	5.0	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)		2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)		-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5		-1.5	-1.5
Total Lost Time (s)		5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lead/Lag		Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?												
Recall Mode		C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

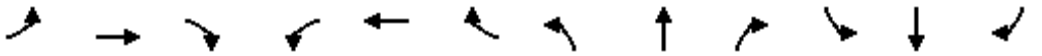
Intersection Summary
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 165 (92%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 4: Woodstock Square Ave/Big Lots Drwy & SR 92



Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	6.0	6.0
Minimum Split (s)	12.1	13.5
Total Split (s)	35.0	35.0
Total Split (%)	19%	19%
Yellow Time (s)	3.6	5.0
All-Red Time (s)	2.5	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Recall Mode	Min	None

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	1485	108	213	2333	22	112	1	186	21	4	43
Future Volume (vph)	43	1485	108	213	2333	22	112	1	186	21	4	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.5	5.5	4.5	5.5	5.5		4.6	4.6		4.6	4.6
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.97	1.00
Satd. Flow (prot)	1770	5085	1583	1770	3539	1583		1776	1583		1806	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.70	1.00		0.62	1.00
Satd. Flow (perm)	1770	5085	1583	1770	3539	1583		1304	1583		1158	1583
Peak-hour factor, PHF	0.89	0.92	0.77	0.90	0.98	0.62	0.72	0.25	0.90	0.79	0.25	0.57
Adj. Flow (vph)	48	1614	140	237	2381	35	156	4	207	27	16	75
RTOR Reduction (vph)	0	0	34	0	0	11	0	0	123	0	0	63
Lane Group Flow (vph)	48	1614	106	237	2381	24	0	160	84	0	43	12
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 9	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	10.4	125.6	125.6	9.0	124.1	124.1		26.3	26.3		26.3	26.3
Effective Green, g (s)	11.9	127.1	127.1	10.5	125.6	125.6		27.8	27.8		27.8	27.8
Actuated g/C Ratio	0.07	0.71	0.71	0.06	0.70	0.70		0.15	0.15		0.15	0.15
Clearance Time (s)		7.0	7.0	6.0	7.0	7.0		6.1	6.1		6.1	6.1
Vehicle Extension (s)		5.0	5.0	3.0	5.0	5.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	117	3590	1117	103	2469	1104		201	244		178	244
v/s Ratio Prot	0.03	c0.32		c0.13	c0.67							
v/s Ratio Perm			0.07			0.02		c0.12	0.05		0.04	0.01
v/c Ratio	0.41	0.45	0.09	2.30	0.96	0.02		0.80	0.34		0.24	0.05
Uniform Delay, d1	80.7	11.4	8.3	84.8	25.1	8.3		73.4	67.9		66.8	64.8
Progression Factor	0.85	1.21	2.33	0.95	0.83	1.00		1.06	1.23		1.00	1.00
Incremental Delay, d2	1.7	0.3	0.1	605.0	8.4	0.0		19.1	0.8		0.7	0.1
Delay (s)	70.5	14.1	19.5	685.9	29.3	8.4		97.0	84.3		67.5	64.9
Level of Service	E	B	B	F	C	A		F	F		E	E
Approach Delay (s)		16.0			87.7			89.8			65.9	
Approach LOS		B			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	216	1379	55	61	1775	493	63	79	221	53	15
Future Volume (vph)	216	1379	55	61	1775	493	63	79	221	53	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2			8	7	4	
Permitted Phases	6		6	2		2	8		4		4
Detector Phase	1	6	6	5	2	2	8	8	7	4	4
Switch Phase	6			2					4		
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0	6.0	8.0	8.0
Minimum Split (s)	12.1	34.5	34.5	11.8	31.5	31.5	50.1	50.1	12.1	54.1	54.1
Total Split (s)	20.0	92.0	92.0	20.0	92.0	92.0	48.0	48.0	20.0	68.0	68.0
Total Split (%)	11.1%	51.1%	51.1%	11.1%	51.1%	51.1%	26.7%	26.7%	11.1%	37.8%	37.8%
Yellow Time (s)	3.6	4.5	4.5	3.3	4.5	4.5	4.6	4.6	3.6	4.6	4.6
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5		-1.5	-1.5	-1.5	-1.5
Total Lost Time (s)	4.6	5.0	5.0	4.3	5.0	5.0		5.6	4.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 15 (8%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 5: Target Drwy/Lovejoy Ln & SR 92

