

**DEVELOPMENT OF REGIONAL IMPACT
(DRI #2866)
TRAFFIC STUDY
FOR
ENCORE BY ASHTON WOODS
MIXED-USE DEVELOPMENT

DULUTH, GEORGIA**



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January 7, 2019
A & R Project # 18-089

EXECUTIVE SUMMARY

Traffic impacts were evaluated for the added traffic from the proposed Encore mixed-use development located on Peachtree Industrial Boulevard in Duluth, Georgia. The development will consist of:

- 126 townhome units
- 450 apartment units
- 395 single-family units
- 10,000 square feet of retail space

The development proposes to redevelop the existing Hooch Golf Club site and make use of the existing two full-access driveways on Peachtree Industrial Boulevard. Existing and future operations after completion of the project were analyzed at the intersections of:

1. Peachtree Industrial Boulevard at State Bridge Road/Pleasant Hill Road
2. Peachtree Industrial Boulevard at SR 120 (Abbotts Bridge Road)
3. SR 120 (Abbotts Bridge Road) at George Rogers Avenue/Duluth High School Driveway
4. Peachtree Industrial Boulevard at Chattahoochee Trace/Hooch Driveway (West)
5. Peachtree Industrial Boulevard at Hooch Driveway (East)
6. Peachtree Industrial Boulevard at Rogers Bridge Road
7. Rogers Bridge Road at Albion Farm Road/Highbrooke Trail
8. Rogers Bridge Road at Main Street/Chattahoochee Drive
9. US 23/SR 13 (Buford Highway) at Rogers Bridge Road/Old Peachtree Road
10. Peachtree Industrial Boulevard at Chattahoochee Drive
11. Peachtree Industrial Boulevard at Sugarloaf Parkway
12. Sugarloaf Parkway at US 23/SR 13 (Buford Highway)

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:

System Recommendations and Improvements

A summary of the system improvements, which address deficiencies that are found within the existing road network for the “No-Build” conditions, is provided in Section 6.1.4. These are recommended for the local municipality to use in planning future transportation projects.

Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections:

- Site Driveway 1: Existing western full-access driveway on Peachtree Industrial Boulevard
 - This driveway is proposed to continue to consist of one entering and one exiting lane.
 - Entering left turn movements are proposed to continue to be made from the existing eastbound left turn lane.
 - Entering right turn movements are proposed to continue to be made from the existing westbound deceleration lane.

- A preliminary signal warrant analysis indicated that the intersection meets MUTCD thresholds for a traffic signal before the addition of site traffic. Therefore, it is recommended that the intersection be signalized.
- Site Driveway 2: Existing eastern full-access driveway on Peachtree Industrial Boulevard
 - This driveway is proposed to continue to consist of one entering and one exiting lane.
 - Entering left and right turn movements are proposed to continue to be made from the existing turn lanes on Peachtree Industrial Boulevard.
 - A preliminary signal warrant analysis indicates that the entering left turn movements and opposing through movements will meet MUTCD thresholds for a traffic signal. Therefore, consideration should be given to signalizing the intersection.

Site Mitigation Improvements and Recommendations

Improvements that are identified as mitigation improvements are recommended as directly benefitting proposed site-generated traffic. Peak hour factors and signal timings were adjusted at several intersections to accommodate the increase in traffic. No further recommendations were made outside of the recommended site access configuration.

TABLE OF CONTENTS

Item	Page
Executive Summary	
System Recommendations and Improvements	
Site Access Configuration	
Site Mitigation Improvements and Recommendations	
1.0 Introduction	1
2.0 Study Network Determination	3
2.1 Existing Roadway Facilities.....	3
2.1.1 Peachtree Industrial Boulevard.....	3
2.1.2 State Bridge Road.....	4
2.1.3 Pleasant Hill Road	4
2.1.4 SR 120 (Abbotts Bridge Road)	4
2.1.5 George Rogers Avenue.....	4
2.1.6 Chattahoochee Trace	4
2.1.7 Rogers Bridge Road.....	4
2.1.8 Albion Farm Road.....	4
2.1.9 Highbrooke Trail.....	4
2.1.10 Main Street	4
2.1.11 Chattahoochee Drive	5
2.1.12 US 23/SR 13 (Buford Highway).....	5
2.1.13 Old Peachtree Road	5
2.1.14 Sugarloaf Parkway.....	5
2.2 Existing Bicycle and Pedestrian Facilities	5
2.2.1 Nearby local or regional trails	5
2.2.2 Bicycle paths or sidewalks.....	5
2.3 Existing Transit Facilities	6
3.0 Study Methodology	8
3.1 Unsignalized Intersections	8
3.2 Signalized Intersections	8
4.0 Existing Traffic Analysis.....	10
4.1 Existing Traffic Operations	10
5.0 Project Description	14
5.1 Site Plan.....	14
5.1.1 Planned Bicycle and Pedestrian Facilities	14
5.1.2 Planned Transit Facilities	14
5.2 Consistency with Adopted Comprehensive Plan	14
5.3 Project Phasing.....	14
5.4 Trip Generation	15
5.5 Trip Distribution	15
6.0 Future 2023 Traffic Analysis.....	18

6.1	Future “No-Build” Conditions	18
6.1.1	Annual Traffic Growth.....	18
6.1.2	Planned and Programmed Improvements in Study Area	18
6.1.3	Future “No-Build” Traffic Operations	21
6.1.4	Recommendations for System Improvements	22
6.2	Future “Build” Conditions	23
6.2.1	Site Access Configuration.....	23
6.2.2	Future “Build” Traffic Operations	25
6.2.3	Recommendations for Site Mitigation Improvements	26
7.0	Conclusions and Recommendations.....	28
7.1	System Recommendations and Improvements.....	28
7.2	Site Access Configuration.....	28
7.3	Site Mitigation Improvements	29
Appendix		

LIST OF TABLES

Item	Page
Table 1 – Level-of-service Criteria for Unsignalized Intersections.....	8
Table 2 – Level-of-service Criteria for Signalized Intersections	9
Table 3 – Existing Intersection Operations	10
Table 4 – Trip Generation	15
Table 5 – Planned and Programmed Improvements	18
Table 6 – Future “No-Build” Intersection Operations.....	21
Table 7 – Future “Build” Intersection Operations	25

LIST OF FIGURES

Item	Page
Figure 1 – Location Map and Study Intersections.....	7
Figure 2 – Existing Weekday Peak Hour Volumes.....	12
Figure 3 – Existing Traffic Control and Lane Geometry	13
Figure 4 – Site Plan.....	16
Figure 5 – Outer Leg Trip Distribution and Site-Generated Peak Hour Volumes	17
Figure 6 – Future (No-Build) Peak Hour Volumes.....	20
Figure 7 – Future (Build) Peak Hour Volumes.....	24
Figure 8 – Future Traffic Control and Lane Geometry	27

1.0 INTRODUCTION

The purpose of this study is to determine the added traffic that will result from the proposed Encore mixed-use development located on Peachtree Industrial Boulevard in Duluth, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The proposed development will consist of:

- 126 townhome units
- 450 apartment units
- 395 single-family units
- 10,000 square feet of retail space



The development proposes to redevelop the existing Hooch Golf Club site and make use of the existing two full-access driveways on Peachtree Industrial Boulevard.

The AM and PM peak hours have been analyzed in this study. In addition to the site access points, this study includes the evaluation of traffic operations at the intersections of:

1. Peachtree Industrial Boulevard at State Bridge Road/Pleasant Hill Road
2. Peachtree Industrial Boulevard at SR 120 (Abbotts Bridge Road)
3. SR 120 (Abbotts Bridge Road) at George Rogers Avenue/Duluth High School Driveway
4. Peachtree Industrial Boulevard at Chattahoochee Trace/Hooch Driveway (West)
5. Peachtree Industrial Boulevard at Hooch Driveway (East)
6. Peachtree Industrial Boulevard at Rogers Bridge Road
7. Rogers Bridge Road at Albion Farm Road/Highbrooke Trail

8. Rogers Bridge Road at Main Street/Chattahoochee Drive
9. US 23/SR 13 (Buford Highway) at Rogers Bridge Road/Old Peachtree Road
10. Peachtree Industrial Boulevard at Chattahoochee Drive
11. Peachtree Industrial Boulevard at Sugarloaf Parkway
12. Sugarloaf Parkway at US 23/SR 13 (Buford Highway)

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

2.0 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 Duluth, and Gwinnett County:

1. Peachtree Industrial Boulevard at State Bridge Road/Pleasant Hill Road
2. Peachtree Industrial Boulevard at SR 120 (Abbotts Bridge Road)
3. SR 120 (Abbotts Bridge Road) at George Rogers Avenue/Duluth High School Driveway
4. Peachtree Industrial Boulevard at Chattahoochee Trace/Hooch Driveway (West)
5. Peachtree Industrial Boulevard at Hooch Driveway (East)
6. Peachtree Industrial Boulevard at Rogers Bridge Road
7. Rogers Bridge Road at Albion Farm Road/Highbrooke Trail
8. Rogers Bridge Road at Main Street/Chattahoochee Drive
9. US 23/SR 13 (Buford Highway) at Rogers Bridge Road/Old Peachtree Road
10. Peachtree Industrial Boulevard at Chattahoochee Drive
11. Peachtree Industrial Boulevard at Sugarloaf Parkway
12. Sugarloaf Parkway at US 23/SR 13 (Buford Highway)

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.

2.1 Existing Roadway Facilities

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

2.1.1 Peachtree Industrial Boulevard

Peachtree Industrial Boulevard is a four-lane, median-divided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station IDs 1350663 & 1350669) indicate that the daily traffic volume on Peachtree Industrial Boulevard in 2016 was 45,100 vehicles per day south of River Green Parkway and 34,600 vehicles per day east of Niblick Way. GDOT classifies Peachtree Industrial Boulevard as a Principal Arterial roadway.

2.1.2 State Bridge Road

State Bridge Road is a five-lane roadway with a two-way left-turn lane and posted speed limit of 45 mph. GDOT traffic counts (Station ID 1350567) indicate that the daily traffic volume on State Bridge Road in 2016 was 50,000 vehicles per day west of Peachtree Industrial Boulevard. GDOT classifies State Bridge Road as a Principal Arterial roadway.

2.1.3 Pleasant Hill Road

Pleasant Hill Road is a five-lane roadway with a two-way left-turn lane and posted speed limit of 45 mph. GDOT traffic counts (Station ID 1350568) indicate that the daily traffic volume on Pleasant Hill Road in 2016 was 55,900 vehicles per day north of Sydney Lanier Boulevard. GDOT classifies Pleasant Hill Road as a Principal Arterial roadway.

2.1.4 SR 120 (Abbotts Bridge Road)

SR 120 (Abbotts Bridge Road) is a four-lane roadway with a two-way left-turn lane west of River Mill Drive and a two-lane, undivided roadway east of Albion Farm Road with a posted speed limit of 45 mph. GDOT traffic counts (Station ID 1210318) indicate that the daily traffic volume on SR 120 (Abbotts Bridge Road) in 2016 was 21,000 vehicles per day north of Parsons Road/Sweet Creek Road. GDOT classifies SR 120 (Abbotts Bridge Road) as a Minor Arterial roadway.

2.1.5 George Rogers Avenue

George Rogers Avenue is a two-lane, median-divided roadway with a posted speed limit of 35 mph.

2.1.6 Chattahoochee Trace

Chattahoochee Trace is a two-lane, undivided roadway with a posted speed limit of 25 mph.

2.1.7 Rogers Bridge Road

Rogers Bridge Road is a two-lane, undivided roadway with a posted speed limit of 25 north of Peachtree Industrial Boulevard and 40 mph south of Peachtree Industrial Boulevard.

2.1.8 Albion Farm Road

Albion Farm Road is a two-lane, undivided roadway with a posted speed limit of 30 mph.

2.1.9 Highbrooke Trail

Highbrooke Trail is a two-lane, residential roadway with a posted speed limit of 25 mph.

2.1.10 Main Street

Main Street is a two-lane, undivided roadway with a posted speed limit of 35 mph.

2.1.11 Chattahoochee Drive

Chattahoochee Drive is a two-lane, undivided roadway with a posted speed limit of 25 mph north of Peachtree Industrial Boulevard, 35 mph going southbound from Peachtree Industrial Boulevard, and 40 mph going eastbound from Rogers Bridge Road.

2.1.12 US 23/SR 13 (Buford Highway)

US 23/SR 13 (Buford Highway) is a two-lane, undivided roadway with a posted speed limit of 45 mph. To the west of Rogers Bridge Road, US 23/SR 13 (Buford Highway) is a five-lane roadway with a two-way left-turn lane. GDOT traffic counts (Station IDs 1350082 & 1350083) indicate that the daily traffic volume on US 23/SR 13 (Buford Highway) in 2016 was 22,600 vehicles per day east of Church Street and 13,300 vehicles per day east of S. Scales Road. GDOT classifies US 23/SR 13 (Buford Highway) as a Minor Arterial roadway.

2.1.13 Old Peachtree Road

Old Peachtree Road is a three-lane roadway with a two-way left-turn lane and posted speed limit of 40 mph. GDOT traffic counts (Station ID 1350538) indicate that the daily traffic volume on Old Peachtree Road in 2016 was 12,500 vehicles per day east of Sugarloaf Parkway. GDOT classifies Old Peachtree Road as a Major Collector roadway.

2.1.14 Sugarloaf Parkway

Sugarloaf Parkway is a four-lane, median-divided roadway with a posted speed limit of 45 mph. GDOT traffic counts (Station ID 1356756) indicate that the daily traffic volume on Sugarloaf Parkway in 2016 was 28,000 vehicles per day south of US 23/SR 13 (Buford Highway). GDOT classifies Sugarloaf Parkway as a Principal Arterial roadway.

2.2 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:

2.2.1 Nearby local or regional trails

There are trails located in the study area that include the Western Gwinnett Bikeway along Peachtree Industrial Boulevard, The Rogers Bridge Trail along Rogers Bridge Road and the Chattahoochee River Greenway which follows the river along the City of Duluth's northern city boundary.

2.2.2 Bicycle paths or sidewalks

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

- Peachtree Industrial Boulevard: along the northern and southern sides at various points
- State Bridge Road: both sides of the road between St. Georgian Common and Kimball Bridge Road and beyond
- Pleasant Hill Road: both sides of the road between Howell Ferry Road/McClure Bridge Road and Old Norcross Road

- SR 120 (Abbotts Bridge Road): both sides of the road between Peachtree Industrial Boulevard and Alex Automotive Driveway
- George Rogers Avenue: both sides of the road
- Chattahoochee Trace: on west side of the road between Peachtree Industrial Boulevard and The Village at Albion Farm development, and on east side of the road north of Albion Farm Road.
- Rogers Bridge Road: both sides of the road north of Peachtree Industrial Boulevard and west side of the road south of Peachtree Industrial Boulevard
- Albion Farm Road: south side of the road
- Highbrooke Trail: south/east side of the road
- Main Street: north side of the road
- Chattahoochee Drive: both sides of the road north of Peachtree Industrial Boulevard, and east side of the road south of Peachtree Industrial Boulevard
- US 23/SR 13 (Buford Highway): both sides of the road between Rogers Bridge Road/Old Peachtree Road and Ashby Pond Lane; south side of the road east of Sugarloaf Parkway
- Old Peachtree Road: south/west side of the road from US 23/SR 13 (Buford Highway) to Bunten Road and both sides of the road east of Bunten Road
- Sugarloaf Parkway: both sides of the road from Peachtree Industrial Boulevard to I-85, Old Norcross Road and beyond

Bike paths are present along the following roadways in the study network:

- Peachtree Industrial Boulevard: west/north side of the road between Commons Gate Bend and Hooch Golf Club Driveway (East).
- Sugarloaf Parkway: both sides of the road from Peachtree Industrial Boulevard to I-85.

2.3 Existing Transit Facilities

There is no public transit service near the site.



LOCATION MAP AND STUDY INTERSECTIONS

FIGURE 1

3.0 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 specific intersections in which HCM 2010 is unable to report results or where U-Turns are present, HCM 2000 will be used instead. Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

3.1 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: Highway Capacity Manual

3.2 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	$> 10 \text{ and } \leq 20$
C	$> 20 \text{ and } \leq 35$
D	$> 35 \text{ and } \leq 55$
E	$> 55 \text{ and } \leq 80$
F	> 80

Source: Highway Capacity Manual

4.0 EXISTING TRAFFIC ANALYSIS

Existing traffic counts were obtained at the following study intersections:

1. Peachtree Industrial Boulevard at State Bridge Road/Pleasant Hill Road
2. Peachtree Industrial Boulevard at SR 120 (Abbotts Bridge Road)
3. SR 120 (Abbotts Bridge Road) at George Rogers Avenue/Duluth High School Driveway
4. Peachtree Industrial Boulevard at Chattahoochee Trace/Hooch Driveway (West)
5. Peachtree Industrial Boulevard at Hooch Driveway (East)
6. Peachtree Industrial Boulevard at Rogers Bridge Road
7. Rogers Bridge Road at Albion Farm Road/Highbrooke Trail
8. Rogers Bridge Road at Main Street/Chattahoochee Drive
9. US 23/SR 13 (Buford Highway) at Rogers Bridge Road/Old Peachtree Road
10. Peachtree Industrial Boulevard at Chattahoochee Drive
11. Peachtree Industrial Boulevard at Sugarloaf Parkway
12. Sugarloaf Parkway at US 23/SR 13 (Buford Highway)

Turning movement counts were collected in October 2018 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. Turning movement counts at intersections 4 and 5 were collected between 7:00 a.m. and 7:00 p.m. 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.

4.1 Existing Traffic Operations

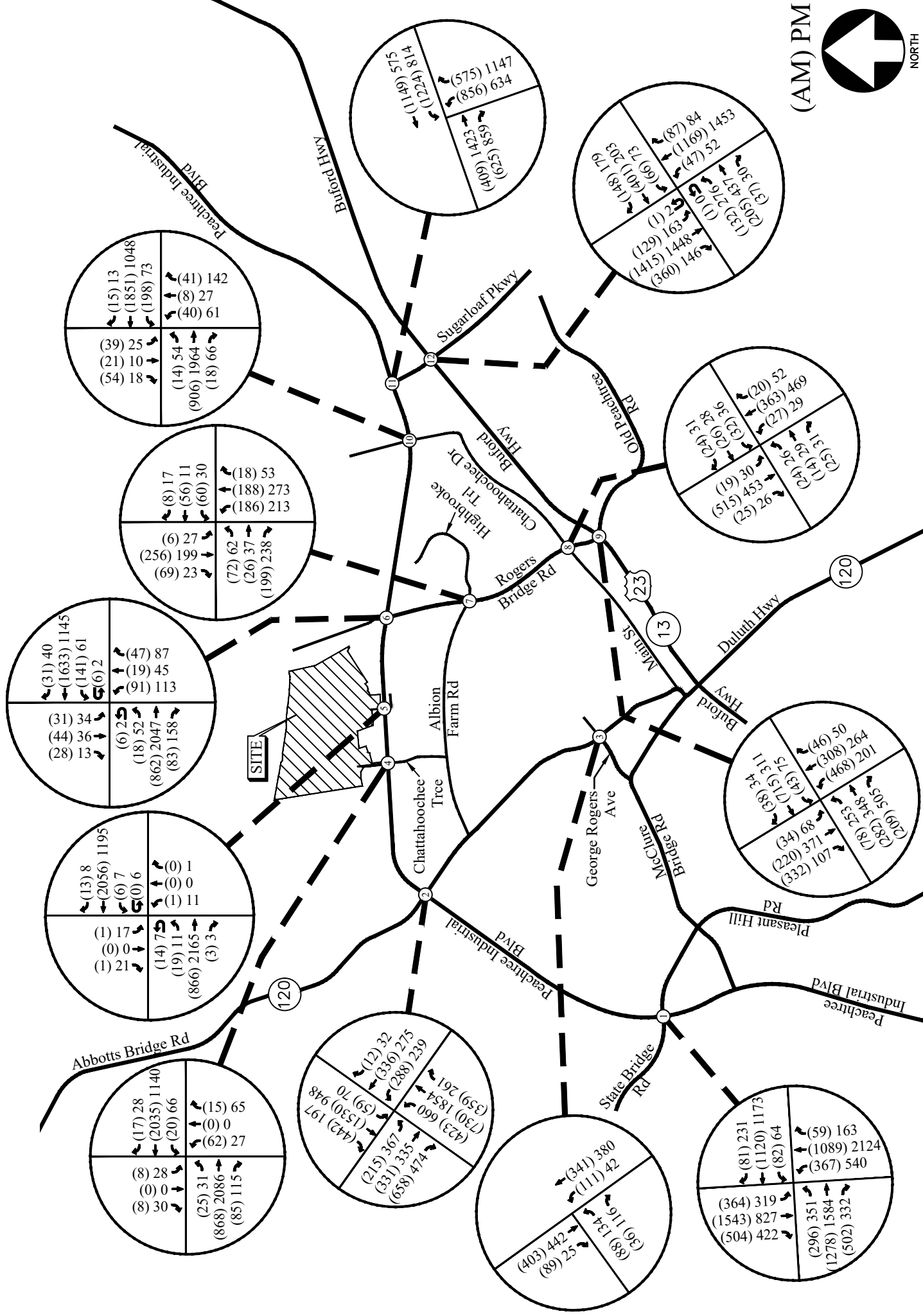
Existing traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analysis are shown in Table 3. The existing traffic control and lane geometry for the intersections are shown in Figure 3.

TABLE 3 — EXISTING INTERSECTION OPERATIONS					
Intersection		Traffic Control	AM Peak	PM Peak	LOS Standard
1	<u>PIB @ State Bridge Rd/Pleasant Hill Rd</u>	Signalized	<u>F (116.9)</u>	<u>F (226.5)</u>	<u>E / E</u>
	-Eastbound Approach		F (90.2)	F (163.7)	-
	-Westbound Approach		F (94.2)	F (164.2)	-
	-Northbound Approach		F (132.6)	F (358.5)	-
	-Southbound Approach		E (142.1)	F (105.6)	-
2	<u>PIB @ SR 120</u>	Signalized	<u>E (61.7)</u>	<u>E (58.9)</u>	<u>E / E</u>
	-Eastbound Approach		D (41.4)	D (41.4)	-
	-Westbound Approach		E (57.1)	E (67.1)	-
	-Northbound Approach		F (98.1)	F (115.9)	-
	-Southbound Approach		E (76.1)	E (67.9)	-
3	<u>SR 120 @ George Rogers Ave</u>	Stop- Controlled on EB Approach			
	-Eastbound Approach		D (34.8)	D (27.7)	D / D
	-Northbound Left		A (8.6)	A (8.4)	D / D
Table continued on next page...					