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	1379	55	61	1775	493	63	79	4	221	53	15
Future Volume (veh/h)	216	1379	55	61	1775	493	63	79	4	221	53	15
Number	1	6	16	5	2	12	3	8	18	7	4	14
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	1863	1863	1863	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	254	1483	0	74	1868	567	81	95	12	233	82	17
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	1	1	1
Peak Hour Factor	0.85	0.93	0.86	0.82	0.95	0.87	0.78	0.83	0.33	0.95	0.65	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	2206	987	237	2042	914	120	116	14	329	471	401
Arrive On Green	0.09	0.62	0.00	0.03	0.39	0.39	0.14	0.14	0.13	0.09	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	641	821	100	1774	1863	1583
Grp Volume(v), veh/h	254	1483	0	74	1868	567	188	0	0	233	82	17
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1561	0	0	1774	1863	1583
Q Serve(g_s), s	15.4	48.9	0.0	3.0	90.2	52.0	20.1	0.0	0.0	15.4	6.2	1.5
Cycle Q Clear(g_c), s	15.4	48.9	0.0	3.0	90.2	52.0	21.1	0.0	0.0	15.4	6.2	1.5
Prop In Lane	1.00		1.00	1.00		1.00	0.43		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	202	2206	987	237	2042	914	250	0	0	329	471	401
V/C Ratio(X)	1.25	0.67	0.00	0.31	0.91	0.62	0.75	0.00	0.00	0.71	0.17	0.04
Avail Cap(c_a), veh/h	202	2206	987	319	2042	914	395	0	0	329	646	549
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	0.23	0.23	0.23	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.3	22.0	0.0	19.8	51.0	39.3	75.3	0.0	0.0	60.9	52.5	50.8
Incr Delay (d2), s/veh	148.5	1.7	0.0	0.1	2.0	0.7	4.5	0.0	0.0	6.8	0.2	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(95%),veh/ln	33.1	32.3	0.0	2.4	49.9	26.7	14.5	0.0	0.0	6.7	5.8	1.2
LnGrp Delay(d),s/veh	213.9	23.6	0.0	19.9	53.0	40.0	79.8	0.0	0.0	67.7	52.7	50.8
LnGrp LOS	F	C		B	D	D	E			E	D	D
Approach Vol, veh/h		1737			2509			188			332	
Approach Delay, s/veh		51.4			49.1			79.8			63.2	
Approach LOS		D			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	108.9		51.1	11.7	117.2	20.0	31.1
Change Period (Y+Rc), s	6.1	6.5		7.1	* 5.8	6.5	6.1	7.1
Max Green Setting (Gmax), s	13.9	85.5		60.9	* 14	85.5	13.9	40.9
Max Q Clear Time (g_c+I1), s	17.4	92.2		8.2	5.0	50.9	17.4	23.1
Green Ext Time (p_c), s	0.0	0.0		1.1	0.1	34.5	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	52.2
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	218	2	9	93	16	268
Future Vol, veh/h	218	2	9	93	16	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	50	100	71	54	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	240	4	9	131	30	301

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	263	165	331	0	-	0
Stage 1	180	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	704	850	1225	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	698	850	1225	-	-	-
Mov Cap-2 Maneuver	714	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1225	-	714	850	-	-
HCM Lane V/C Ratio	0.007	-	0.336	0.005	-	-
HCM Control Delay (s)	8	-	12.6	9.3	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1.5	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	87	112	110	52	61
Future Vol, veh/h	20	87	112	110	52	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	90	80	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	95	122	122	65	66