Intersection		Traffic Control	AM Peak	PM Peak	LOS Standard
4	<u>PIB @ Hooch Drwy (W)</u>	Stop- Controlled on NB/SB Approaches	C (21.1) A (10.0) E (41.9) F (73.1)	B (11.8) D (26.4) F (120.1) F (87.5)	D / D D / D E / E E / E
	-Eastbound Left				
	-Westbound Left				
	-Northbound Approach				
5	<u>PIB @ Hooch Drwy (E)</u>	Stop- Controlled on NB/SB Approaches	F (52.1) A (9.8) D (32.9) F (70.5)	C (16.2) F (56.8) F (146.2) D (29.1)	E / D D / E D / E E / D
	-Eastbound Left				
	-Westbound Left				
	-Northbound Approach				
6	<u>PIB @ Rogers Bridge Rd*</u>	Signalized	<u>C (28.3)</u> C (31.4) B (19.0) E (75.6) F (91.0)	<u>C (24.7)</u> C (22.7) B (14.6) E (76.2) F (81.3)	<u>D / D</u> - - - -
	-Eastbound Approach				
	-Westbound Approach				
	-Northbound Approach				
7	<u>Rogers Bridge Rd @ Albion Farm Rd</u>	Signalized	<u>B (10.5)</u> C (23.3) C (23.9) A (4.2) A (9.2)	<u>A (8.3)</u> C (23.7) C (22.8) A (4.0) A (8.2)	<u>D / D</u> - - - -
	-Eastbound Approach				
	-Westbound Approach				
	-Northbound Approach				
8	<u>Rogers Bridge Rd @ Main St</u>	Stop- Controlled on EB/WB Approaches	C (24.3) D (34.4) A (8.8) A (8.3)	D (28.2) E (39.1) A (8.5) A (8.6)	D / D D / E D / D D / D
	-Eastbound Approach				
	-Westbound Approach				
	-Northbound Left				
9	<u>Buford Hwy @ Rogers Bridge Rd</u>	Signalized	<u>D (36.5)</u> C (20.3) C (23.1) D (50.7) E (56.4)	<u>D (39.3)</u> C (20.8) C (23.6) D (53.8) E (63.2)	<u>D / D</u> - - - -
	-Eastbound Approach				
	-Westbound Approach				
	-Northbound Approach				
10	<u>PIB @ Chattahoochee Dr</u>	Signalized	<u>C (21.7)</u> A (9.8) C (22.0) E (64.1) E (79.9)	<u>B (15.6)</u> B (15.3) A (1.6) E (73.9) E (74.6)	<u>D / D</u> - - - -
	-Eastbound Approach				
	-Westbound Approach				
	-Northbound Approach				
11	<u>PIB @ Sugarloaf Pkwy*</u>	Signalized	<u>D (43.5)</u> B (18.5) C (28.2) F (86.9)	<u>D (47.2)</u> E (67.7) D (50.1) B (18.7)	<u>D / D</u> - - -
	-Eastbound Approach				
	-Westbound Approach				
	-Northbound Approach				
12	<u>Sugarloaf Pkwy @ Buford Hwy*</u>	Signalized	<u>D (50.6)</u> D (45.8) D (51.7) E (55.8) D (47.5)	<u>F (87.8)</u> E (58.7) E (55.5) F (121.3) E (78.1)	<u>D / E</u> - - - -
	-Eastbound Approach				
	-Westbound Approach				
	-Northbound Approach				

*Results reported via HCM 2000

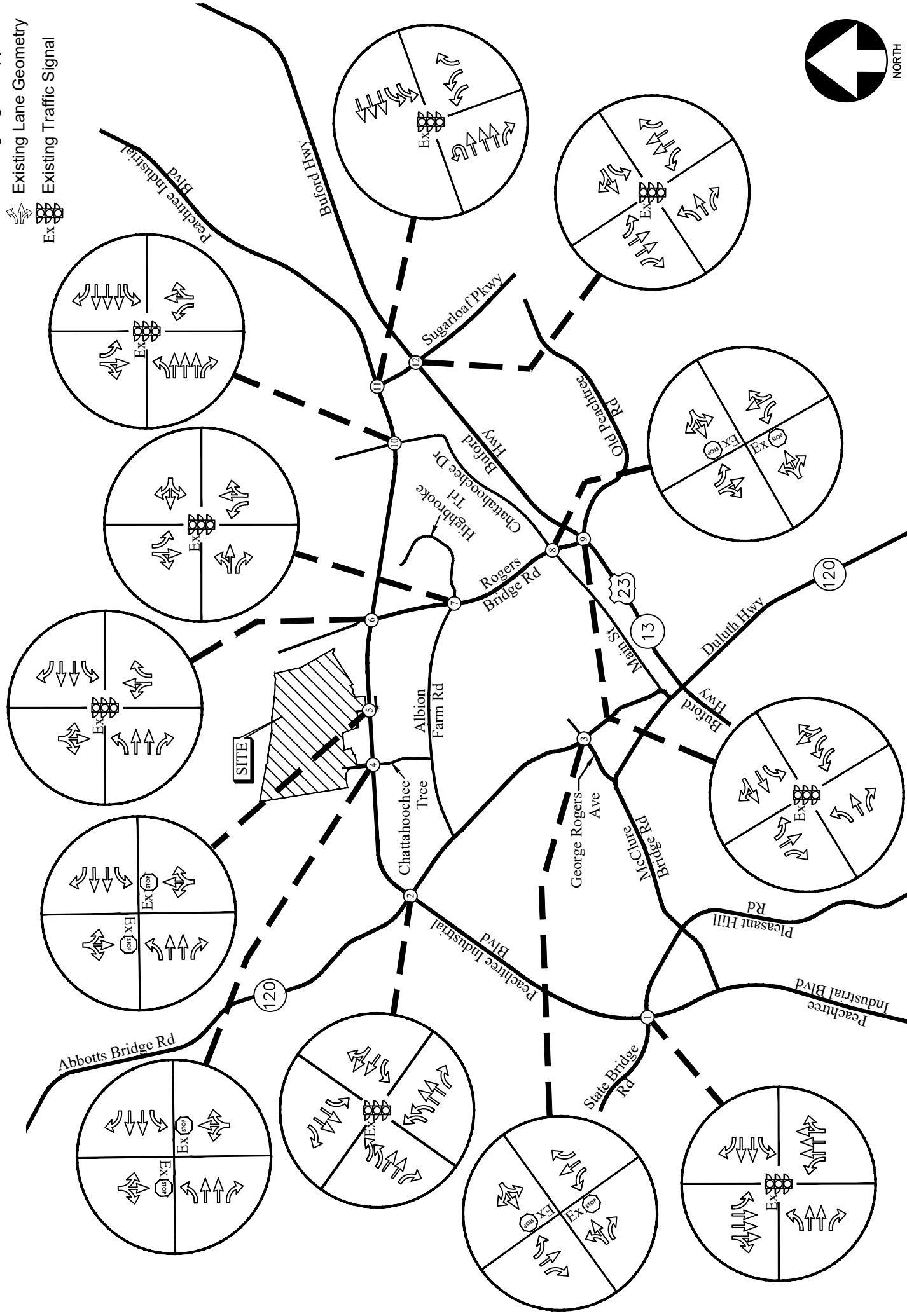
The results of existing traffic operations analysis indicate that several of the approaches to the study intersections are operating below an acceptable level-of-service "D" during the AM and PM peak hours. These areas are addressed in the Future Traffic Operations section.



EXISTING WEEKDAY PEAK HOUR VOLUMES

LEGEND

- Ex  Existing Signed Approach
-  Existing Lane Geometry
- Ex  Existing Traffic Signal



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

5.0 PROJECT DESCRIPTION

The proposed Encore mixed-use development will be located on Peachtree Industrial Boulevard in Duluth, Georgia. The development will consist of:

- 126 townhome units
- 450 apartment units
- 395 single-family units
- 10,000 square feet of retail space

The development proposes to redevelop the existing Hooch Golf Club site and make use of the existing two full-access driveways on Peachtree Industrial Boulevard.

5.1 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.

5.1.1 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, retail, and office uses. Pedestrian connections are proposed between the mixed-uses on the site.
- The site benefits from public access to adjacent streets and internal connectivity between some of the parcels.

5.1.2 Planned Transit Facilities

There is no planned public transit service near the site.

5.2 Consistency with Adopted Comprehensive Plan

The following is an explanation as to how the proposed DRI relates to the local government's Comprehensive Plan, particularly 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 property is located within a character area designated as "Corridor Mixed-Use" according to the Gwinnett County 2030 Unified Plan Future Development Map.

5.3 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 2023.

5.4 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: 210 – *Single-Family Detached Housing*, 221 – *Multifamily Housing (Mid-Rise)* and 820 – *Shopping Center*. Due to the nature of the development, pass-by and mixed-use reductions have been applied per ITE standards. 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 210 – Single-Family Detached Housing	395 Units	71	214	285	239	141	380	3,680
<i>Mixed-Use Reduction</i>		0	-1	-1	-1	-1	-2	-21
ITE 221 – Multifamily Housing (Mid-Rise)	576 Units	49	141	190	145	93	238	3,137
<i>Mixed-Use Reduction</i>		0	0	0	-1	-1	-2	-17
ITE 820 – Shopping Center	10,000 sf	6	3	9	18	20	38	378
<i>Mixed-Use Reduction</i>		-1	0	-1	-2	-2	-4	-38
<i>Pass-by Trips (0%) 34%</i>		0	0	0	-5	-6	-11	-110
Total Trips (without reductions)		126	358	484	402	254	656	7,195
New External Trips (with reductions)		125	357	482	393	244	637	7,009

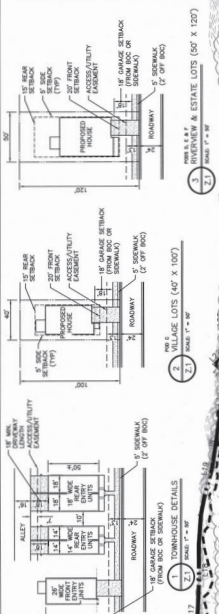
*Daily pass-by reduction estimated to be least of the applied PM peak hour pass-by rate or ten times the PM pass-by volume

5.5 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 the existing travel patterns in the area 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.



VICINITY MAP
SCALE: 1"=2,000'



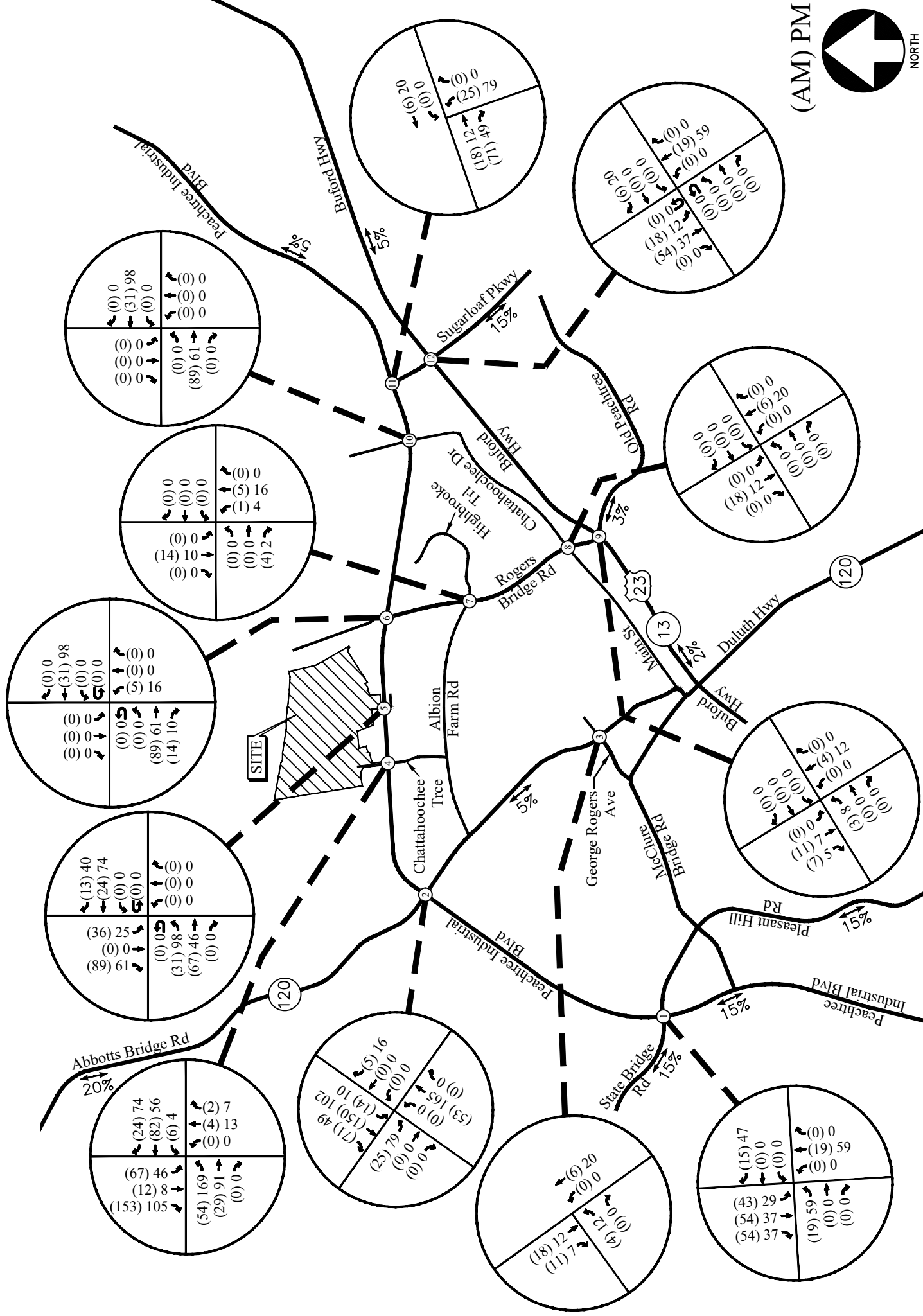
SITE ANALYSIS

ITEM	DESCRIPTION	REMARKS
1	TOTAL SITE AREA	14.65 ACRES
2	PROPOSED DEVELOPMENT	14.65 ACRES
3	PROPOSED DEVELOPMENT	14.65 ACRES
4	PROPOSED DEVELOPMENT	14.65 ACRES
5	PROPOSED DEVELOPMENT	14.65 ACRES
6	PROPOSED DEVELOPMENT	14.65 ACRES
7	PROPOSED DEVELOPMENT	14.65 ACRES
8	PROPOSED DEVELOPMENT	14.65 ACRES
9	PROPOSED DEVELOPMENT	14.65 ACRES
10	PROPOSED DEVELOPMENT	14.65 ACRES
11	PROPOSED DEVELOPMENT	14.65 ACRES
12	PROPOSED DEVELOPMENT	14.65 ACRES
13	PROPOSED DEVELOPMENT	14.65 ACRES
14	PROPOSED DEVELOPMENT	14.65 ACRES
15	PROPOSED DEVELOPMENT	14.65 ACRES
16	PROPOSED DEVELOPMENT	14.65 ACRES
17	PROPOSED DEVELOPMENT	14.65 ACRES
18	PROPOSED DEVELOPMENT	14.65 ACRES
19	PROPOSED DEVELOPMENT	14.65 ACRES
20	PROPOSED DEVELOPMENT	14.65 ACRES
21	PROPOSED DEVELOPMENT	14.65 ACRES
22	PROPOSED DEVELOPMENT	14.65 ACRES
23	PROPOSED DEVELOPMENT	14.65 ACRES
24	PROPOSED DEVELOPMENT	14.65 ACRES
25	PROPOSED DEVELOPMENT	14.65 ACRES
26	PROPOSED DEVELOPMENT	14.65 ACRES
27	PROPOSED DEVELOPMENT	14.65 ACRES
28	PROPOSED DEVELOPMENT	14.65 ACRES
29	PROPOSED DEVELOPMENT	14.65 ACRES
30	PROPOSED DEVELOPMENT	14.65 ACRES
31	PROPOSED DEVELOPMENT	14.65 ACRES
32	PROPOSED DEVELOPMENT	14.65 ACRES
33	PROPOSED DEVELOPMENT	14.65 ACRES
34	PROPOSED DEVELOPMENT	14.65 ACRES
35	PROPOSED DEVELOPMENT	14.65 ACRES
36	PROPOSED DEVELOPMENT	14.65 ACRES
37	PROPOSED DEVELOPMENT	14.65 ACRES
38	PROPOSED DEVELOPMENT	14.65 ACRES
39	PROPOSED DEVELOPMENT	14.65 ACRES
40	PROPOSED DEVELOPMENT	14.65 ACRES
41	PROPOSED DEVELOPMENT	14.65 ACRES
42	PROPOSED DEVELOPMENT	14.65 ACRES
43	PROPOSED DEVELOPMENT	14.65 ACRES
44	PROPOSED DEVELOPMENT	14.65 ACRES
45	PROPOSED DEVELOPMENT	14.65 ACRES
46	PROPOSED DEVELOPMENT	14.65 ACRES
47	PROPOSED DEVELOPMENT	14.65 ACRES
48	PROPOSED DEVELOPMENT	14.65 ACRES
49	PROPOSED DEVELOPMENT	14.65 ACRES
50	PROPOSED DEVELOPMENT	14.65 ACRES
51	PROPOSED DEVELOPMENT	14.65 ACRES
52	PROPOSED DEVELOPMENT	14.65 ACRES
53	PROPOSED DEVELOPMENT	14.65 ACRES
54	PROPOSED DEVELOPMENT	14.65 ACRES
55	PROPOSED DEVELOPMENT	14.65 ACRES
56	PROPOSED DEVELOPMENT	14.65 ACRES
57	PROPOSED DEVELOPMENT	14.65 ACRES
58	PROPOSED DEVELOPMENT	14.65 ACRES
59	PROPOSED DEVELOPMENT	14.65 ACRES
60	PROPOSED DEVELOPMENT	14.65 ACRES
61	PROPOSED DEVELOPMENT	14.65 ACRES
62	PROPOSED DEVELOPMENT	14.65 ACRES
63	PROPOSED DEVELOPMENT	14.65 ACRES
64	PROPOSED DEVELOPMENT	14.65 ACRES
65	PROPOSED DEVELOPMENT	14.65 ACRES
66	PROPOSED DEVELOPMENT	14.65 ACRES
67	PROPOSED DEVELOPMENT	14.65 ACRES
68	PROPOSED DEVELOPMENT	14.65 ACRES
69	PROPOSED DEVELOPMENT	14.65 ACRES
70	PROPOSED DEVELOPMENT	14.65 ACRES
71	PROPOSED DEVELOPMENT	14.65 ACRES
72	PROPOSED DEVELOPMENT	14.65 ACRES
73	PROPOSED DEVELOPMENT	14.65 ACRES
74	PROPOSED DEVELOPMENT	14.65 ACRES
75	PROPOSED DEVELOPMENT	14.65 ACRES
76	PROPOSED DEVELOPMENT	14.65 ACRES
77	PROPOSED DEVELOPMENT	14.65 ACRES
78	PROPOSED DEVELOPMENT	14.65 ACRES
79	PROPOSED DEVELOPMENT	14.65 ACRES
80	PROPOSED DEVELOPMENT	14.65 ACRES
81	PROPOSED DEVELOPMENT	14.65 ACRES
82	PROPOSED DEVELOPMENT	14.65 ACRES
83	PROPOSED DEVELOPMENT	14.65 ACRES
84	PROPOSED DEVELOPMENT	14.65 ACRES
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86	PROPOSED DEVELOPMENT	14.65 ACRES
87	PROPOSED DEVELOPMENT	14.65 ACRES
88	PROPOSED DEVELOPMENT	14.65 ACRES
89	PROPOSED DEVELOPMENT	14.65 ACRES
90	PROPOSED DEVELOPMENT	14.65 ACRES
91	PROPOSED DEVELOPMENT	14.65 ACRES
92	PROPOSED DEVELOPMENT	14.65 ACRES
93	PROPOSED DEVELOPMENT	14.65 ACRES
94	PROPOSED DEVELOPMENT	14.65 ACRES
95	PROPOSED DEVELOPMENT	14.65 ACRES
96	PROPOSED DEVELOPMENT	14.65 ACRES
97	PROPOSED DEVELOPMENT	14.65 ACRES
98	PROPOSED DEVELOPMENT	14.65 ACRES
99	PROPOSED DEVELOPMENT	14.65 ACRES
100	PROPOSED DEVELOPMENT	14.65 ACRES

SCALE: 1"=100'

0 50 100 200 400

SCALE: 1"=100'



OUTER LEG TRIP DISTRIBUTION AND SITE-GENERATED PEAK HOUR VOLUMES

6.0 FUTURE 2023 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.

Improvements that are identified as “System Improvements” are recommended to address deficiencies in the roadway network and can be considered as benefitting traffic that may or may not include site-generated traffic and are recommended for the municipality to use in future planning efforts. “Site Mitigation Improvements” are recommended as directly benefitting proposed site-generated traffic.

6.1 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.

6.1.1 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 2% 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.

6.1.2 Planned and Programmed Improvements in Study Area

The following improvements have been identified in 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#/ County/City#	Project	Type of Improvement	Network Year	Source
FN-264/721000-	Widening of SR 120 to 4 lanes from Peachtree Industrial Blvd to SR 141	Roadway Widening	2023	ARC/GDOT
GW-271C/F-1272	Widening of Pleasant Hill Rd from Howell Ferry Rd to Chattahoochee River	Roadway Widening	2021	ARC/Gwinnett
18-TF-006	SR 120 at George Rogers Ave/Duluth HS Intersection Improvement	Intersection Improvement	2019	Duluth
18-TF-032	Rogers Bridge at Main Street Intersection Improvement	Intersection Improvement	2020	Duluth
GW-384/0012883/ F-0341/CD-67	Western Gwinnett Bikeway Phase 3	Multi-Use Path	2022	ARC/GDOT/ Gwinnett/Duluth

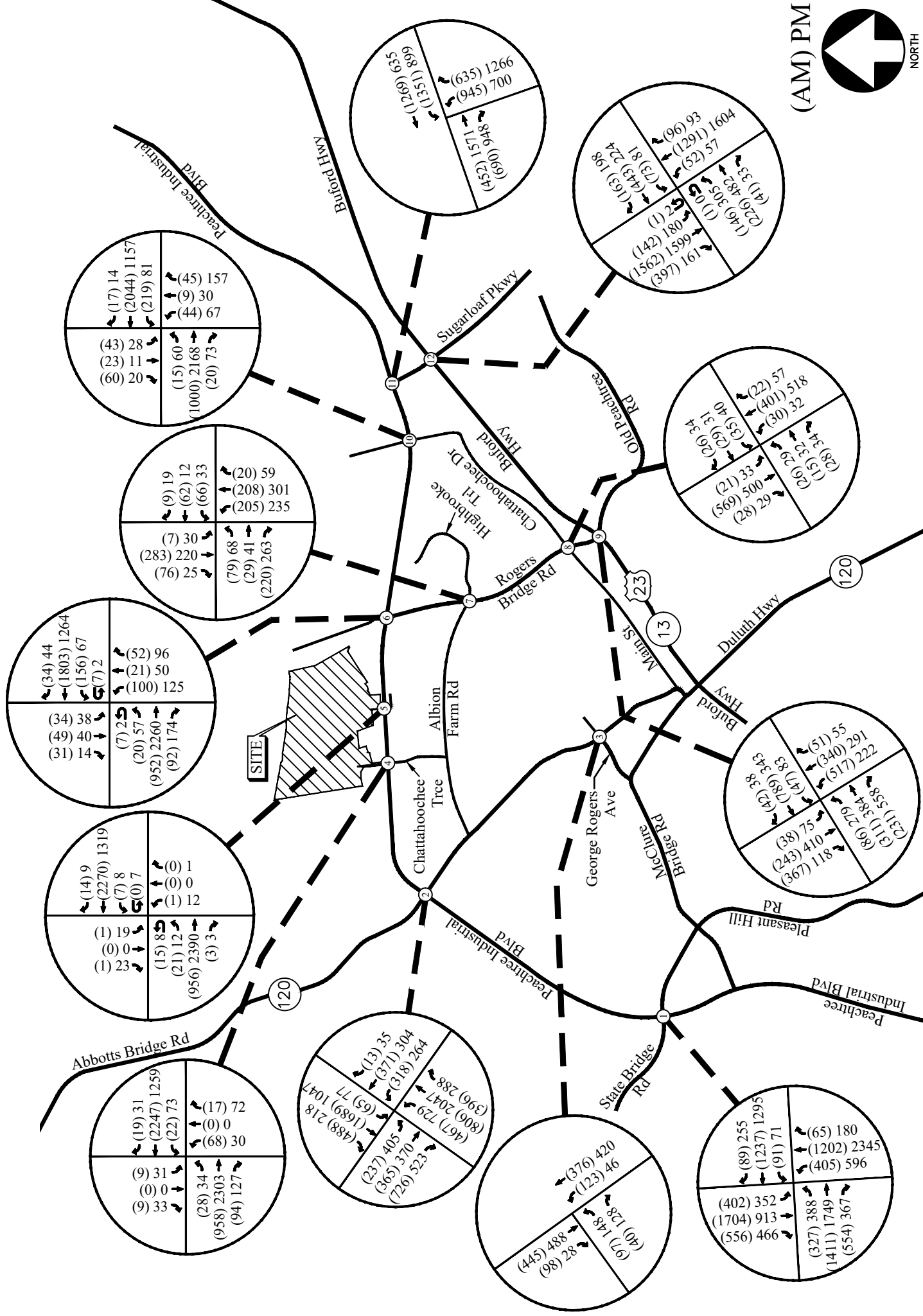
Projects included in the model for the Future “No-Build” and “Build” conditions include:

Project 721000-/FN-264 will widen SR 120 (Abbotts Bridge Road) from SR 141 (Medlock Bridge Road) to Peachtree Industrial Boulevard from two lanes to four lanes for a length of approximately 2.5 miles. All signalized intersections will be modified.

Project GW-271C/F-1272 will widen Pleasant Hill Road from Howell Ferry Road/McClure Bridge Road to River Chase Drive/Sweet Bottom Drive from four lanes to six lanes for a length of approximately 1 mile. The project will also include the installation of dual left turn lanes on all approaches at the intersection of Peachtree Industrial Boulevard at Pleasant Hill Road.

Project 18-TF-006 will install a signal at the intersection of SR 120 (Abbotts Bridge Road) at George Rogers Avenue/Duluth HS Driveway with separate left turn phases on the side-street approaches.

Project 18-TF-032 will install a signal at the intersection of Rogers Bridge Road at Main Street/Chattahoochee Drive with split phasing on the side-street approaches.



6.1.3 Future “No-Build” Traffic Operations

The future “No-Build” traffic operations were analyzed using the volumes in Figure 6 and the results are shown in Table 6. The results of the analysis, including the recommended system improvements, are discussed in detail in the next section.

Intersection		No-Build Condition: LOS (Delay)				
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS		LOS Std
		AM Peak	PM Peak	AM Peak	PM Peak	
1	<u>PIB @ State Bridge Rd/Pleasant Hill Rd</u>	<u>E (77.1)</u>	<u>F (105.0)</u>	<u>E (62.0)</u>	<u>E (72.9)</u>	<u>E / E</u>
	-Eastbound Approach	E (59.4)	F (108.0)	E (58.0)	E (77.0)	-
	-Westbound Approach	E (59.3)	F (104.9)	E (59.3)	F (82.1)	-
	-Northbound Approach	E (64.6)	F (106.8)	D (54.2)	E (63.9)	-
	-Southbound Approach	F (113.2)	F (95.8)	E (73.0)	E (74.7)	-
2	<u>PIB @ SR 120</u>	<u>E (70.6)</u>	<u>E (72.1)</u>	<u>E (70.6)</u>	<u>E (72.1)</u>	<u>E / E</u>
	-Eastbound Approach	D (49.0)	E (68.0)	D (49.0)	E (68.0)	-
	-Westbound Approach	F (82.0)	E (78.5)	F (82.0)	E (78.5)	-
	-Northbound Approach	E (76.8)	E (79.0)	E (76.8)	E (79.0)	-
	-Southbound Approach	E (76.3)	E (72.7)	E (76.3)	E (72.7)	-
3	<u>SR 120 @ George Rogers Ave</u>	<u>A (6.1)</u>	<u>A (9.0)</u>	<u>A (6.1)</u>	<u>A (9.0)</u>	<u>D / D</u>
	-Eastbound Approach	C (24.9)	C (25.9)	C (24.9)	C (25.9)	-
	-Westbound Approach	A (0.0)	A (0.0)	A (0.0)	A (0.0)	-
	-Northbound Approach	A (3.5)	A (4.1)	A (3.5)	A (4.1)	-
	-Southbound Approach	A (3.2)	A (4.1)	A (3.2)	A (4.1)	-
4	<u>PIB @ Hooch Drwy (W)</u>					
	-Eastbound Left	D (25.6)	B (12.7)	D (25.6)	B (12.7)	D / D
	-Westbound Left	B (10.4)	E (35.7)	B (10.4)	E (35.7)	D / D
	-Northbound Approach	F (67.9)	F (**)	F (67.9)	F (**)	E / E
	-Southbound Approach	F (118.3)	F (**)	F (118.3)	F (**)	E / E
5	<u>PIB @ Hooch Drwy (E)</u>					
	-Eastbound Left	F (82.2)	C (18.7)	F (82.2)	C (18.7)	E / D
	-Westbound Left	B (10.2)	F (85.7)	B (10.2)	F (85.7)	D / E
	-Northbound Approach	E (43.3)	F (**)	E (43.3)	F (**)	D / E
	-Southbound Approach	F (117.6)	E (37.5)	F (117.6)	E (37.5)	E / D
6	<u>PIB @ Rogers Bridge Rd*</u>	<u>C (34.3)</u>	<u>D (49.1)</u>	<u>C (32.8)</u>	<u>D (50.3)</u>	<u>D / D</u>
	-Eastbound Approach	C (31.7)	E (63.1)	C (31.1)	E (63.1)	-
	-Westbound Approach	C (28.4)	B (15.6)	C (26.1)	B (19.2)	-
	-Northbound Approach	E (75.4)	E (78.3)	E (75.4)	E (78.3)	-
	-Southbound Approach	F (102.0)	F (86.2)	F (102.0)	F (86.2)	-
7	<u>Rogers Bridge Rd @ Albion Farm Rd</u>	<u>B (11.2)</u>	<u>A (8.7)</u>	<u>B (11.2)</u>	<u>A (8.7)</u>	<u>D / D</u>
	-Eastbound Approach	C (25.2)	C (25.8)	C (25.2)	C (25.8)	-
	-Westbound Approach	C (25.9)	C (24.6)	C (25.9)	C (24.6)	-
	-Northbound Approach	A (4.4)	A (4.0)	A (4.4)	A (4.0)	-
	-Southbound Approach	A (9.6)	A (8.2)	A (9.6)	A (8.2)	-
8	<u>Rogers Bridge Rd @ Main St*</u>	<u>B (15.3)</u>	<u>B (17.1)</u>	<u>B (15.3)</u>	<u>B (17.1)</u>	<u>D / D</u>
	-Eastbound Approach	E (56.7)	D (54.6)	E (56.7)	D (54.6)	-
	-Westbound Approach	D (54.9)	E (55.3)	D (54.9)	E (55.3)	-
	-Northbound Left	A (8.1)	B (10.9)	A (8.1)	B (10.9)	-
	-Southbound Left	B (10.1)	B (10.3)	B (10.1)	B (10.3)	-

Table continued on next page...

Intersection		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS		LOS Std
		AM Peak	PM Peak	AM Peak	PM Peak	
9	<u>Buford Hwy @ Rogers Bridge Rd</u>	<u>D (39.5)</u>	<u>D (43.5)</u>	<u>D (39.5)</u>	<u>D (43.5)</u>	<u>D / D</u>
	-Eastbound Approach	C (22.8)	C (24.1)	C (22.8)	C (24.1)	-
	-Westbound Approach	C (26.3)	C (27.0)	C (26.3)	C (27.0)	-
	-Northbound Approach	D (53.4)	E (55.8)	D (53.4)	E (55.8)	-
	-Southbound Approach	E (60.4)	E (71.5)	E (60.4)	E (71.5)	-
10	<u>PIB @ Chattahoochee Dr</u>	<u>C (23.6)</u>	<u>B (18.1)</u>	<u>C (23.6)</u>	<u>B (18.0)</u>	<u>D / D</u>
	-Eastbound Approach	B (11.0)	B (18.6)	B (11.0)	B (18.6)	-
	-Westbound Approach	C (24.3)	A (2.6)	C (24.5)	A (2.6)	-
	-Northbound Approach	E (63.2)	E (75.9)	E (63.2)	E (75.9)	-
	-Southbound Approach	F (80.3)	E (74.5)	F (80.3)	E (74.5)	-
11	<u>PIB @ Sugarloaf Pkwy*</u>	<u>D (53.5)</u>	<u>D (38.7)</u>	<u>D (35.8)</u>	<u>C (34.2)</u>	<u>D / D</u>
	-Eastbound Approach	C (20.1)	D (45.8)	C (21.4)	C (34.4)	-
	-Westbound Approach	C (28.7)	E (57.4)	D (39.7)	D (44.6)	-
	-Northbound Approach	F (118.9)	B (14.8)	D (39.8)	C (25.8)	-
12	<u>Sugarloaf Pkwy @ Buford Hwy*</u>	<u>E (72.4)</u>	<u>E (68.8)</u>	<u>D (52.8)</u>	<u>E (66.9)</u>	<u>D / E</u>
	-Eastbound Approach	D (45.1)	F (85.2)	E (59.8)	F (87.6)	-
	-Westbound Approach	E (74.8)	E (57.7)	E (60.0)	E (57.5)	-
	-Northbound Approach	E (75.2)	F (90.8)	D (48.5)	F (87.1)	-
	-Southbound Approach	E (75.1)	D (44.8)	D (52.0)	D (42.4)	-

*Results reported via HCM 2000

**Delay exceeds 300 seconds

6.1.4 Recommendations for System Improvements

A summary of the system improvements, which address deficiencies that are found within the existing road network for the “No-Build” conditions, is provided below. These are recommended for the local municipality to use in planning future transportation projects.

Peachtree Industrial Boulevard @ State Bridge Road / Pleasant Hill Road

Although project GW-271C/F-1272 will improve this intersection, the level-of-service will continue to be at a “F” in the PM peak hour. The following improvements were implemented in order to bring the overall intersection level-of-service down to “E”:

- Create a second eastbound (State Bridge Road) right turn lane by converting the outside through lane into a shared through/right turn lane.
- Install a third northbound (PIB) left turn lane and a dedicated “second” right turn lane.
- Install a third southbound (PIB) left turn lane.
- Update signal timing.

Peachtree Industrial Boulevard @ Chattahoochee Trace / Hooch Driveway (West)

Several approaches to this intersection will continue to operate below an acceptable level-of-service during the AM and PM peak hours after accounting for a growth in background traffic. It is not uncommon for stop-controlled side-streets on arterial roadways to experience long delays during peak times. This intersection will meet signal warrants before the addition of site traffic; therefore, it is recommended consideration be given to signaling this intersection.

Peachtree Industrial Boulevard @ Hooch Driveway (East)

Several approaches to this intersection will continue to operate below an acceptable level-of-service during the AM and PM peak hours after accounting for a growth in background traffic. It is not uncommon for stop-controlled side-streets on arterial roadways to experience long delays during peak times. As this intersection does not warrant installation of a traffic signal, no further recommendations will aid left turn traffic.

Peachtree Industrial Boulevard @ Sugarloaf Parkway

The signal timing was updated at this intersection to increase the green time for the northbound (Sugarloaf Parkway) approach.

Sugarloaf Parkway @ US 23/SR 13 (Buford Highway)

This intersection will begin to operate at a level-of-service “F” during the AM peak hour. In order to bring the level-of-service down to the standard “E”, the following improvements were recommended:

- Install a second eastbound left turn lane on the US 23/SR 13 (Buford Highway) approach.

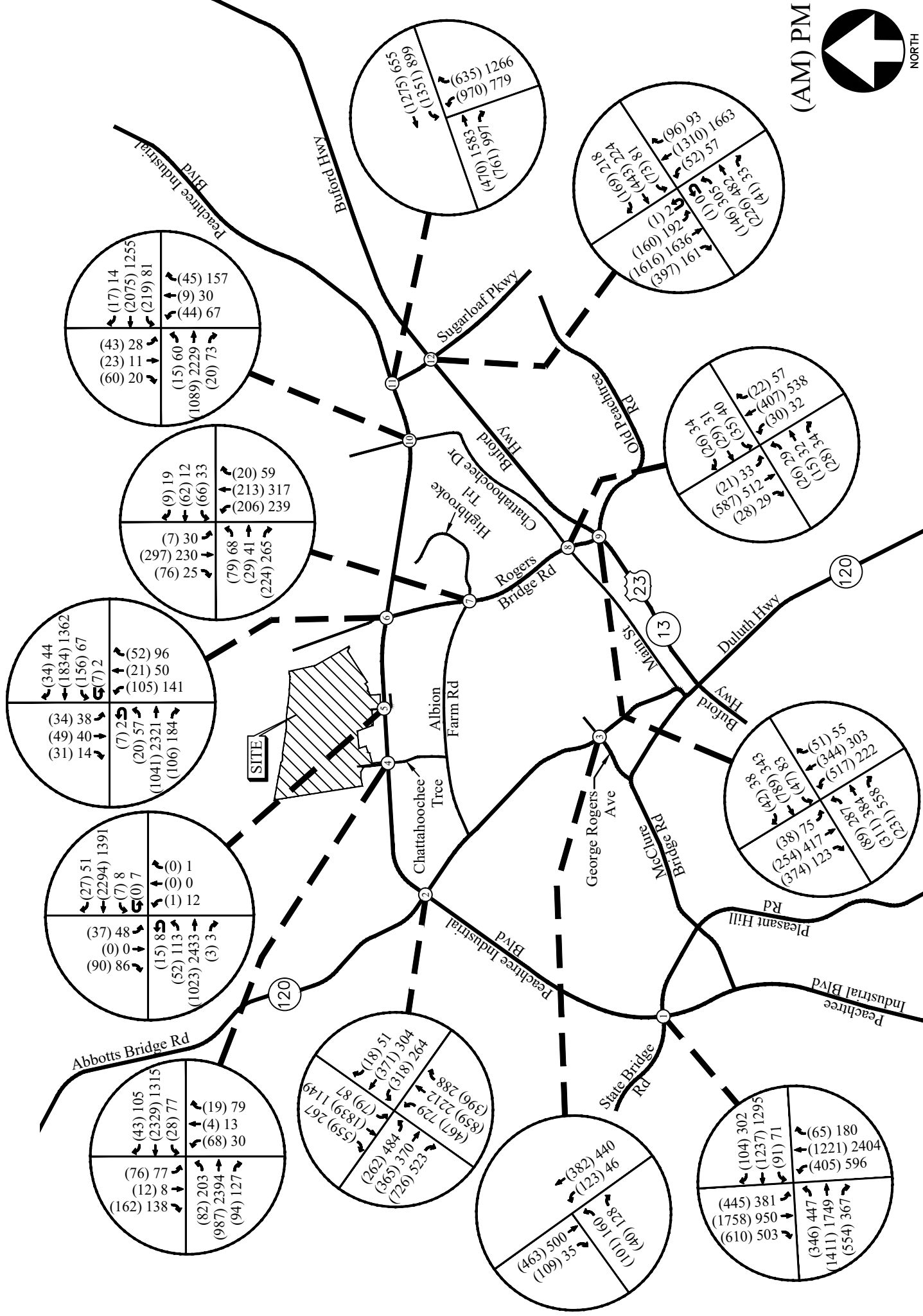
6.2 Future “Build” Conditions

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) and pass-by volumes 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.

6.2.1 Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections:

- Site Driveway 1: Existing western full-access driveway on Peachtree Industrial Boulevard
 - This driveway is proposed to continue to consist of one entering and one exiting lane.
 - Entering left turn movements are proposed to continue to be made from the existing eastbound left turn lane.
 - Entering right turn movements are proposed to continue to be made from the existing westbound deceleration lane.
 - A preliminary signal warrant analysis indicated that the intersection meets MUTCD thresholds for a traffic signal before the addition of site traffic. Therefore, it is recommended that the intersection be signalized.
- Site Driveway 2: Existing eastern full-access driveway on Peachtree Industrial Boulevard
 - This driveway is proposed to continue to consist of one entering and one exiting lane.
 - Entering left and right turn movements are proposed to continue to be made from the existing turn lanes on Peachtree Industrial Boulevard.
 - A preliminary signal warrant analysis indicates that the entering left turn movements and opposing through movements will meet MUTCD thresholds for a traffic signal. Therefore, consideration should be given to signalizing the intersection.



(AM) PM

6.2.2 Future “Build” Traffic Operations

The “Build” conditions are evaluated to determine effectiveness of the recommended system and site mitigation improvements. The results of the “Build” operations analysis with the assumed site access configuration are shown in Table 7. Recommendations on traffic control and lane geometry are shown graphically in Figure 8.

TABLE 7 — FUTURE “BUILD” INTERSECTION OPERATIONS						
Intersection		Build Condition: LOS (Delay)				
		NO IMPROVEMENTS		WITH IMPROVEMENTS		LOS Std
		AM Peak	PM Peak	AM Peak	PM Peak	
1	<u>PIB @ State Bridge Rd/Pleasant Hill Rd</u>	<u>F (84.2)</u>	<u>F (112.5)</u>	<u>E (66.0)</u>	<u>E (79.7)</u>	<u>E / E</u>
	-Eastbound Approach	E (60.1)	F (118.2)	E (58.7)	F (89.0)	-
	-Westbound Approach	E (59.1)	F (99.7)	E (59.2)	F (82.0)	-
	-Northbound Approach	E (67.9)	F (116.5)	E (55.9)	E (68.9)	-
	-Southbound Approach	F (131.7)	F (110.0)	F (83.7)	F (85.6)	-
2	<u>PIB @ SR 120</u>	<u>F (86.1)</u>	<u>F (101.0)</u>	<u>E (79.2)</u>	<u>E (79.6)</u>	<u>E / E</u>
	-Eastbound Approach	D (48.6)	F (112.5)	D (47.2)	E (74.4)	-
	-Westbound Approach	F (118.0)	F (104.5)	F (102.7)	E (57.7)	-
	-Northbound Approach	E (77.4)	E (76.1)	E (78.7)	E (74.4)	-
	-Southbound Approach	E (77.4)	E (73.0)	E (75.6)	F (132.3)	-
3	<u>SR 120 @ George Rogers Ave</u>	<u>A (6.2)</u>	<u>A (9.2)</u>	<u>A (6.2)</u>	<u>A (9.2)</u>	<u>D / D</u>
	-Eastbound Approach	C (25.6)	C (26.5)	C (25.6)	C (26.5)	-
	-Westbound Approach	A (0.0)	A (0.0)	A (0.0)	A (0.0)	-
	-Northbound Approach	A (3.5)	A (4.1)	A (3.5)	A (4.1)	-
	-Southbound Approach	A (3.2)	A (4.2)	A (3.2)	A (4.2)	-
4	<u>PIB @ Hooch Drwy (W)</u>			<u>B (13.3)</u>	<u>C (29.8)</u>	<u>D / D</u>
	-Eastbound Left (Approach)	E (40.5)	C (20.3)	A (8.8)	D (38.0)	-
	-Westbound Left (Approach)	B (10.6)	E (41.8)	A (4.3)	A (4.0)	-
	-Northbound Approach	F (**)	F (**)	E (70.3)	E (62.0)	-
	-Southbound Approach	F (**)	F (**)	F (103.0)	F (101.4)	-
5	<u>PIB @ Hooch Drwy (E)</u>			<u>A (3.8)</u>	<u>A (6.4)</u>	
	-Eastbound Left (Approach)	F (199.0)	C (19.4)	A (0.5)	A (0.7)	E / D
	-Westbound Left (Approach)	B (10.5)	F (95.0)	A (1.0)	A (8.6)	D / E
	-Northbound Approach	F (**)	F (**)	E (65.5)	E (65.5)	D / E
	-Southbound Approach	F (**)	F (**)	F (82.7)	F (83.7)	E / D
6	<u>PIB @ Rogers Bridge Rd*</u>	<u>D (37.0)</u>	<u>E (60.2)</u>	<u>D (36.2)</u>	<u>D (54.4)</u>	<u>D / D</u>
	-Eastbound Approach	C (30.7)	F (81.9)	C (32.8)	E (69.7)	-
	-Westbound Approach	C (33.5)	B (17.1)	C (30.8)	B (18.0)	-
	-Northbound Approach	E (75.7)	F (80.2)	E (75.7)	F (98.2)	-
	-Southbound Approach	F (103.6)	F (86.2)	F (103.6)	E (78.1)	-
7	<u>Rogers Bridge Rd @ Albion Farm Rd</u>	<u>B (11.3)</u>	<u>A (8.7)</u>	<u>B (11.3)</u>	<u>A (8.7)</u>	<u>D / D</u>
	-Eastbound Approach	C (25.8)	C (26.5)	C (25.8)	C (26.5)	-
	-Westbound Approach	C (26.5)	C (25.3)	C (26.5)	C (25.3)	-
	-Northbound Approach	A (4.4)	A (4.0)	A (4.4)	A (4.0)	-
	-Southbound Approach	A (9.6)	A (8.2)	A (9.6)	A (8.2)	-
Table continued on next page...						