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	244	0	-	0	321	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1322	-	-	-	673	859
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1322	-	-	-	662	859
Mov Cap-2 Maneuver	-	-	-	-	662	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1322	-	-	-	662	859
HCM Lane V/C Ratio	0.016	-	-	-	0.098	0.077
HCM Control Delay (s)	7.8	-	-	-	11	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.2

Traffic Volume Worksheets

17-113 Woodstock Square Ave Resi. Dev.-Cherokee County (Detailed DRI)

Traffic Volumes
Future Conditions

A&R Engineering
November 2017

1. SR 92 @ I-575 NB Ramps

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	184	0	474	658	0	0	0	0	526	2329	0	2855	0	945	554	1499
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	201	0	518	719	0	0	0	0	575	2545	0	3120	0	1033	605	1638
Total New Trips	28	0	0	28	0	0	0	0	34	17	0	51	0	6	0	6
Future Traffic Volumes:	229	0	518	747	0	0	0	0	609	2562	0	3171	0	1039	605	1644

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	205	0	187	392	0	0	0	0	850	1655	0	2505	0	2035	830	2865
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	224	0	204	428	0	0	0	0	929	1808	0	2737	0	2224	907	3131
Total New Trips	87	0	0	87	0	0	0	0	21	11	0	32	0	17	0	17
Future Traffic Volumes:	311	0	204	515	0	0	0	0	950	1819	0	2769	0	2241	907	3148

17-113 Woodstock Square Ave Resi. Dev.-Cherokee County (Detailed DRI)

Traffic Volumes
Future Conditions

A&R Engineering
November 2017

2. SR 92 @ I-575 SB Ramps

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	1192	1	541	1734	0	1568	101	1669	325	735	0	1060
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	0	0	0	0	1303	1	591	1895	0	1713	110	1823	355	803	0	1158
Total New Trips	0	0	0	0	0	0	11	11	0	52	86	138	0	34	0	34
Future Traffic Volumes:	0	0	0	0	1303	1	602	1906	0	1765	196	1961	355	837	0	1192

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	794	0	554	1348	0	1679	193	1872	464	1732	0	2196
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	0	0	0	0	868	0	605	1473	0	1835	211	2046	507	1893	0	2400
Total New Trips	0	0	0	0	0	0	35	35	0	32	54	86	0	104	0	104
Future Traffic Volumes:	0	0	0	0	868	0	640	1508	0	1867	265	2132	507	1997	0	2504

17-113 Woodstock Square Ave Resi. Dev.-Cherokee County (Detailed DRI)

Traffic Volumes
Future Conditions

A&R Engineering
November 2017

3. SR 92 @ Molly Ln

A.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	35	8	55	98	98	11	22	131	66	1428	63	1557	164	1000	34	1198
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	38	9	60	107	107	12	24	143	72	1560	69	1701	179	1093	37	1309
Total New Trips	2	0	138	140	0	0	0	0	0	0	1	1	36	9	0	45
Future Traffic Volumes:	40	9	198	247	107	12	24	143	72	1560	70	1702	215	1102	37	1354

P.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	122	17	281	420	117	16	51	184	39	1467	86	1592	272	2190	26	2488
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	133	19	307	459	128	17	56	201	43	1603	94	1740	297	2393	28	2718
Total New Trips	1	0	86	87	0	0	0	0	0	0	2	2	111	28	0	139
Future Traffic Volumes:	134	19	393	546	128	17	56	201	43	1603	96	1742	408	2421	28	2857

17-113 Woodstock Square Ave Resi. Dev.-Cherokee County (Detailed DRI)