Intersection		NO IMPROVEMENTS		WITH IMPROVEMENTS		LOS Std
		AM Peak	PM Peak	AM Peak	PM Peak	
8	<u>Rogers Bridge Rd @ Main St*</u>	<u>B (15.3)</u>	<u>B (17.1)</u>	<u>B (15.3)</u>	<u>B (17.1)</u>	<u>D / D</u>
	-Eastbound Approach	E (56.7)	D (54.6)	E (56.7)	D (54.6)	-
	-Westbound Approach	D (54.9)	E (55.3)	D (54.9)	E (55.3)	-
	-Northbound Left	A (8.2)	B (11.1)	A (8.2)	B (11.1)	-
	-Southbound Left	B (10.3)	B (10.4)	B (10.3)	B (10.4)	-
9	<u>Buford Hwy @ Rogers Bridge Rd</u>	<u>D (40.2)</u>	<u>D (44.0)</u>	<u>D (40.2)</u>	<u>D (44.0)</u>	<u>D / D</u>
	-Eastbound Approach	C (23.4)	C (24.5)	C (23.4)	C (24.5)	-
	-Westbound Approach	C (27.1)	C (27.3)	C (27.1)	C (27.3)	-
	-Northbound Approach	D (53.8)	E (55.9)	D (53.8)	E (55.9)	-
	-Southbound Approach	E (60.7)	E (72.4)	E (60.7)	E (72.4)	-
10	<u>PIB @ Chattahoochee Dr</u>	<u>C (23.6)</u>	<u>B (18.1)</u>	<u>C (23.6)</u>	<u>B (18.1)</u>	<u>D / D</u>
	-Eastbound Approach	B (11.3)	B (19.4)	B (11.3)	B (19.4)	-
	-Westbound Approach	C (24.7)	A (2.7)	C (24.8)	A (2.6)	-
	-Northbound Approach	E (63.2)	E (75.9)	E (63.2)	E (75.9)	-
	-Southbound Approach	F (80.3)	E (74.5)	F (80.3)	E (74.5)	-
11	<u>PIB @ Sugarloaf Pkwy*</u>	<u>E (56.5)</u>	<u>D (39.1)</u>	<u>D (37.2)</u>	<u>D (35.7)</u>	<u>D / D</u>
	-Eastbound Approach	B (19.0)	D (46.2)	B (19.6)	C (34.0)	-
	-Westbound Approach	C (29.4)	E (56.9)	D (41.0)	D (44.1)	-
	-Northbound Approach	F (129.7)	B (16.7)	D (44.6)	C (31.4)	-
12	<u>Sugarloaf Pkwy @ Buford Hwy*</u>	<u>F (81.2)</u>	<u>E (76.7)</u>	<u>D (53.2)</u>	<u>E (74.4)</u>	<u>D / E</u>
	-Eastbound Approach	D (45.1)	F (85.2)	E (71.1)	F (87.6)	-
	-Westbound Approach	E (74.6)	E (58.0)	E (62.3)	E (60.4)	-
	-Northbound Approach	F (83.0)	F (105.3)	D (46.3)	F (101.0)	-
	-Southbound Approach	F (89.0)	D (52.1)	D (51.6)	D (48.5)	-

*Results reported via HCM 2000

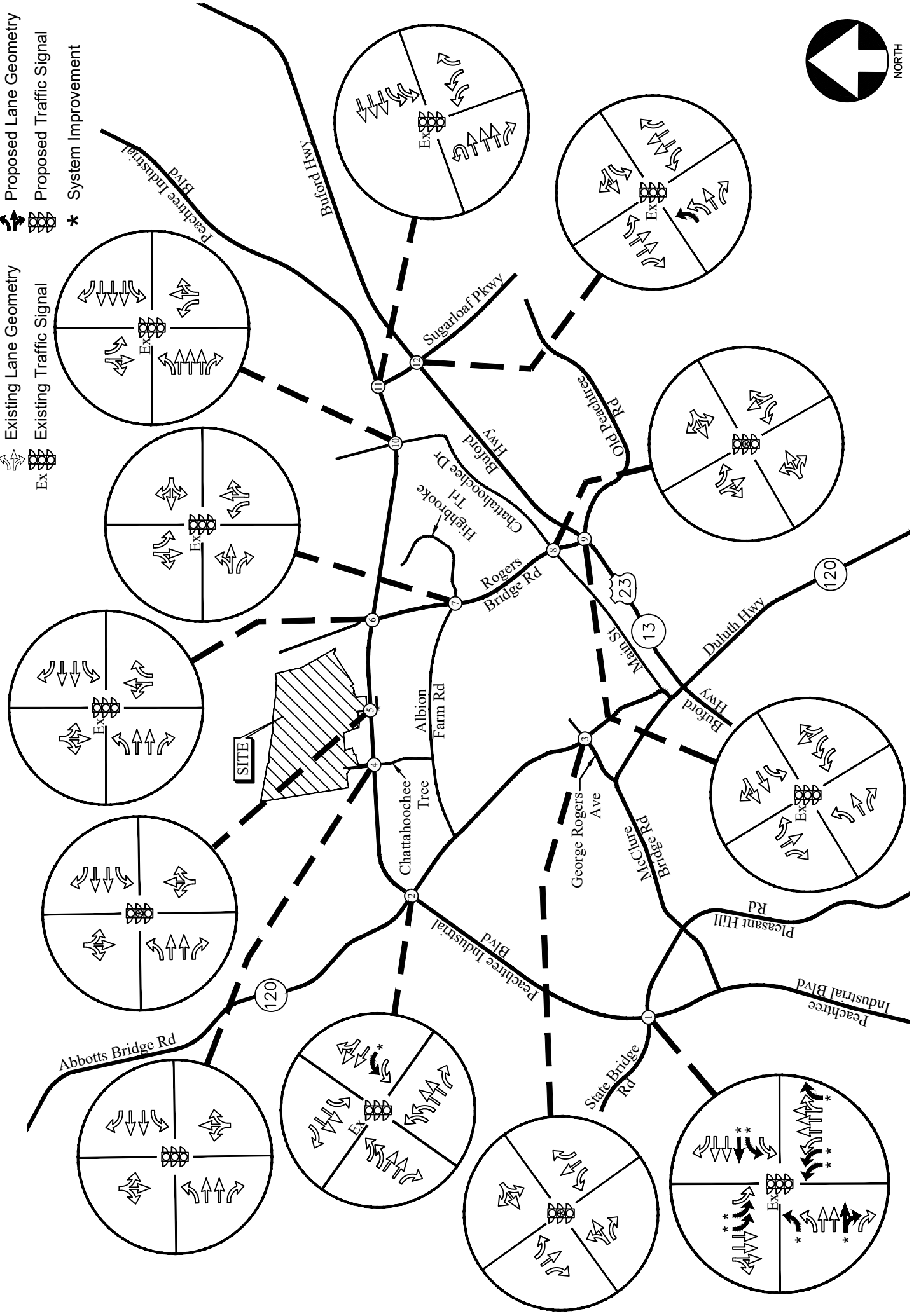
**Delay exceeds 300 seconds

6.2.3 Recommendations for Site Mitigation Improvements

Improvements that are identified as mitigation improvements are recommended as directly benefitting proposed site-generated traffic. Peak hour factors and signal timings were adjusted at several intersections to accommodate the increase in traffic. No further recommendations were made outside of the recommended site access configuration.

LEGEND

- Ex Existing Signed Approach
- Ex Existing Lane Geometry
- Ex Existing Traffic Signal
- Proposed Signed Approach
- Proposed Lane Geometry
- Proposed Traffic Signal
- * System Improvement



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY

7.0 CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the added traffic from the proposed Encore mixed-use development located on Peachtree Industrial Boulevard in Duluth, Georgia. The development will consist of:

- 126 townhome units
- 450 apartment units
- 395 single-family units
- 10,000 square feet of retail space

The development proposes to redevelop the existing Hooch Golf Club site and make use of the existing two full-access driveways on Peachtree Industrial Boulevard. Existing and future operations after completion of the project were analyzed at the intersections of:

1. Peachtree Industrial Boulevard at State Bridge Road/Pleasant Hill Road
2. Peachtree Industrial Boulevard at SR 120 (Abbotts Bridge Road)
3. SR 120 (Abbotts Bridge Road) at George Rogers Avenue/Duluth High School Driveway
4. Peachtree Industrial Boulevard at Chattahoochee Trace/Hooch Driveway (West)
5. Peachtree Industrial Boulevard at Hooch Driveway (East)
6. Peachtree Industrial Boulevard at Rogers Bridge Road
7. Rogers Bridge Road at Albion Farm Road/Highbrooke Trail
8. Rogers Bridge Road at Main Street/Chattahoochee Drive
9. US 23/SR 13 (Buford Highway) at Rogers Bridge Road/Old Peachtree Road
10. Peachtree Industrial Boulevard at Chattahoochee Drive
11. Peachtree Industrial Boulevard at Sugarloaf Parkway
12. Sugarloaf Parkway at US 23/SR 13 (Buford Highway)

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:

7.1 System Recommendations and Improvements

A summary of the system improvements, which address deficiencies that are found within the existing road network for the “No-Build” conditions, is provided in Section 6.1.4. These are recommended for the local municipality to use in planning future transportation projects.

7.2 Site Access Configuration

The following access configuration was utilized when modeling the proposed site driveway intersections:

- Site Driveway 1: Existing western full-access driveway on Peachtree Industrial Boulevard
 - This driveway is proposed to continue to consist of one entering and one exiting lane.
 - Entering left turn movements are proposed to continue to be made from the existing eastbound left turn lane.
 - Entering right turn movements are proposed to continue to be made from the existing westbound deceleration lane.

- A preliminary signal warrant analysis indicated that the intersection meets MUTCD thresholds for a traffic signal before the addition of site traffic. Therefore, it is recommended that the intersection be signalized.
- Site Driveway 2: Existing eastern full-access driveway on Peachtree Industrial Boulevard
 - This driveway is proposed to continue to consist of one entering and one exiting lane.
 - Entering left and right turn movements are proposed to continue to be made from the existing turn lanes on Peachtree Industrial Boulevard.
 - A preliminary signal warrant analysis indicates that the entering left turn movements and opposing through movements will meet MUTCD thresholds for a traffic signal. Therefore, consideration should be given to signalizing the intersection.

7.3 Site Mitigation Improvements

Improvements that are identified as mitigation improvements are recommended as directly benefitting proposed site-generated traffic. Peak hour factors and signal timings were adjusted at several intersections to accommodate the increase in traffic. No further recommendations were made outside of the recommended site access configuration.

Appendix

Existing Intersection Traffic Counts	
GRTA Letter of Understanding.....	
Linear Regression of Daily Traffic.....	
Fact Sheets for Planned and Programmed Improvements.....	
Existing Intersection Analysis.....	
Future “No-Build” Intersection Analysis	
Future “No-Build” Improved Intersection Analysis.....	
Future “Build” Intersection Analysis	
Future “Build” Improved Intersection Analysis	
Traffic Volume Worksheets	

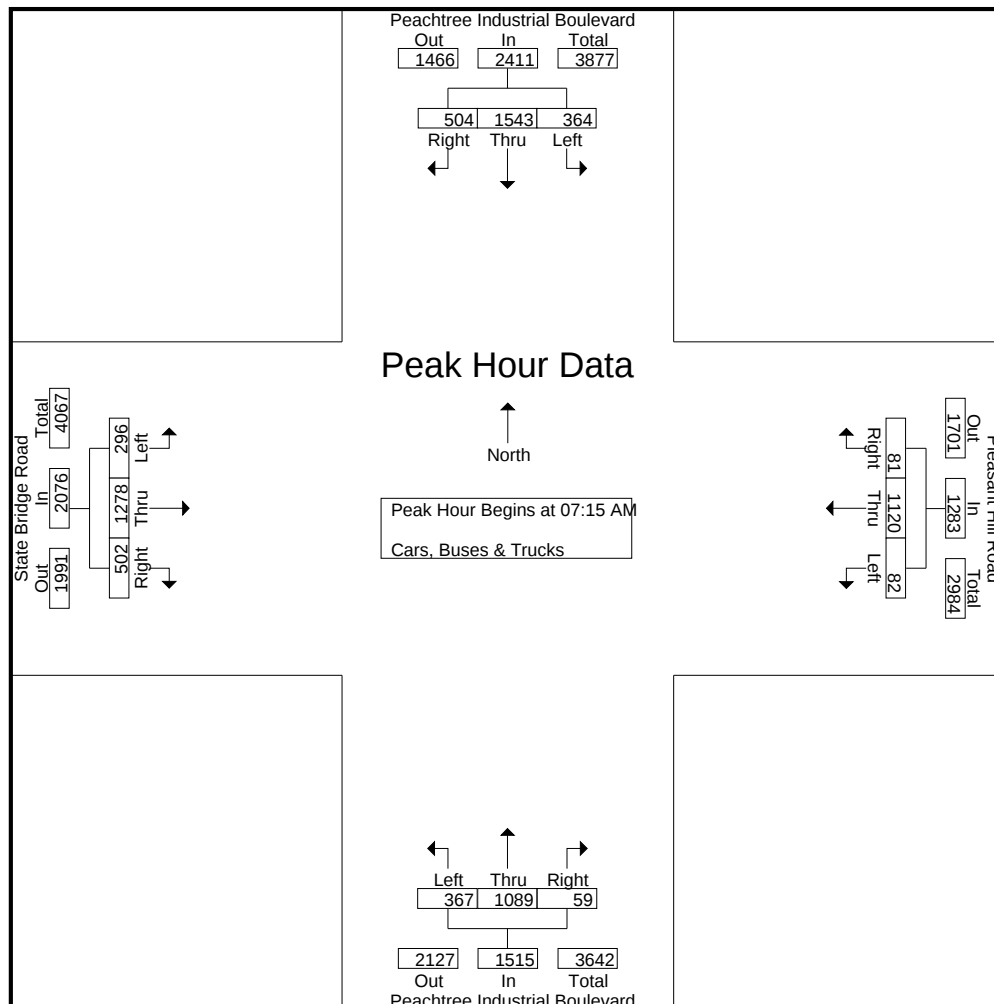
Existing Intersection Traffic Counts

A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180243
Site Code : 20180243
Start Date : 10/24/2018
Page No : 2

	Peachtree Industrial Boulevard Northbound				Peachtree Industrial Boulevard Southbound				State Bridge Road Eastbound				Pleasant Hill Road Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	86	267	15	368	91	381	121	593	67	328	133	528	17	288	22	327	1816
07:30 AM	89	274	18	381	88	401	125	614	75	318	129	522	25	275	19	319	1836
07:45 AM	94	265	11	370	89	389	130	608	81	317	125	523	20	281	18	319	1820
08:00 AM	98	283	15	396	96	372	128	596	73	315	115	503	20	276	22	318	1813
Total Volume	367	1089	59	1515	364	1543	504	2411	296	1278	502	2076	82	1120	81	1283	7285
% App. Total	24.2	71.9	3.9		15.1	64	20.9		14.3	61.6	24.2		6.4	87.3	6.3		
PHF	.936	.962	.819	.956	.948	.962	.969	.982	.914	.974	.944	.983	.820	.972	.920	.981	.992

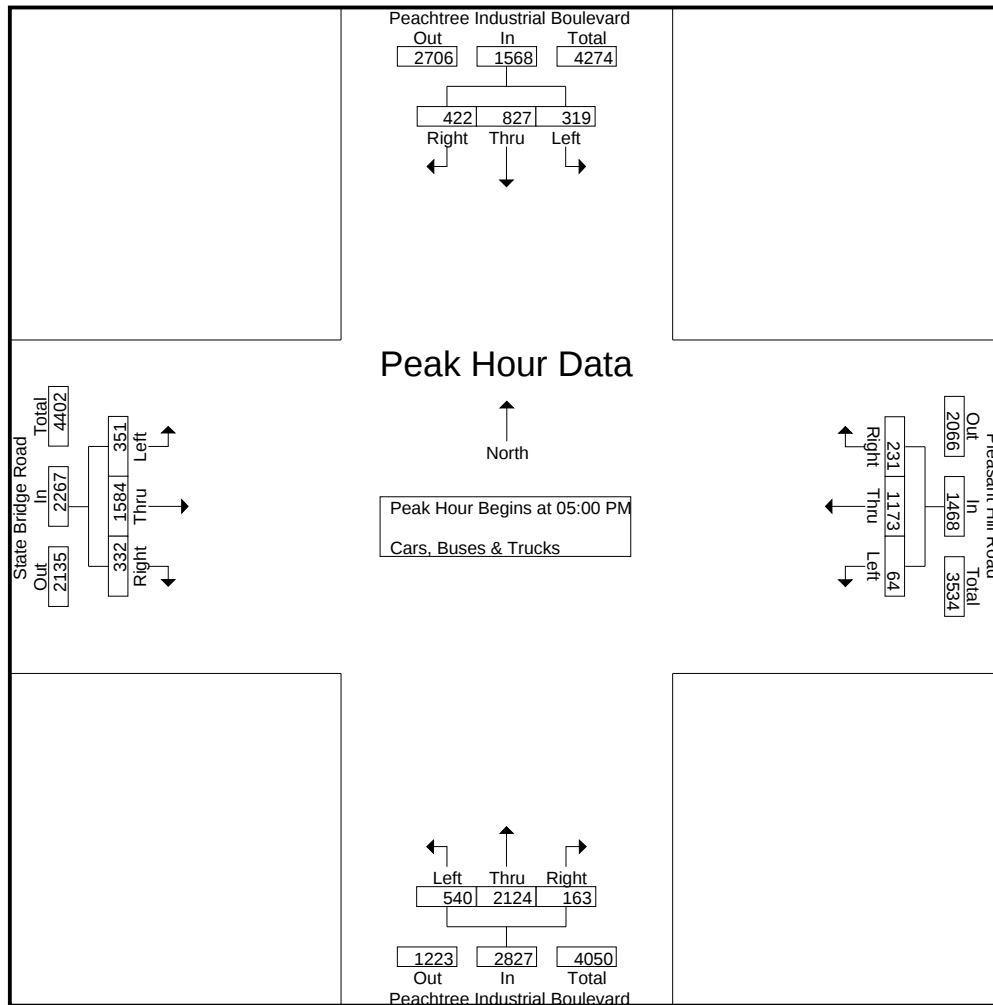


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File Name : 20180243
Site Code : 20180243
Start Date : 10/24/2018
Page No : 3

	Peachtree Industrial Boulevard Northbound				Peachtree Industrial Boulevard Southbound				State Bridge Road Eastbound				Pleasant Hill Road Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	142	512	35	689	84	195	92	371	88	361	91	540	15	268	54	337	1937
05:15 PM	139	525	41	705	78	225	115	418	99	375	78	552	19	275	59	353	2028
05:30 PM	128	549	45	722	82	215	108	405	86	435	86	607	16	303	63	382	2116
05:45 PM	131	538	42	711	75	192	107	374	78	413	77	568	14	327	55	396	2049
Total Volume	540	2124	163	2827	319	827	422	1568	351	1584	332	2267	64	1173	231	1468	8130
% App. Total	19.1	75.1	5.8		20.3	52.7	26.9		15.5	69.9	14.6		4.4	79.9	15.7		
PHF	.951	.967	.906	.979	.949	.919	.917	.938	.886	.910	.912	.934	.842	.897	.917	.927	.961

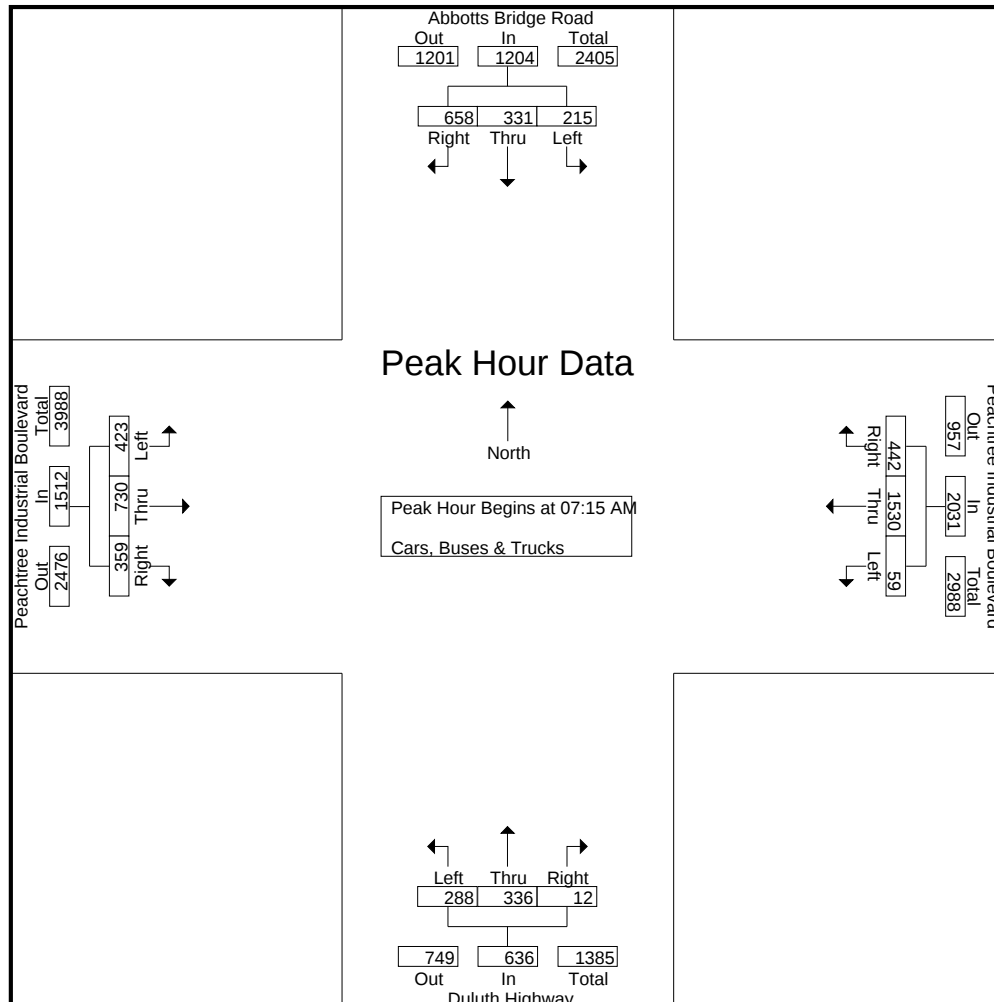


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File Name : 20180233
Site Code : 20180237
Start Date : 10/23/2018
Page No : 2

	Duluth Highway Northbound				Abbotts Bridge Road Southbound				Peachtree Industrial Boulevard Eastbound				Peachtree Industrial Boulevard Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	75	105	5	185	41	71	175	287	111	178	86	375	16	362	141	519	1366
07:30 AM	69	84	2	155	51	78	172	301	103	185	97	385	12	377	111	500	1341
07:45 AM	71	79	3	153	48	90	165	303	108	177	107	392	13	398	101	512	1360
08:00 AM	73	68	2	143	75	92	146	313	101	190	69	360	18	393	89	500	1316
Total Volume	288	336	12	636	215	331	658	1204	423	730	359	1512	59	1530	442	2031	5383
% App. Total	45.3	52.8	1.9		17.9	27.5	54.7		28	48.3	23.7		2.9	75.3	21.8		
PHF	.960	.800	.600	.859	.717	.899	.940	.962	.953	.961	.839	.964	.819	.961	.784	.978	.985

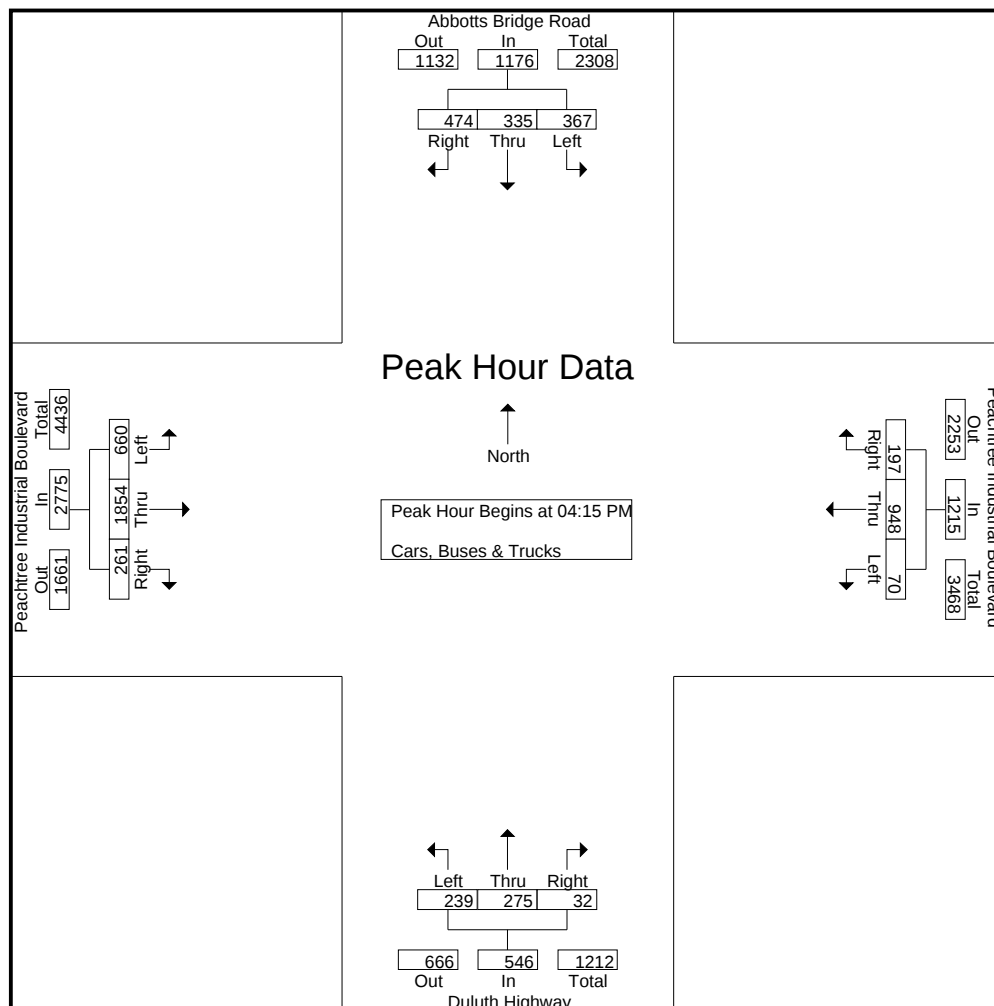


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Marietta, GA 30067

File Name : 20180233
Site Code : 20180237
Start Date : 10/23/2018
Page No : 3

	Duluth Highway Northbound				Abbotts Bridge Road Southbound				Peachtree Industrial Boulevard Eastbound				Peachtree Industrial Boulevard Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	62	65	7	134	88	79	122	289	165	458	65	688	18	255	48	321	1432
04:30 PM	57	72	8	137	86	86	125	297	168	465	59	692	18	236	46	300	1426
04:45 PM	51	63	9	123	95	82	118	295	159	479	65	703	16	242	52	310	1431
05:00 PM	69	75	8	152	98	88	109	295	168	452	72	692	18	215	51	284	1423
Total Volume	239	275	32	546	367	335	474	1176	660	1854	261	2775	70	948	197	1215	5712
% App. Total	43.8	50.4	5.9		31.2	28.5	40.3		23.8	66.8	9.4		5.8	78	16.2		
PHF	.866	.917	.889	.898	.936	.952	.948	.990	.982	.968	.906	.987	.972	.929	.947	.946	.997



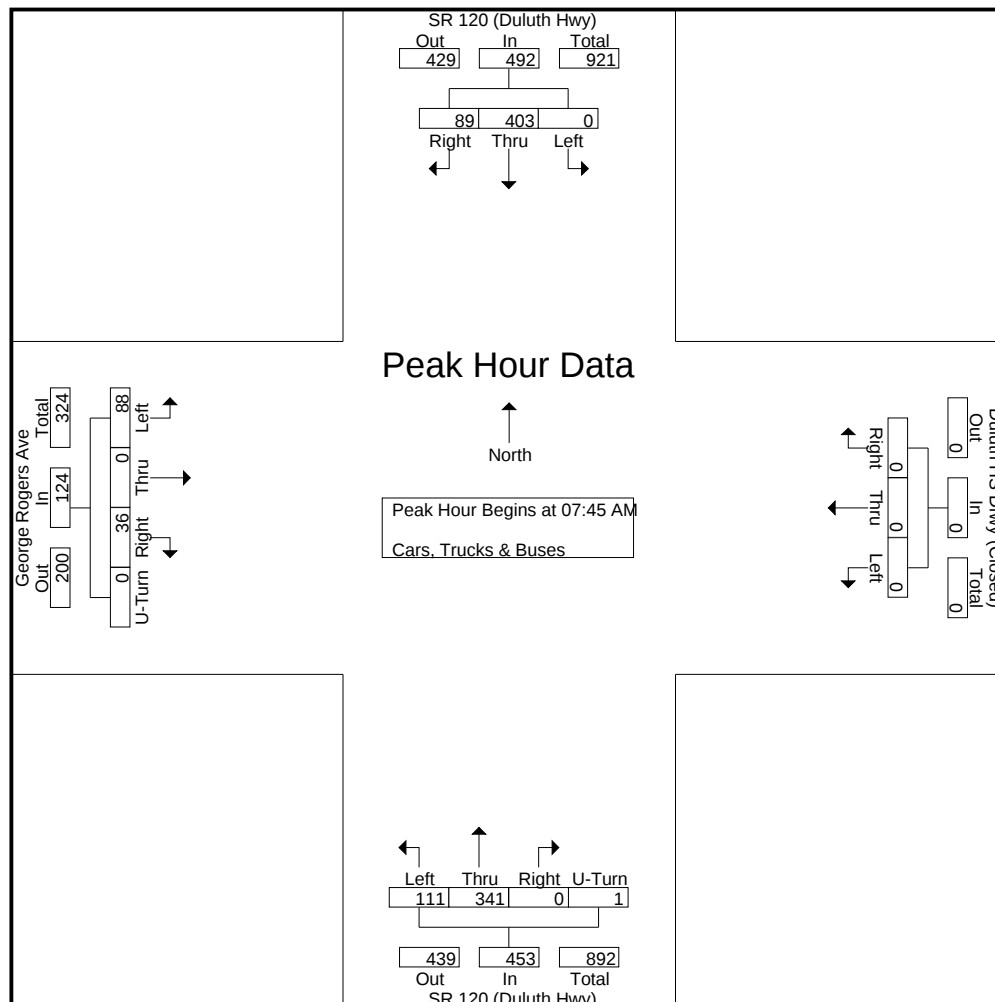
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Marietta, GA 30067

TMC
SR 120 (Duluth Hwy) @ George
Rogers Avenue
7-9 am | 4-6 pm

File Name : SR 120 @ George Rogers Ave
Site Code : 20180242
Start Date : 10/23/2018
Page No : 2

	SR 120 (Duluth Hwy) Northbound					SR 120 (Duluth Hwy) Southbound				George Rogers Ave Eastbound					Duluth HS Drwy (Closed) Westbound				
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:45 AM																			
07:45 AM	24	89	0	0	113	0	107	21	128	29	0	13	0	42	0	0	0	0	283
08:00 AM	29	84	0	0	113	0	112	26	138	37	0	6	0	43	0	0	0	0	294
08:15 AM	33	73	0	1	107	0	82	22	104	10	0	10	0	20	0	0	0	0	231
08:30 AM	25	95	0	0	120	0	102	20	122	12	0	7	0	19	0	0	0	0	261
Total Volume	111	341	0	1	453	0	403	89	492	88	0	36	0	124	0	0	0	0	1069
% App. Total	24.5	75.3	0	0.2		0	81.9	18.1		71	0	29	0		0	0	0		
PHF	.841	.897	.000	.250	.944	.000	.900	.856	.891	.595	.000	.692	.000	.721	.000	.000	.000	.000	.909



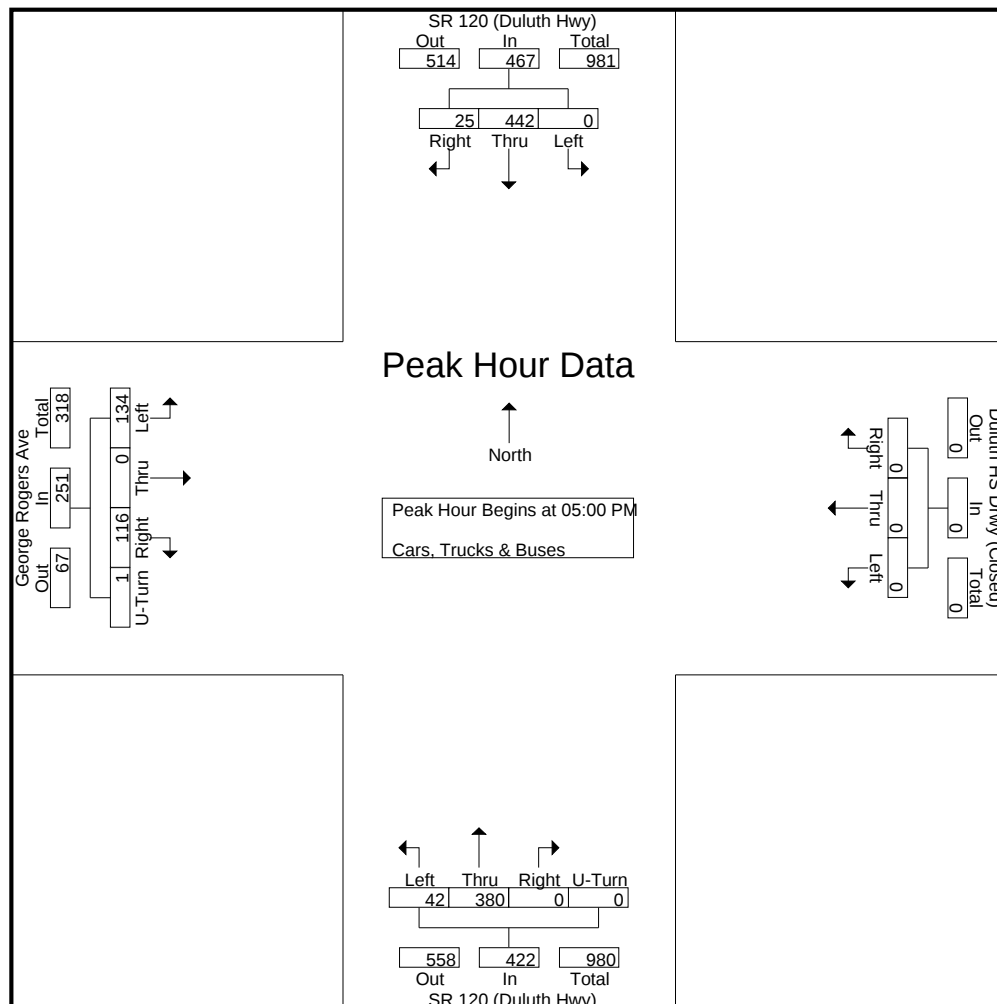
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2160 Kingston Court, Suite 'O',
Marietta, GA 30067

TMC
SR 120 (Duluth Hwy) @ George
Rogers Avenue
7-9 am | 4-6 pm

File Name : SR 120 @ George Rogers Ave
Site Code : 20180242
Start Date : 10/23/2018
Page No : 3

	SR 120 (Duluth Hwy) Northbound					SR 120 (Duluth Hwy) Southbound				George Rogers Ave Eastbound					Duluth HS Drwy (Closed) Westbound				
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	7	94	0	0	101	0	111	7	118	30	0	24	0	54	0	0	0	0	273
05:15 PM	15	104	0	0	119	0	113	5	118	34	0	27	0	61	0	0	0	0	298
05:30 PM	7	108	0	0	115	0	111	7	118	35	0	30	0	65	0	0	0	0	298
05:45 PM	13	74	0	0	87	0	107	6	113	35	0	35	1	71	0	0	0	0	271
Total Volume	42	380	0	0	422	0	442	25	467	134	0	116	1	251	0	0	0	0	1140
% App. Total	10	90	0	0		0	94.6	5.4		53.4	0	46.2	0.4		0	0	0		
PHF	.700	.880	.000	.000	.887	.000	.978	.893	.989	.957	.000	.829	.250	.884	.000	.000	.000	.000	.956

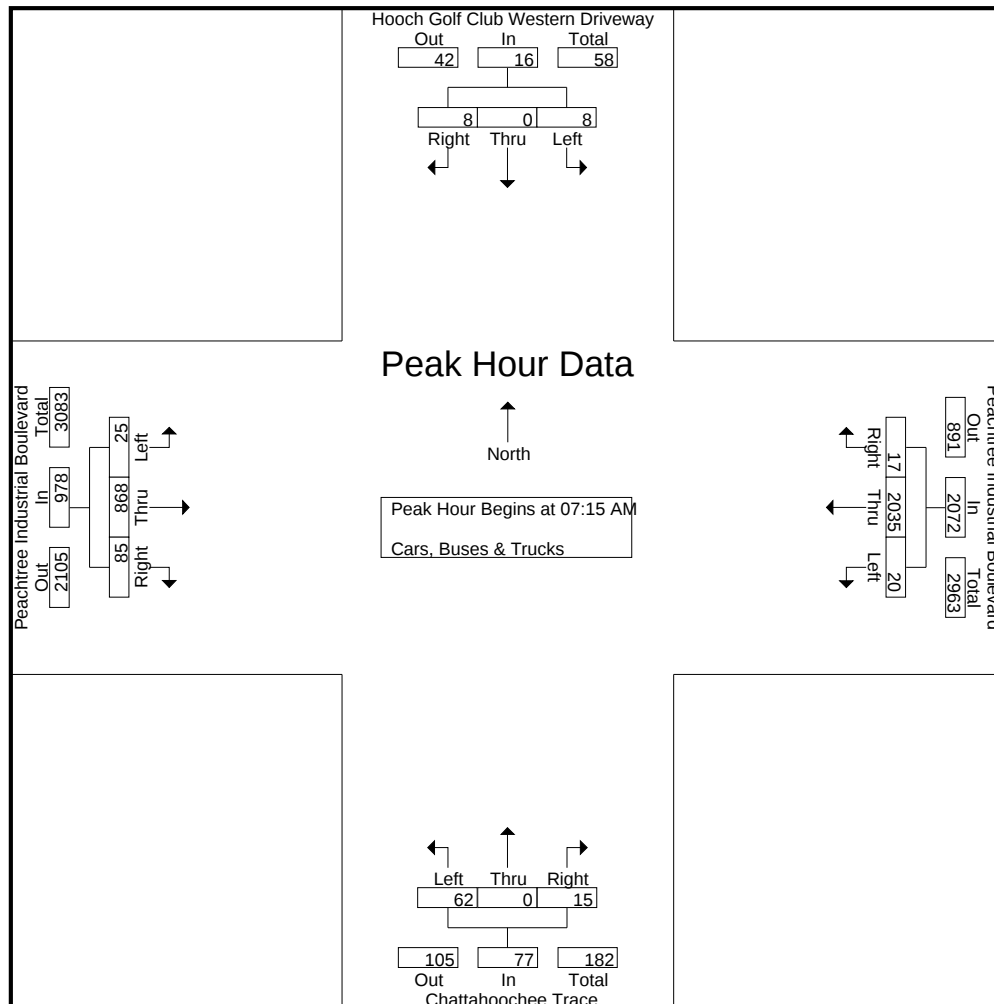


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File Name : 20180235
Site Code : 20180235
Start Date : 10/16/2018
Page No : 3

	Chattahoochee Trace Northbound				Hooch Golf Club Western Driveway Southbound				Peachtree Industrial Boulevard Eastbound				Peachtree Industrial Boulevard Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	14	0	4	18	1	0	2	3	4	146	22	172	4	537	5	546	739
07:30 AM	15	0	5	20	2	0	3	5	6	218	18	242	6	515	4	525	792
07:45 AM	18	0	4	22	3	0	1	4	7	236	21	264	5	496	2	503	793
08:00 AM	15	0	2	17	2	0	2	4	8	268	24	300	5	487	6	498	819
Total Volume	62	0	15	77	8	0	8	16	25	868	85	978	20	2035	17	2072	3143
% App. Total	80.5	0	19.5		50	0	50		2.6	88.8	8.7		1	98.2	0.8		
PHF	.861	.000	.750	.875	.667	.000	.667	.800	.781	.810	.885	.815	.833	.947	.708	.949	.959

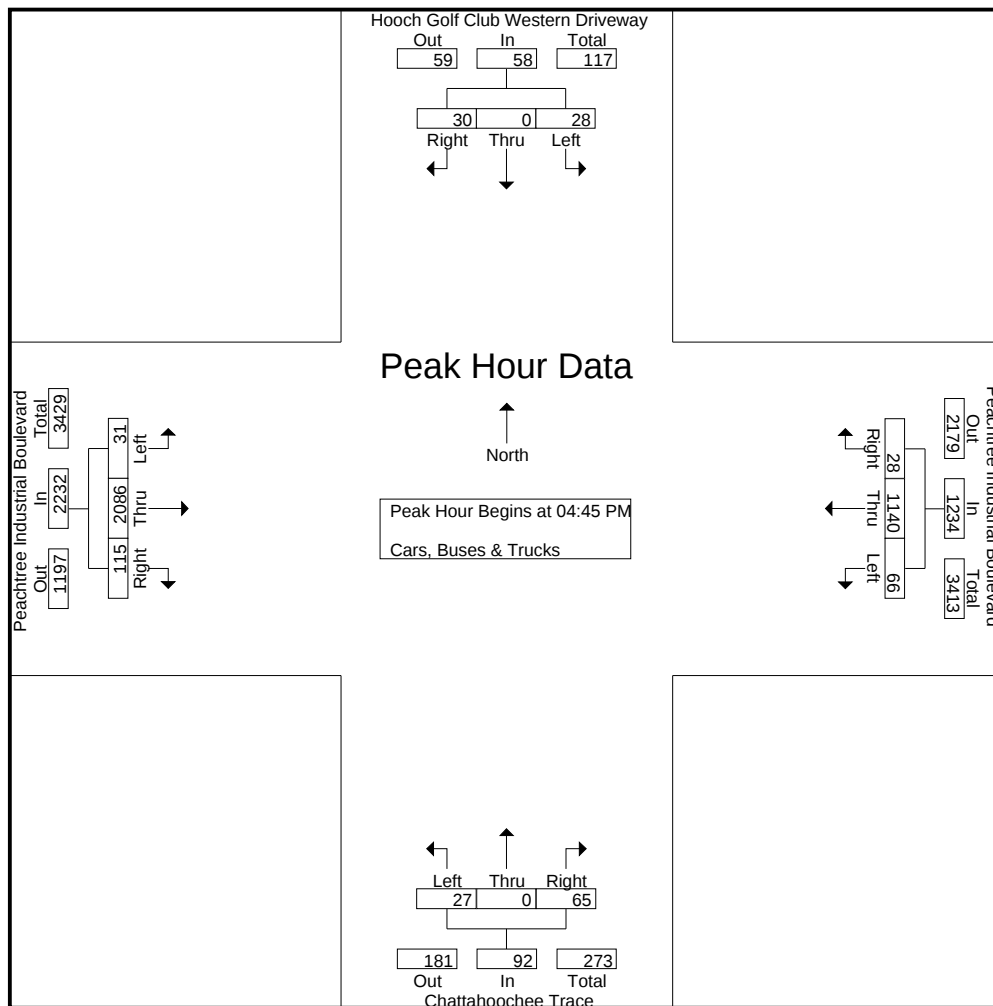


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2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180235
Site Code : 20180235
Start Date : 10/16/2018
Page No : 5

	Chattahoochee Trace Northbound				Hooch Golf Club Western Driveway Southbound				Peachtree Industrial Boulevard Eastbound				Peachtree Industrial Boulevard Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	7	0	18	25	8	0	7	15	9	496	26	531	18	257	8	283	854
05:00 PM	7	0	12	19	5	0	8	13	5	528	32	565	14	272	5	291	888
05:15 PM	5	0	18	23	7	0	9	16	9	511	28	548	19	336	7	362	949
05:30 PM	8	0	17	25	8	0	6	14	8	551	29	588	15	275	8	298	925
Total Volume	27	0	65	92	28	0	30	58	31	2086	115	2232	66	1140	28	1234	3616
% App. Total	29.3	0	70.7		48.3	0	51.7		1.4	93.5	5.2		5.3	92.4	2.3		
PHF	.844	.000	.903	.920	.875	.000	.833	.906	.861	.946	.898	.949	.868	.848	.875	.852	.953