Traffic Volumes
Future Conditions

A&R Engineering
November 2017

4. SR 92 @ Woodstock Square Ave

A.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	6	1	13	20	11	0	4	15	29	1698	18	1745	29	905	16	950
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	7	1	14	22	12	0	4	16	32	1855	20	1907	32	989	17	1038
Total New Trips	24	0	0	24	0	0	0	0	0	1	8	9	9	2	0	11
Future Traffic Volumes:	31	1	14	46	12	0	4	16	32	1856	28	1916	41	991	17	1049

P.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	89	1	170	260	19	4	39	62	39	1357	77	1473	169	2134	20	2323
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	97	1	186	284	21	4	43	68	43	1483	84	1610	185	2332	22	2539
Total New Trips	15	0	0	15	0	0	0	0	0	2	24	26	28	1	0	29
Future Traffic Volumes:	112	1	186	299	21	4	43	68	43	1485	108	1636	213	2333	22	2568

17-113 Woodstock Square Ave Resi. Dev.-Cherokee County (Detailed DRI)

Traffic Volumes
Future Conditions

A&R Engineering
November 2017

5. SR 92 @ Lovejoy Ln

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	9	2	9	20	298	32	6	336	149	1432	7	1588	46	812	86	944
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	10	2	10	22	326	35	7	368	163	1565	8	1736	50	887	94	1031
Total New Trips	3	5	0	8	4	2	0	6	0	4	1	5	0	14	12	26
Future Traffic Volumes:	13	7	10	30	330	37	7	374	163	1569	9	1741	50	901	106	1057

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	56	70	4	130	191	44	14	249	198	1249	48	1495	56	1616	445	2117
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	61	76	4	141	209	48	15	272	216	1365	52	1633	61	1766	486	2313
Total New Trips	2	3	0	5	12	5	0	17	0	14	3	17	0	9	7	16
Future Traffic Volumes:	63	79	4	146	221	53	15	289	216	1379	55	1650	61	1775	493	2329

17-113 Woodstock Square Ave Resi. Dev.-Cherokee County (Detailed DRI)

Traffic Volumes
Future Conditions

A&R Engineering
November 2017

6. Molly Ln @ Long Dr

A.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	1	8	0	9	0	76	27	103	26	0	6	32	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	1	9	0	10	0	83	30	113	28	0	7	35	0	0	0	0
Total New Trips	0	0	0	0	0	0	36	36	139	0	0	139	0	0	0	0
Future Traffic Volumes:	1	9	0	10	0	83	66	149	167	0	7	174	0	0	0	0

P.M. Peak Hour

Condition	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	8	85	0	93	0	15	143	158	120	0	2	122	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	9	93	0	102	0	16	156	172	131	0	2	133	0	0	0	0
Total New Trips	0	0	0	0	0	0	112	112	87	0	0	87	0	0	0	0
Future Traffic Volumes:	9	93	0	102	0	16	268	284	218	0	2	220	0	0	0	0

17-113 Woodstock Square Ave Resi. Dev.-Cherokee County (Detailed DRI)

Traffic Volumes
Future Conditions

A&R Engineering
November 2017

7. Long Dr @ Woodstock Sq. Ave

A.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	26	0	0	26	0	0	0	0	0	0	19	19
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	0	0	0	0	28	0	0	28	0	0	0	0	0	0	21	21
Total New Trips	0	0	0	0	0	0	20	20	33	139	0	172	0	36	0	36
Future Traffic Volumes:	0	0	0	0	28	0	20	48	33	139	0	172	0	36	21	57

P.M. Peak Hour

	Northbound				Southbound				Eastbound				Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing:	0	0	0	0	48	0	0	48	0	0	0	0	0	0	101	101
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Base Condition:	0	0	0	0	52	0	0	52	0	0	0	0	0	0	110	110
Total New Trips	0	0	0	0	0	0	61	61	20	87	0	107	0	112	0	112
Future Traffic Volumes:	0	0	0	0	52	0	61	113	20	87	0	107	0	112	110	222