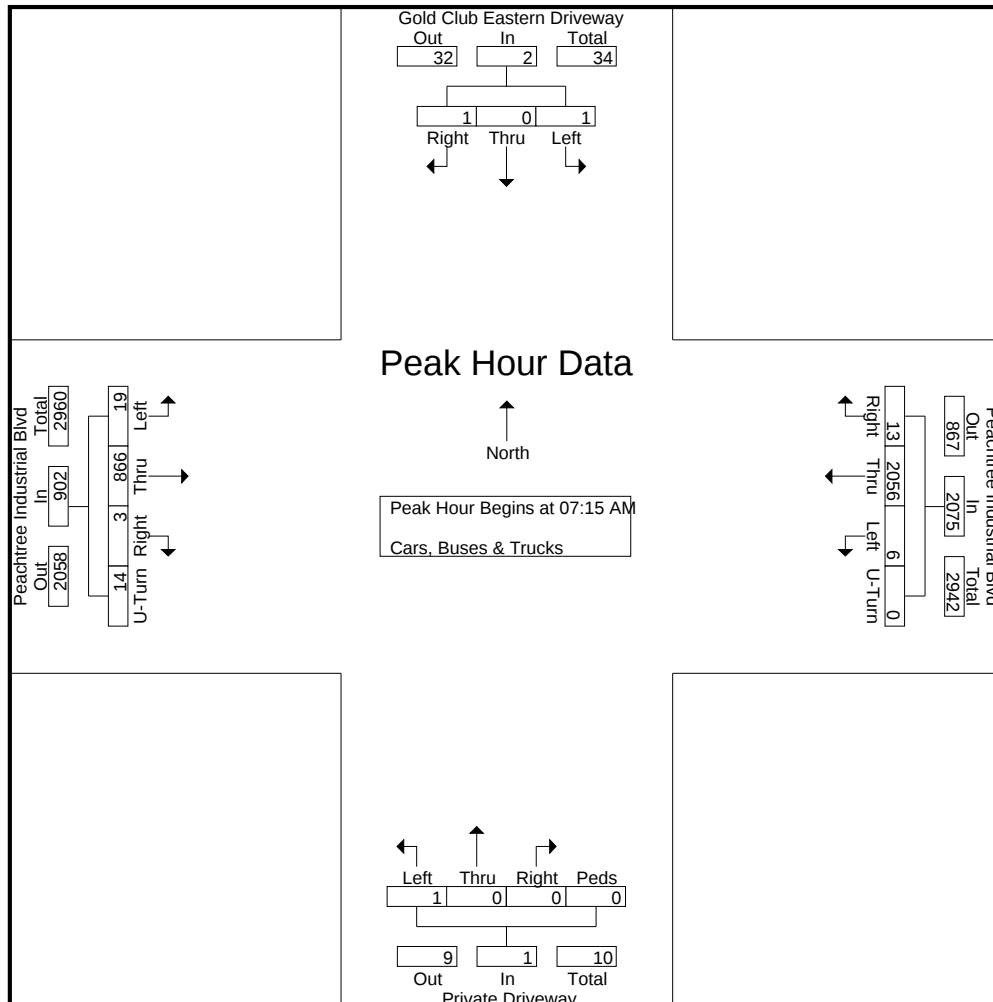


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180234
Site Code : 20180234
Start Date : 10/16/2018
Page No : 3

	Private Driveway Northbound					Gold Club Eastern Driveway Southbound				Peachtree Industrial Blvd Eastbound					Peachtree Industrial Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:15 AM																				
07:15 AM	1	0	0	0	1	0	0	1	1	1	154	0	0	155	0	544	0	0	544	701
07:30 AM	0	0	0	0	0	0	0	0	0	3	224	1	2	230	1	523	5	0	529	759
07:45 AM	0	0	0	0	0	1	0	0	1	7	230	1	4	242	5	499	4	0	508	751
08:00 AM	0	0	0	0	0	0	0	0	0	8	258	1	8	275	0	490	4	0	494	769
Total Volume	1	0	0	0	1	1	0	1	2	19	866	3	14	902	6	2056	13	0	2075	2980
% App. Total	100	0	0	0		50	0	50		2.1	96	0.3	1.6		0.3	99.1	0.6	0		
PHF	.250	.000	.000	.000	.250	.250	.000	.250	.500	.594	.839	.750	.438	.820	.300	.945	.650	.000	.954	.969

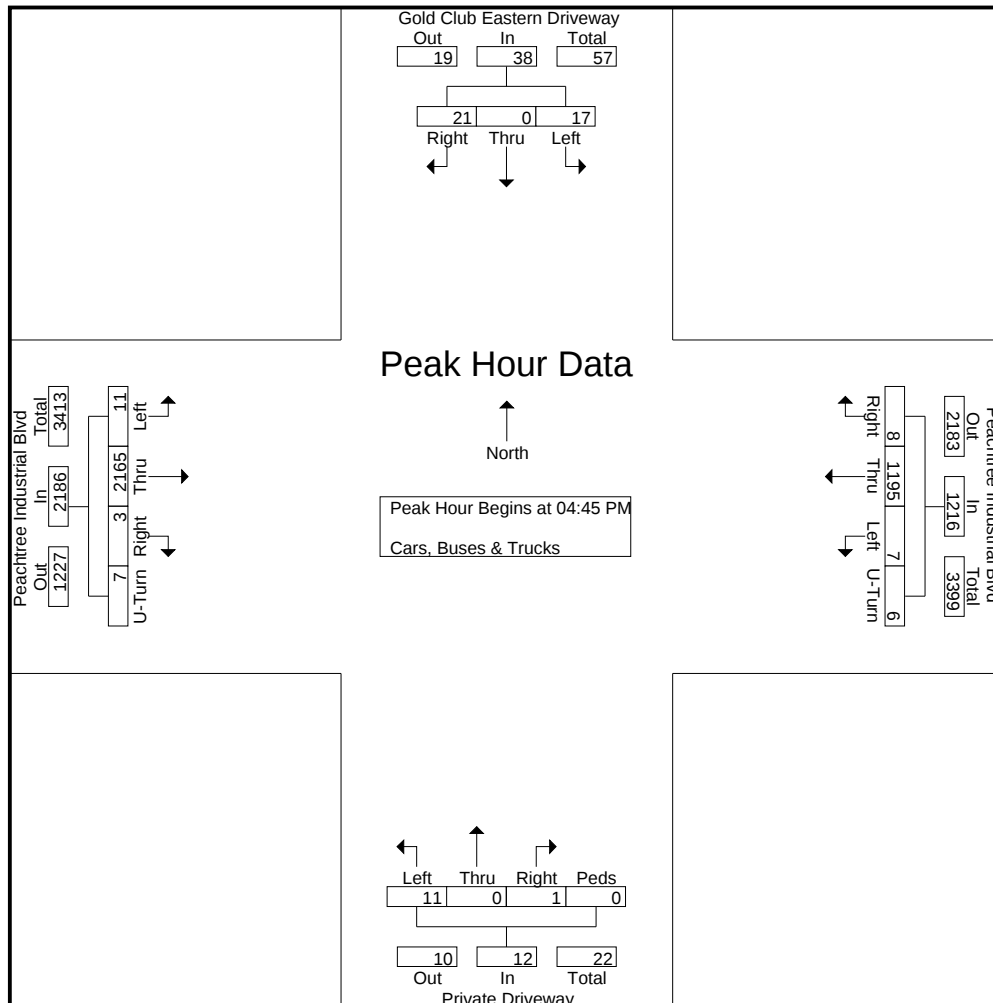


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180234
Site Code : 20180234
Start Date : 10/16/2018
Page No : 5

	Private Driveway Northbound					Gold Club Eastern Driveway Southbound				Peachtree Industrial Blvd Eastbound					Peachtree Industrial Blvd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 04:45 PM																				
04:45 PM	5	0	0	0	5	1	0	5	6	2	519	1	1	523	3	272	3	2	280	814
05:00 PM	2	0	0	0	2	8	0	6	14	2	542	1	1	546	1	282	0	4	287	849
05:15 PM	3	0	1	0	4	4	0	6	10	3	533	0	3	539	3	350	3	0	356	909
05:30 PM	1	0	0	0	1	4	0	4	8	4	571	1	2	578	0	291	2	0	293	880
Total Volume	11	0	1	0	12	17	0	21	38	11	2165	3	7	2186	7	1195	8	6	1216	3452
% App. Total	91.7	0	8.3	0		44.7	0	55.3		0.5	99	0.1	0.3		0.6	98.3	0.7	0.5		
PHF	.550	.000	.250	.000	.600	.531	.000	.875	.679	.688	.948	.750	.583	.946	.583	.854	.667	.375	.854	.949



A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',
Marietta, GA 30067

TMC Data

Peachtree Industrial Blvd @ Rogers

Bridge Rd

7-9 am | 4-6 pm

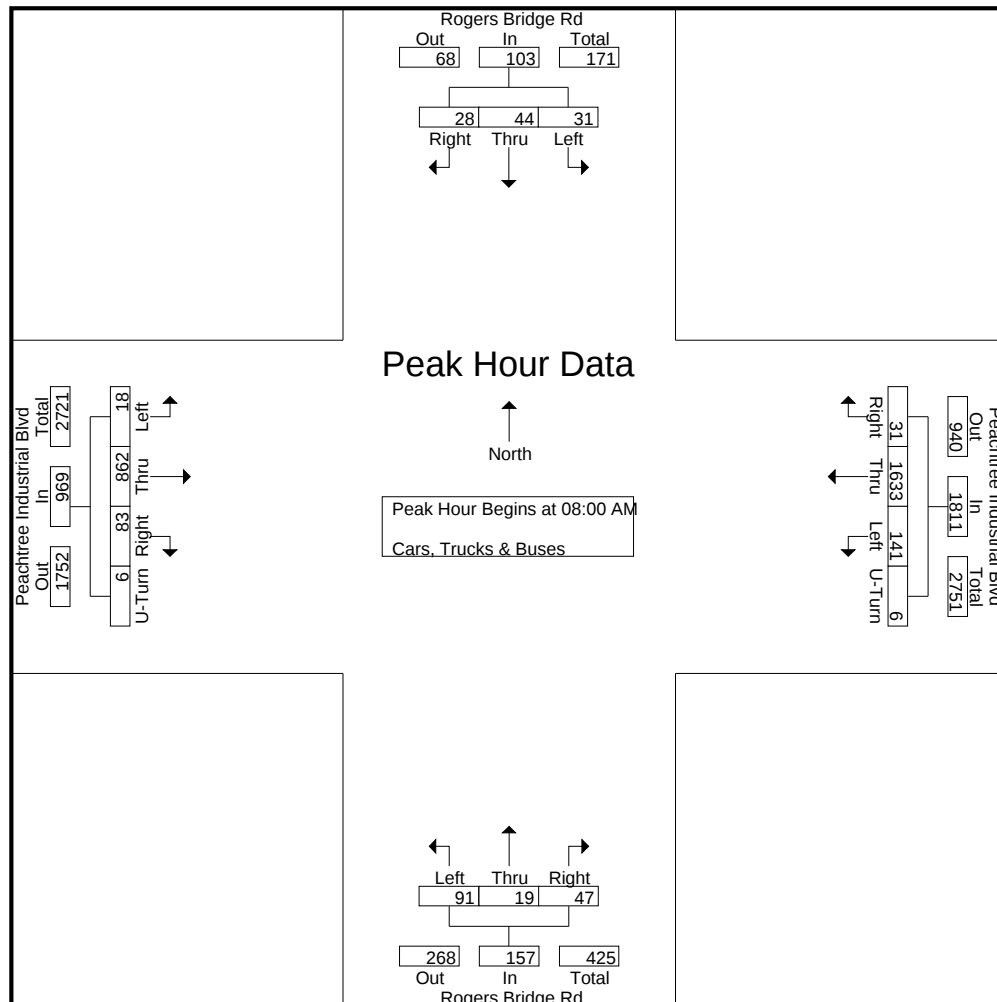
File Name : PIB @ Rogers Bridge

Site Code : 20180236

Start Date : 10/16/2018

Page No : 2

	Rogers Bridge Rd Northbound				Rogers Bridge Rd Southbound				Peachtree Industrial Blvd Eastbound					Peachtree Industrial Blvd Westbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 08:00 AM																			
08:00 AM	19	8	25	52	4	16	5	25	3	255	25	3	286	49	437	7	1	494	857
08:15 AM	34	4	5	43	12	6	6	24	6	195	22	1	224	39	394	8	2	443	734
08:30 AM	16	1	9	26	8	12	9	29	6	198	19	0	223	25	371	10	0	406	684
08:45 AM	22	6	8	36	7	10	8	25	3	214	17	2	236	28	431	6	3	468	765
Total Volume	91	19	47	157	31	44	28	103	18	862	83	6	969	141	1633	31	6	1811	3040
% App. Total	58	12.1	29.9		30.1	42.7	27.2		1.9	89	8.6	0.6		7.8	90.2	1.7	0.3		
PHF	.669	.594	.470	.755	.646	.688	.778	.888	.750	.845	.830	.500	.847	.719	.934	.775	.500	.916	.887



A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',
Marietta, GA 30067

TMC Data

Peachtree Industrial Blvd @ Rogers

Bridge Rd

7-9 am | 4-6 pm

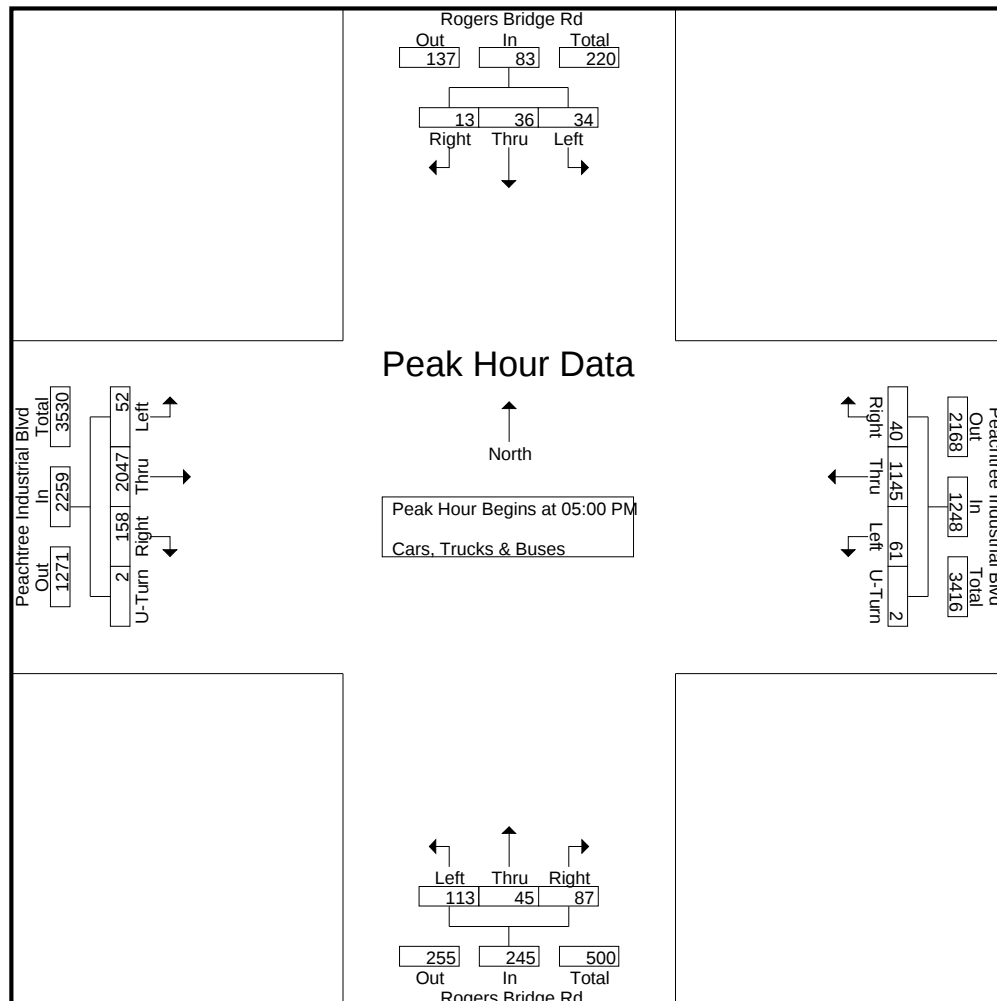
File Name : PIB @ Rogers Bridge

Site Code : 20180236

Start Date : 10/16/2018

Page No : 3

	Rogers Bridge Rd Northbound				Rogers Bridge Rd Southbound				Peachtree Industrial Blvd Eastbound					Peachtree Industrial Blvd Westbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	34	9	24	67	3	5	1	9	12	565	43	1	621	15	280	10	2	307	1004
05:15 PM	30	12	16	58	11	11	5	27	10	485	41	1	537	16	329	8	0	353	975
05:30 PM	30	17	30	77	15	8	1	24	14	461	38	0	513	18	264	9	0	291	905
05:45 PM	19	7	17	43	5	12	6	23	16	536	36	0	588	12	272	13	0	297	951
Total Volume	113	45	87	245	34	36	13	83	52	2047	158	2	2259	61	1145	40	2	1248	3835
% App. Total	46.1	18.4	35.5		41	43.4	15.7		2.3	90.6	7	0.1		4.9	91.7	3.2	0.2		
PHF	.831	.662	.725	.795	.567	.750	.542	.769	.813	.906	.919	.500	.909	.847	.870	.769	.250	.884	.955

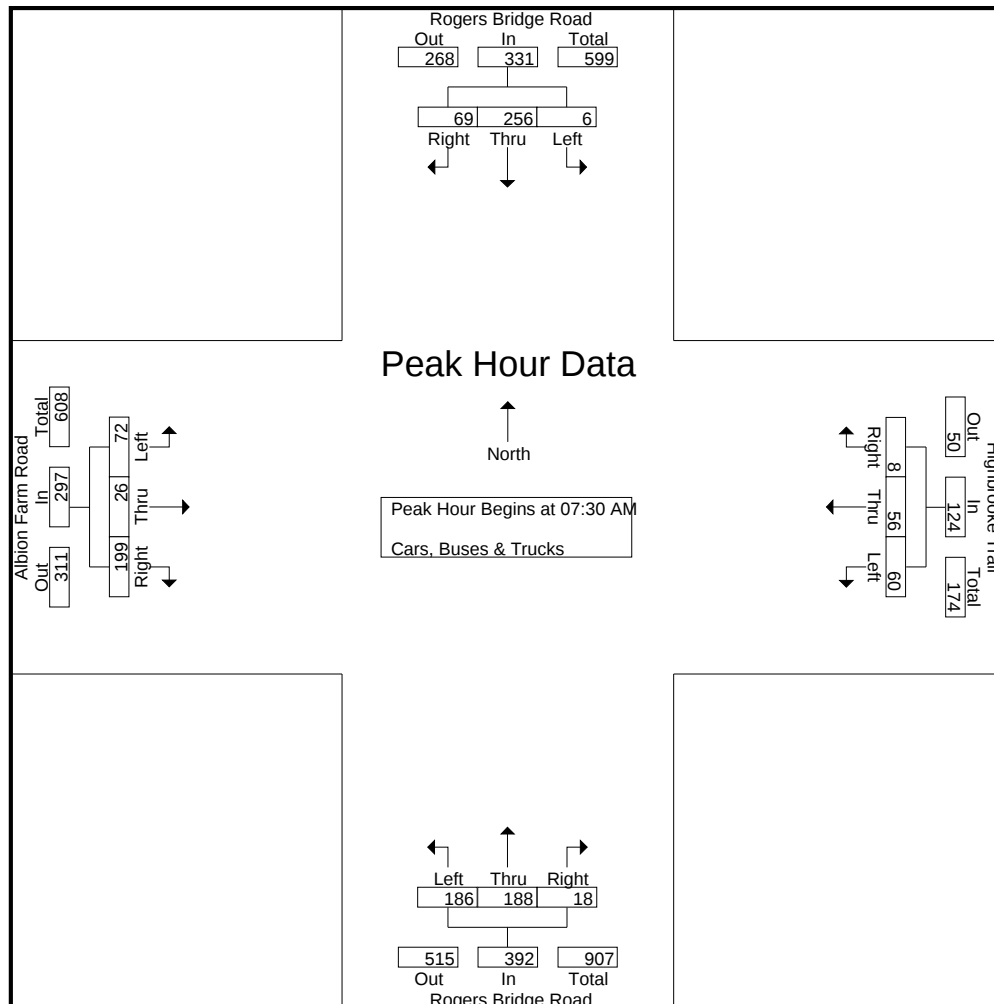


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180238
Site Code : 20180238
Start Date : 10/16/2018
Page No : 2

	Rogers Bridge Road Northbound				Rogers Bridge Road Southbound				Albion Farm Road Eastbound				Highbrooke Trail Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	51	43	3	97	0	61	13	74	18	5	58	81	13	18	2	33	285
07:45 AM	44	38	2	84	2	58	30	90	26	6	49	81	21	14	1	36	291
08:00 AM	48	56	6	110	2	72	12	86	13	7	44	64	11	11	1	23	283
08:15 AM	43	51	7	101	2	65	14	81	15	8	48	71	15	13	4	32	285
Total Volume	186	188	18	392	6	256	69	331	72	26	199	297	60	56	8	124	1144
% App. Total	47.4	48	4.6		1.8	77.3	20.8		24.2	8.8	67		48.4	45.2	6.5		
PHF	.912	.839	.643	.891	.750	.889	.575	.919	.692	.813	.858	.917	.714	.778	.500	.861	.983

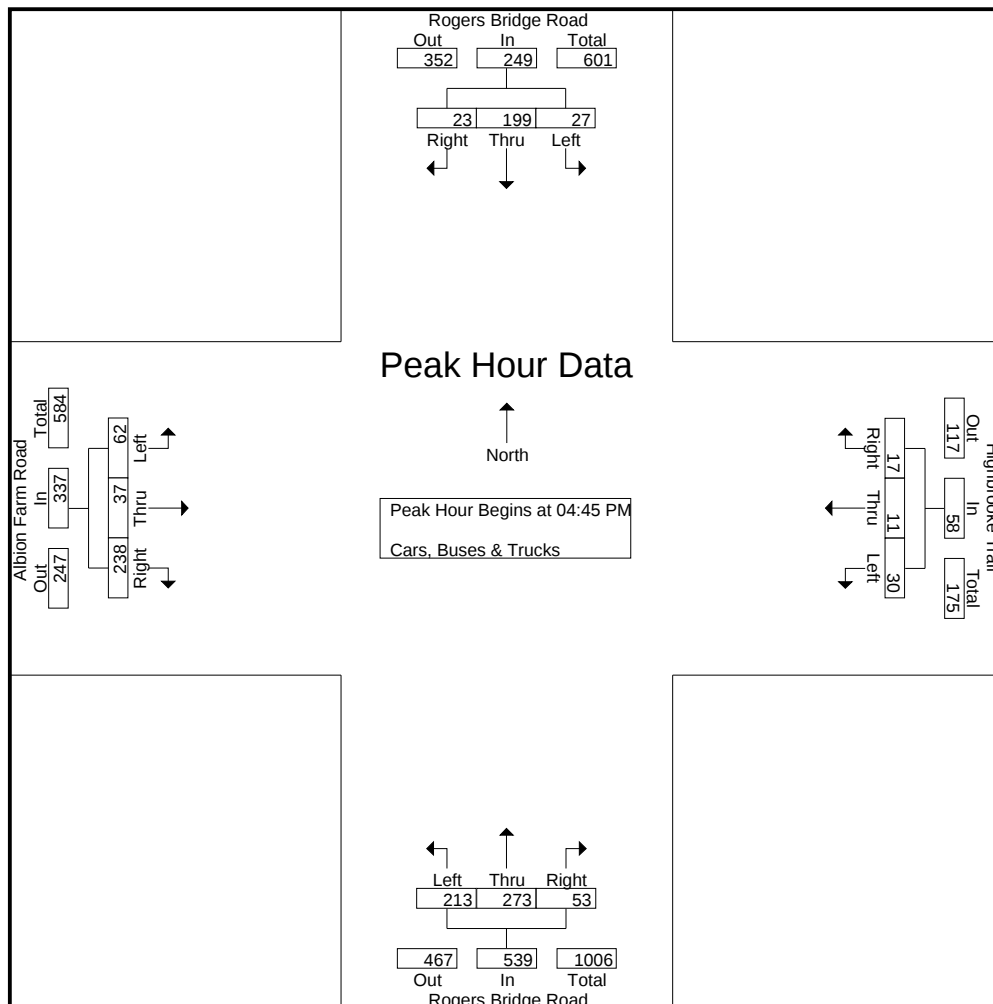


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180238
Site Code : 20180238
Start Date : 10/16/2018
Page No : 3

	Rogers Bridge Road Northbound				Rogers Bridge Road Southbound				Albion Farm Road Eastbound				Highbrooke Trail Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	49	64	13	126	13	39	7	59	22	8	64	94	8	4	2	14	293
05:00 PM	54	65	9	128	3	55	3	61	14	10	52	76	10	1	4	15	280
05:15 PM	61	69	17	147	6	53	7	66	15	7	58	80	5	3	4	12	305
05:30 PM	49	75	14	138	5	52	6	63	11	12	64	87	7	3	7	17	305
Total Volume	213	273	53	539	27	199	23	249	62	37	238	337	30	11	17	58	1183
% App. Total	39.5	50.6	9.8		10.8	79.9	9.2		18.4	11	70.6		51.7	19	29.3		
PHF	.873	.910	.779	.917	.519	.905	.821	.943	.705	.771	.930	.896	.750	.688	.607	.853	.970

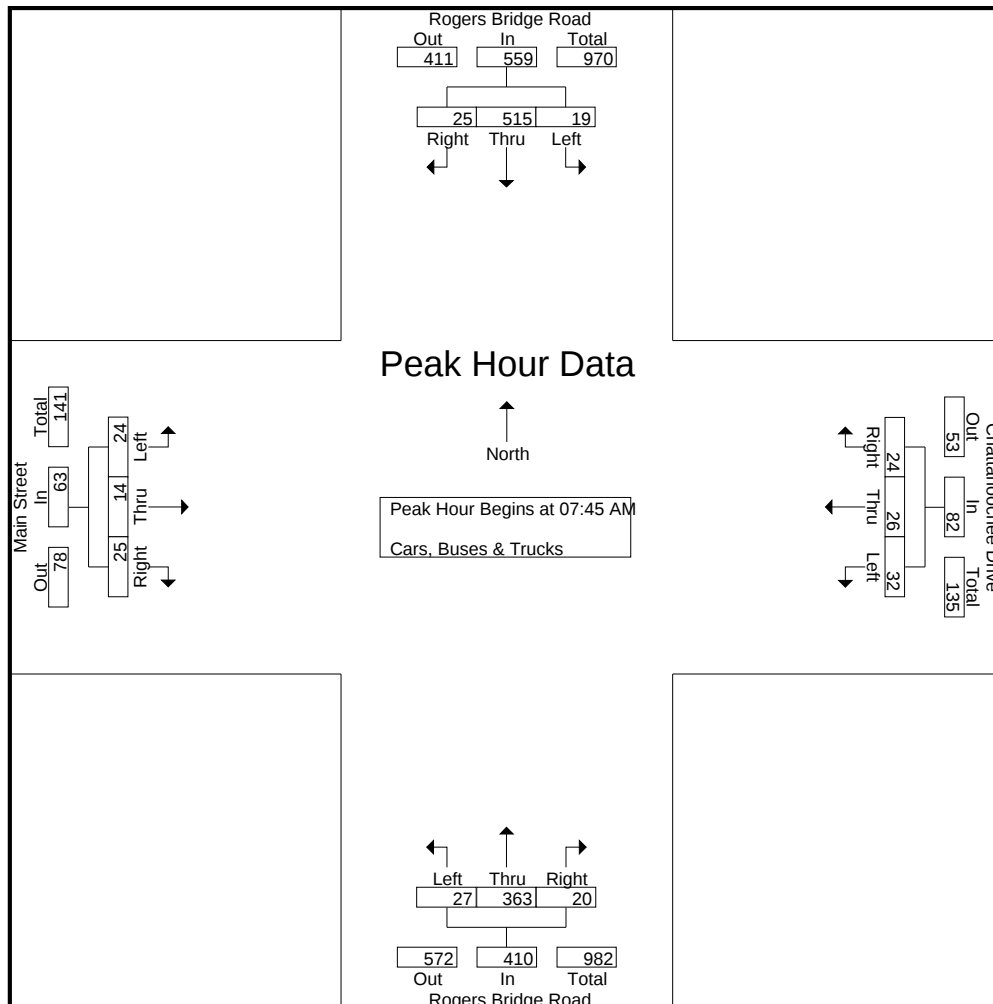


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180244
Site Code : 20180244
Start Date : 10/16/2018
Page No : 2

	Rogers Bridge Road Northbound				Rogers Bridge Road Southbound				Main Street Eastbound				Chattahoochee Drive Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	5	81	7	93	6	109	4	119	5	5	3	13	8	4	4	16	241
08:00 AM	9	102	6	117	5	146	8	159	6	2	9	17	9	6	8	23	316
08:15 AM	5	95	5	105	4	156	7	167	8	4	5	17	8	9	5	22	311
08:30 AM	8	85	2	95	4	104	6	114	5	3	8	16	7	7	7	21	246
Total Volume	27	363	20	410	19	515	25	559	24	14	25	63	32	26	24	82	1114
% App. Total	6.6	88.5	4.9		3.4	92.1	4.5		38.1	22.2	39.7		39	31.7	29.3		
PHF	.750	.890	.714	.876	.792	.825	.781	.837	.750	.700	.694	.926	.889	.722	.750	.891	.881

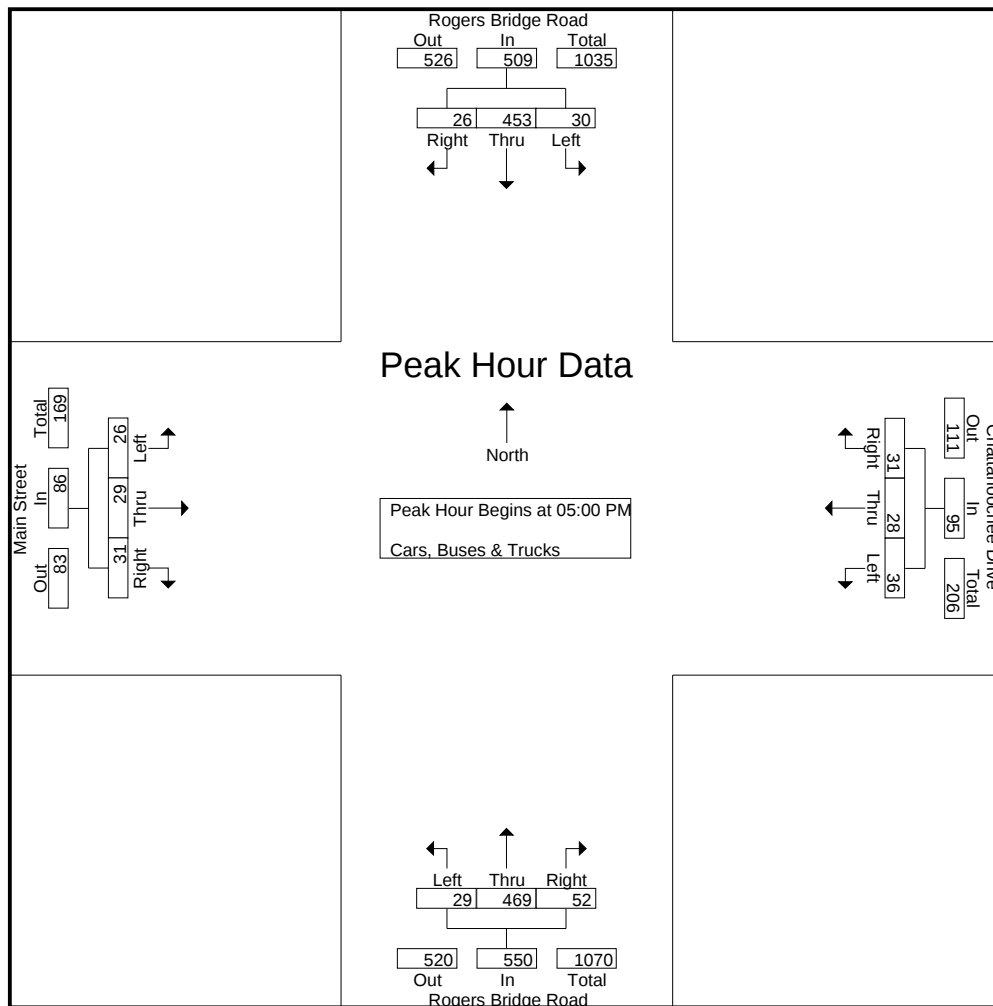


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180244
Site Code : 20180244
Start Date : 10/16/2018
Page No : 3

	Rogers Bridge Road Northbound				Rogers Bridge Road Southbound				Main Street Eastbound				Chattahoochee Drive Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	105	9	123	9	115	6	130	6	7	7	20	9	7	6	22	295
05:15 PM	8	120	17	145	8	108	8	124	7	5	8	20	8	5	8	21	310
05:30 PM	7	125	14	146	5	121	5	131	8	8	9	25	10	7	8	25	327
05:45 PM	5	119	12	136	8	109	7	124	5	9	7	21	9	9	9	27	308
Total Volume	29	469	52	550	30	453	26	509	26	29	31	86	36	28	31	95	1240
% App. Total	5.3	85.3	9.5		5.9	89	5.1		30.2	33.7	36		37.9	29.5	32.6		
PHF	.806	.938	.765	.942	.833	.936	.813	.971	.813	.806	.861	.860	.900	.778	.861	.880	.948



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC Data

US 23/SR 13 (Buford Hwy) @

Rogers Bridge Rd / Old Peachtree Rd

7-9 am | 4-6 pm

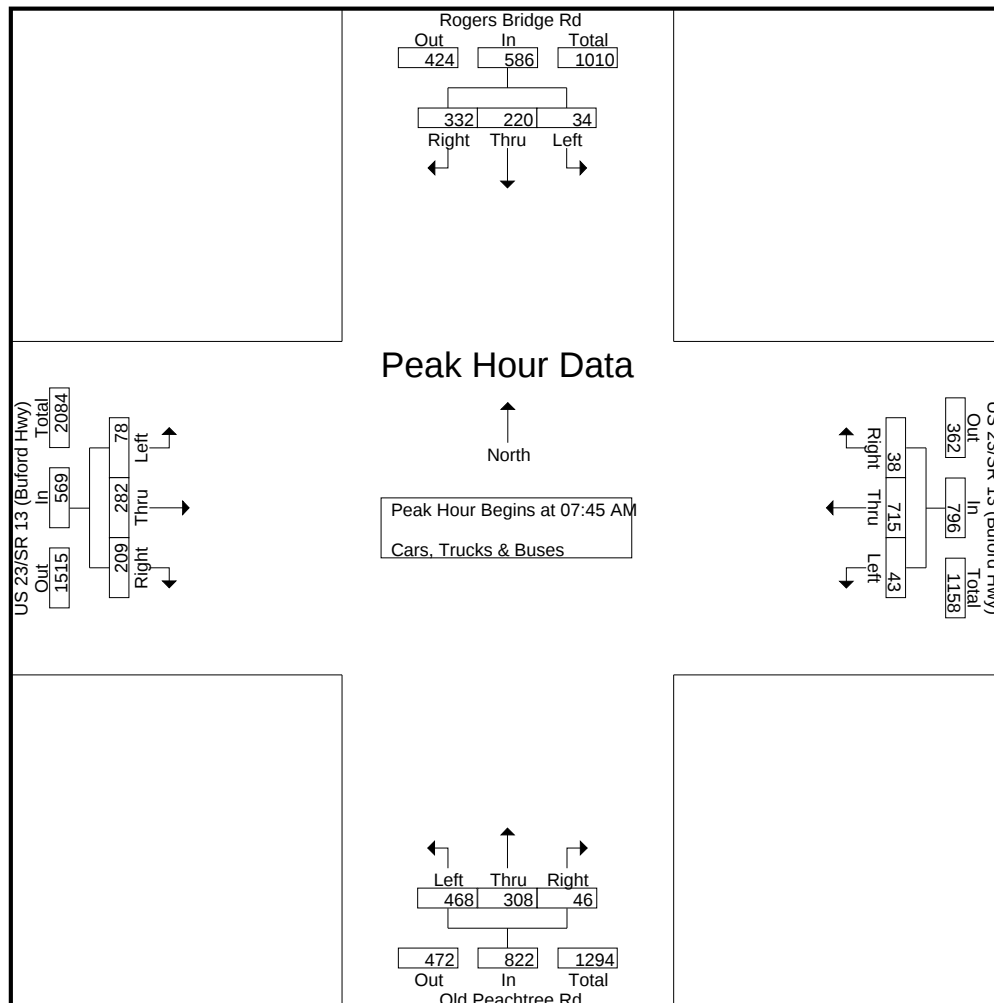
File Name : 20180239

Site Code : 20180239

Start Date : 10/16/2018

Page No : 2

	Old Peachtree Rd Northbound				Rogers Bridge Rd Southbound				US 23/SR 13 (Buford Hwy) Eastbound				US 23/SR 13 (Buford Hwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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	140	73	9	222	5	50	107	162	17	76	50	143	10	194	7	211	738
08:00 AM	119	77	8	204	10	57	85	152	14	53	51	118	11	186	10	207	681
08:15 AM	91	97	16	204	7	50	83	140	18	82	54	154	13	192	13	218	716
08:30 AM	118	61	13	192	12	63	57	132	29	71	54	154	9	143	8	160	638
Total Volume	468	308	46	822	34	220	332	586	78	282	209	569	43	715	38	796	2773
% App. Total	56.9	37.5	5.6		5.8	37.5	56.7		13.7	49.6	36.7		5.4	89.8	4.8		
PHF	.836	.794	.719	.926	.708	.873	.776	.904	.672	.860	.968	.924	.827	.921	.731	.913	.939



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC Data

US 23/SR 13 (Buford Hwy) @

Rogers Bridge Rd / Old Peachtree Rd

7-9 am | 4-6 pm

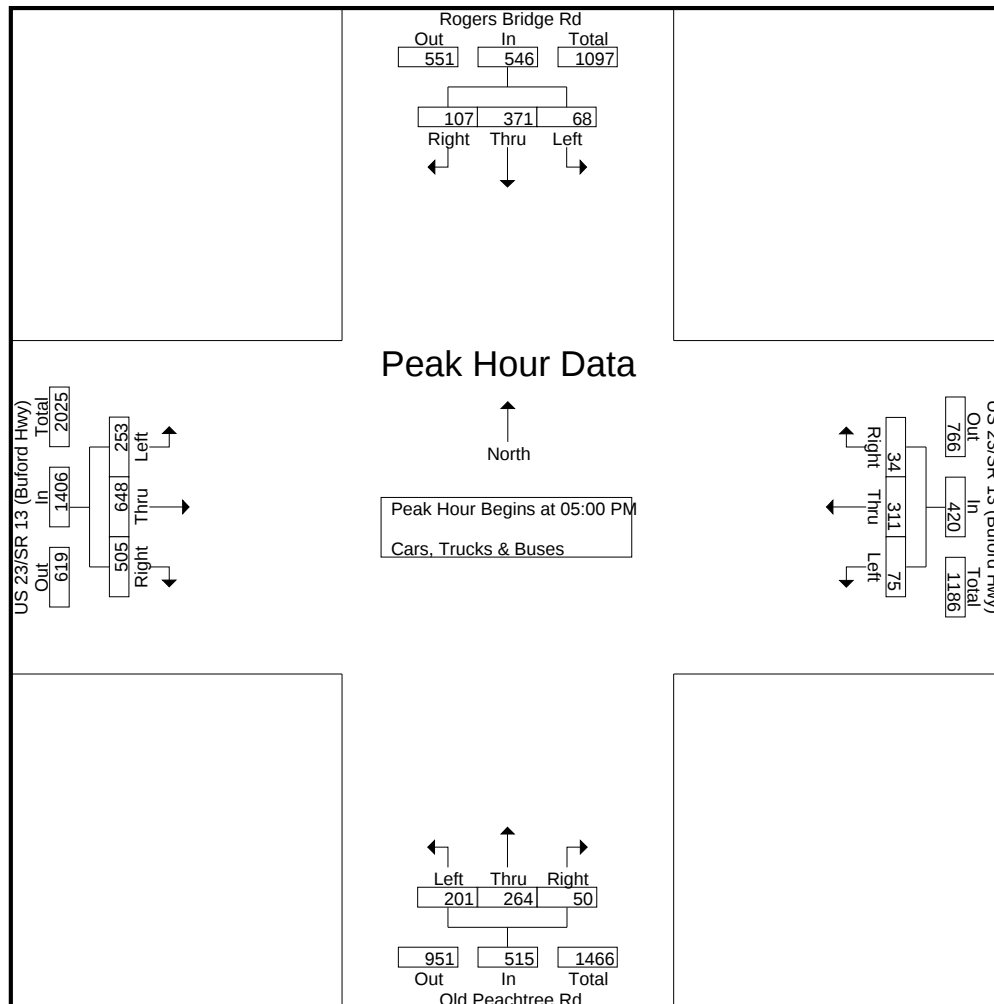
File Name : 20180239

Site Code : 20180239

Start Date : 10/16/2018

Page No : 3

	Old Peachtree Rd Northbound				Rogers Bridge Rd Southbound				US 23/SR 13 (Buford Hwy) Eastbound				US 23/SR 13 (Buford Hwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	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 05:00 PM																	
05:00 PM	42	66	15	123	15	89	29	133	48	146	123	317	14	73	9	96	669
05:15 PM	56	68	12	136	17	96	34	147	64	160	140	364	18	86	6	110	757
05:30 PM	45	60	10	115	20	90	19	129	77	194	125	396	27	81	9	117	757
05:45 PM	58	70	13	141	16	96	25	137	64	148	117	329	16	71	10	97	704
Total Volume	201	264	50	515	68	371	107	546	253	648	505	1406	75	311	34	420	2887
% App. Total	39	51.3	9.7		12.5	67.9	19.6		18	46.1	35.9		17.9	74	8.1		
PHF	.866	.943	.833	.913	.850	.966	.787	.929	.821	.835	.902	.888	.694	.904	.850	.897	.953

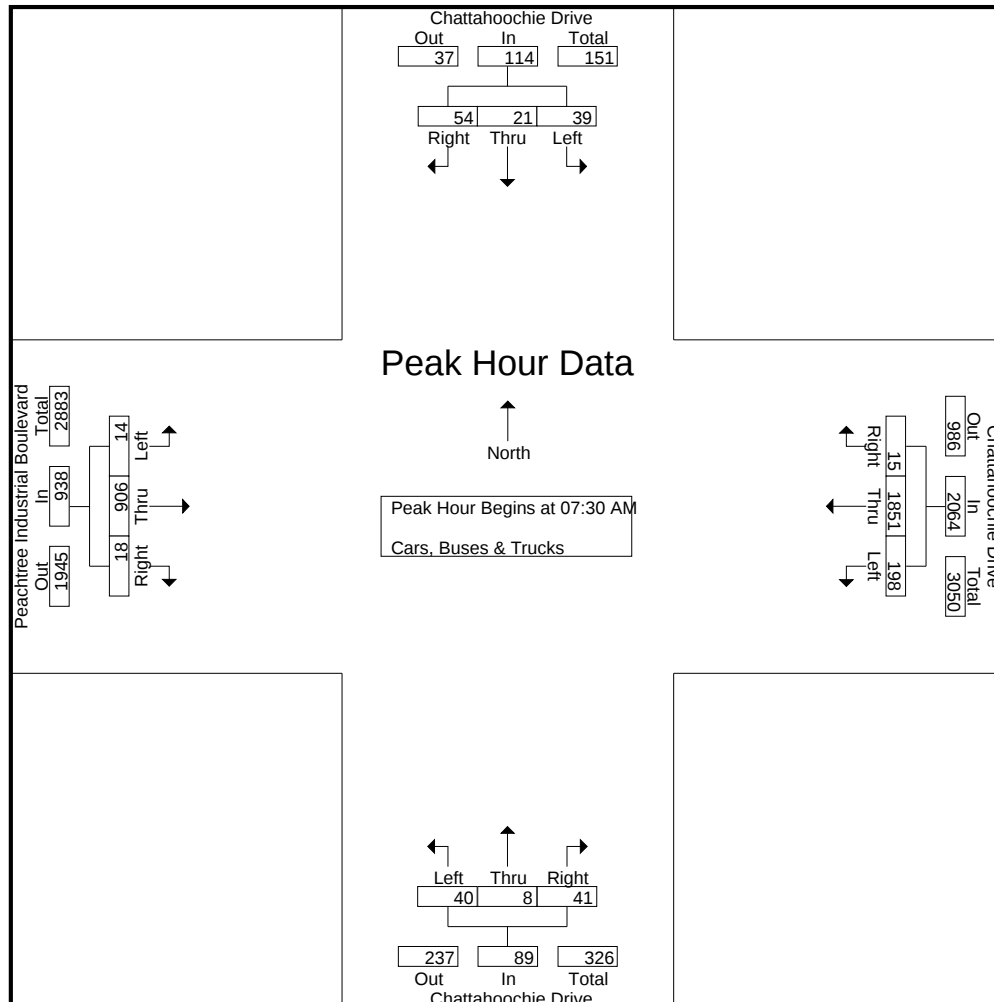


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180237
Site Code : 20180237
Start Date : 10/16/2018
Page No : 2

	Chattahoochie Drive Northbound				Chattahoochie Drive Southbound				Peachtree Industrial Boulevard Eastbound				Chattahoochie Drive Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	10	1	4	15	11	3	15	29	0	170	7	177	43	478	4	525	746
07:45 AM	15	1	15	31	15	7	18	40	2	241	2	245	61	500	0	561	877
08:00 AM	9	4	11	24	11	5	15	31	9	234	4	247	53	450	6	509	811
08:15 AM	6	2	11	19	2	6	6	14	3	261	5	269	41	423	5	469	771
Total Volume	40	8	41	89	39	21	54	114	14	906	18	938	198	1851	15	2064	3205
% App. Total	44.9	9	46.1		34.2	18.4	47.4		1.5	96.6	1.9		9.6	89.7	0.7		
PHF	.667	.500	.683	.718	.650	.750	.750	.713	.389	.868	.643	.872	.811	.926	.625	.920	.914

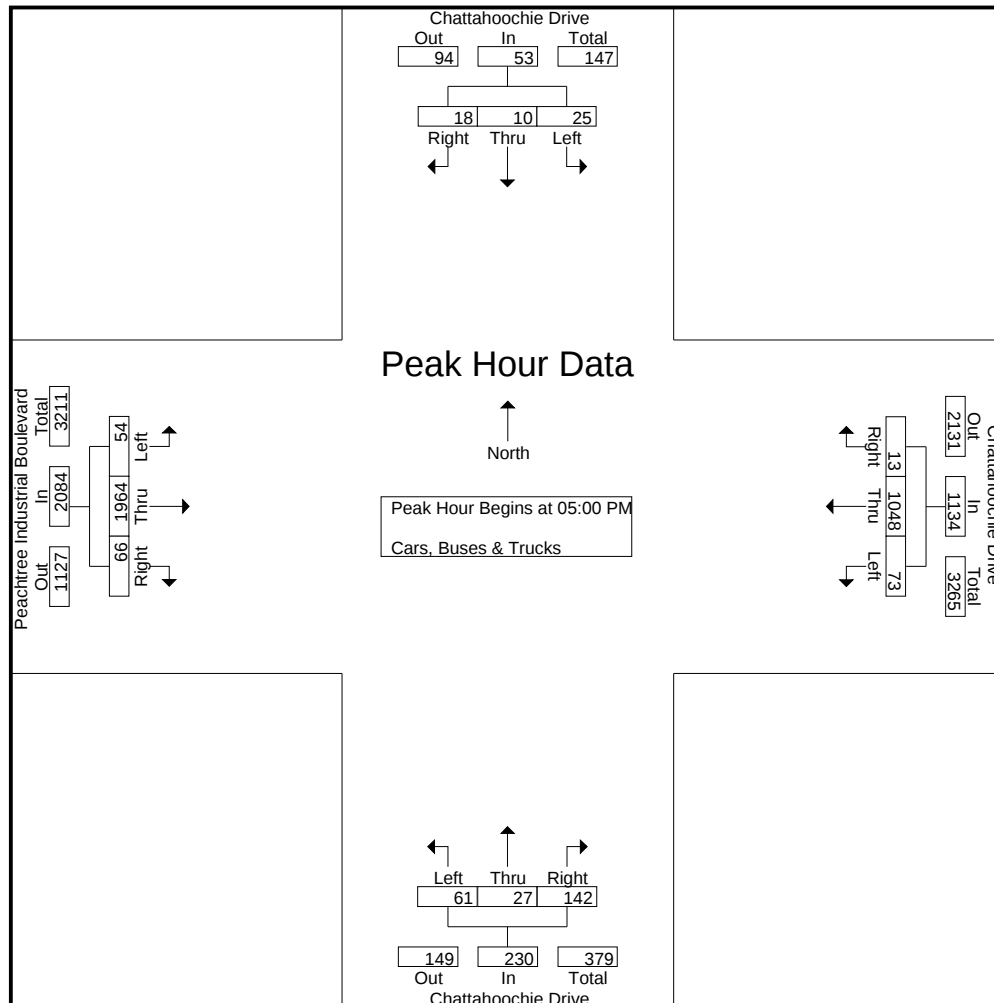


A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

File Name : 20180237
Site Code : 20180237
Start Date : 10/16/2018
Page No : 3

	Chattahoochee Drive Northbound				Chattahoochee Drive Southbound				Peachtree Industrial Boulevard Eastbound				Chattahoochee Drive Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	6	27	42	2	3	5	10	12	454	17	483	16	251	0	267	802
05:15 PM	18	6	31	55	8	2	4	14	18	554	15	587	13	264	8	285	941
05:30 PM	10	2	25	37	3	1	2	6	11	401	7	419	15	229	3	247	709
05:45 PM	24	13	59	96	12	4	7	23	13	555	27	595	29	304	2	335	1049
Total Volume	61	27	142	230	25	10	18	53	54	1964	66	2084	73	1048	13	1134	3501
% App. Total	26.5	11.7	61.7		47.2	18.9	34		2.6	94.2	3.2		6.4	92.4	1.1		
PHF	.635	.519	.602	.599	.521	.625	.643	.576	.750	.885	.611	.876	.629	.862	.406	.846	.834



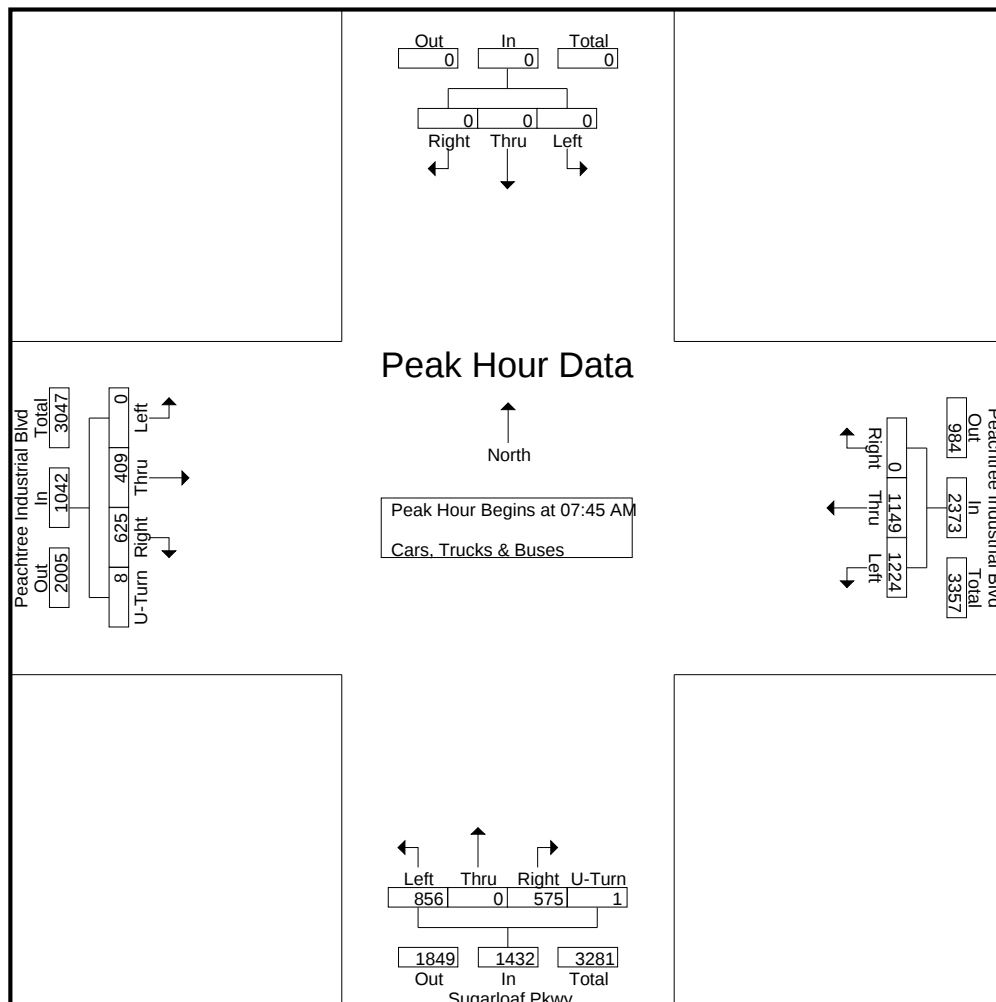
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',
Marietta, GA 30067

TMC Data
Peachtree Industrial Blvd @
Sugarloaf Pkwy
7-9 am | 4-6 pm

File Name : PIB @ Sugarloaf Pkwy
Site Code : 20180240
Start Date : 10/23/2018
Page No : 2

	Sugarloaf Pkwy Northbound					Southbound				Peachtree Industrial Blvd Eastbound					Peachtree Industrial Blvd Westbound				
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:45 AM																			
07:45 AM	237	0	112	1	350	0	0	0	0	0	104	137	5	246	326	300	0	626	1222
08:00 AM	244	0	166	0	410	0	0	0	0	0	109	176	1	286	291	254	0	545	1241
08:15 AM	170	0	138	0	308	0	0	0	0	0	101	166	2	269	334	299	0	633	1210
08:30 AM	205	0	159	0	364	0	0	0	0	0	95	146	0	241	273	296	0	569	1174
Total Volume	856	0	575	1	1432	0	0	0	0	0	409	625	8	1042	1224	1149	0	2373	4847
% App. Total	59.8	0	40.2	0.1		0	0	0		0	39.3	60	0.8		51.6	48.4	0		
PHF	.877	.000	.866	.250	.873	.000	.000	.000	.000	.000	.938	.888	.400	.911	.916	.958	.000	.937	.976



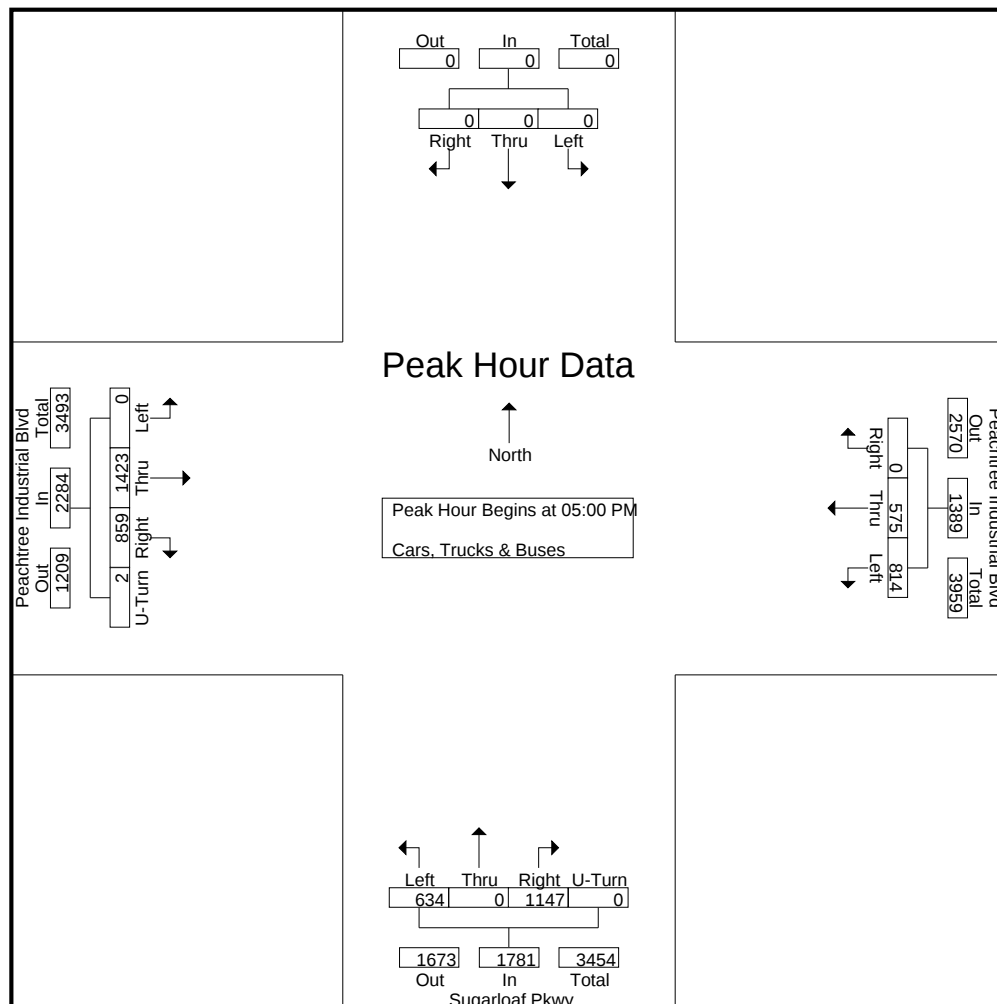
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',
Marietta, GA 30067

TMC Data
Peachtree Industrial Blvd @
Sugarloaf Pkwy
7-9 am | 4-6 pm

File Name : PIB @ Sugarloaf Pkwy
Site Code : 20180240
Start Date : 10/23/2018
Page No : 3

	Sugarloaf Pkwy Northbound					Southbound				Peachtree Industrial Blvd Eastbound					Peachtree Industrial Blvd Westbound				
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	158	0	283	0	441	0	0	0	0	0	355	195	0	550	201	138	0	339	1330
05:15 PM	174	0	289	0	463	0	0	0	0	0	379	230	1	610	180	162	0	342	1415
05:30 PM	159	0	329	0	488	0	0	0	0	0	326	224	0	550	215	129	0	344	1382
05:45 PM	143	0	246	0	389	0	0	0	0	0	363	210	1	574	218	146	0	364	1327
Total Volume	634	0	1147	0	1781	0	0	0	0	0	1423	859	2	2284	814	575	0	1389	5454
% App. Total	35.6	0	64.4	0		0	0	0		0	62.3	37.6	0.1		58.6	41.4	0		
PHF	.911	.000	.872	.000	.912	.000	.000	.000	.000	.000	.939	.934	.500	.936	.933	.887	.000	.954	.964



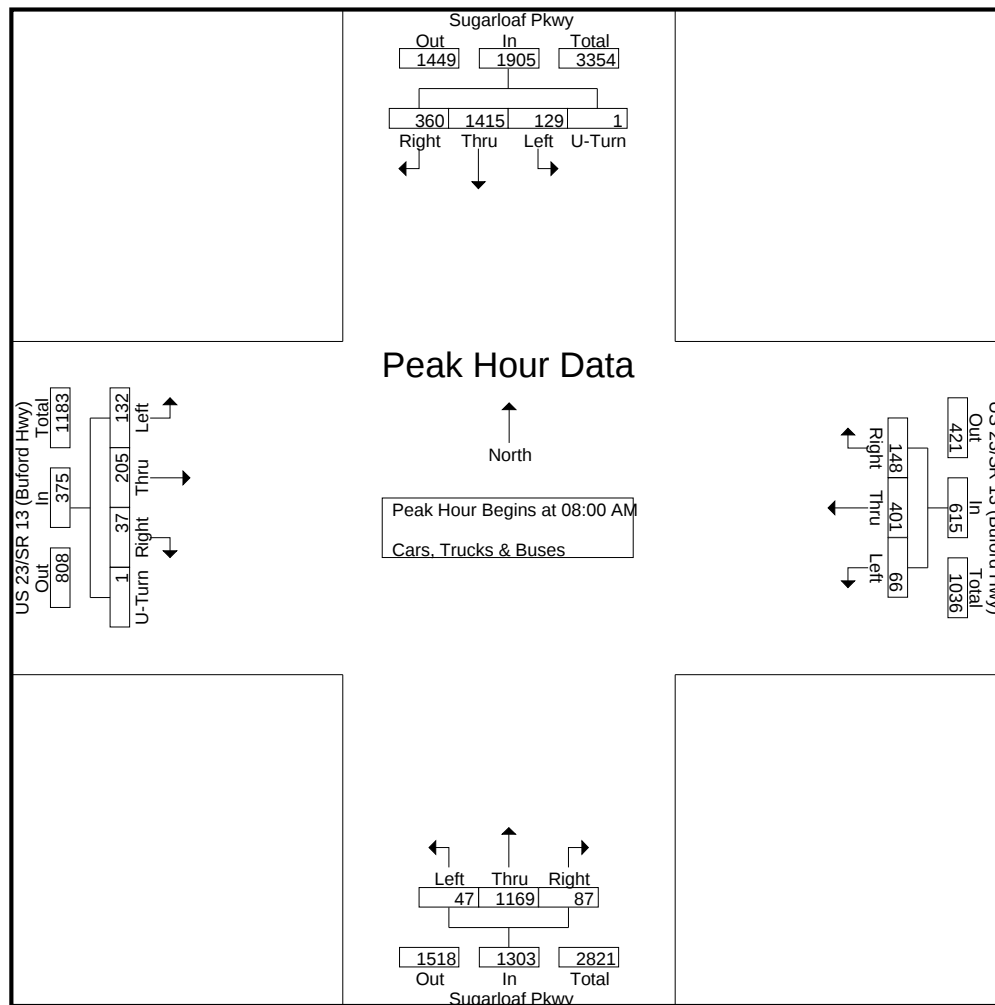
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',
Marietta, GA 30067

TMC Data
US 23/SR 13 (Buford Hwy) @
Sugarloaf Pkwy
7-9 am | 4-6 pm

File Name : Buford Hwy @ Sugarloaf Pkwy
Site Code : 20180241
Start Date : 10/23/2018
Page No : 2

	Sugarloaf Pkwy Northbound				Sugarloaf Pkwy Southbound					US 23/SR 13 (Buford Hwy) Eastbound					US 23/SR 13 (Buford Hwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 08:00 AM																			
08:00 AM	10	328	22	360	24	382	102	0	508	24	44	8	0	76	11	104	38	153	1097
08:15 AM	12	253	16	281	38	334	83	1	456	34	59	11	0	104	13	112	39	164	1005
08:30 AM	11	288	21	320	30	364	97	0	491	36	54	9	1	100	24	75	40	139	1050
08:45 AM	14	300	28	342	37	335	78	0	450	38	48	9	0	95	18	110	31	159	1046
Total Volume	47	1169	87	1303	129	1415	360	1	1905	132	205	37	1	375	66	401	148	615	4198
% App. Total	3.6	89.7	6.7		6.8	74.3	18.9	0.1		35.2	54.7	9.9	0.3		10.7	65.2	24.1		
PHF	.839	.891	.777	.905	.849	.926	.882	.250	.938	.868	.869	.841	.250	.901	.688	.895	.925	.938	.957



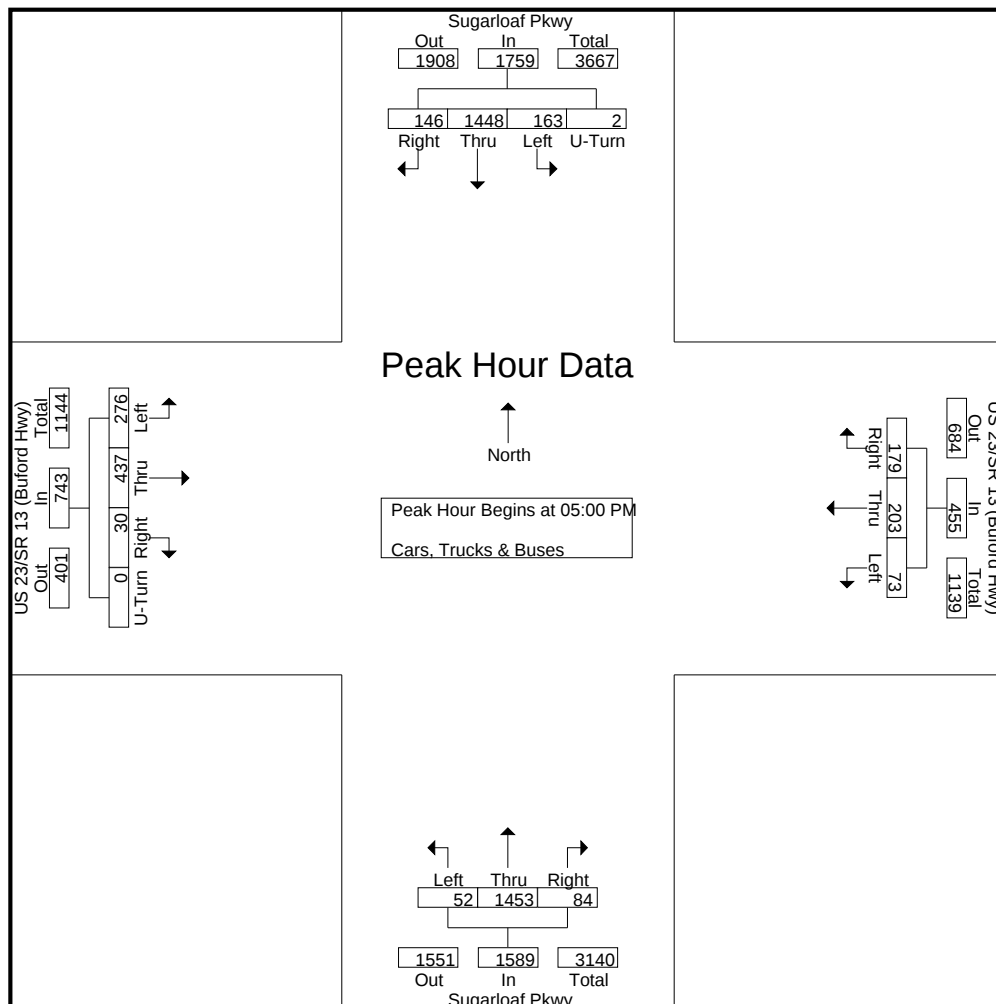
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TMC Data
US 23/SR 13 (Buford Hwy) @
Sugarloaf Pkwy
7-9 am | 4-6 pm

File Name : Buford Hwy @ Sugarloaf Pkwy
Site Code : 20180241
Start Date : 10/23/2018
Page No : 3

	Sugarloaf Pkwy Northbound				Sugarloaf Pkwy Southbound					US 23/SR 13 (Buford Hwy) Eastbound					US 23/SR 13 (Buford Hwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 05:00 PM																			
05:00 PM	17	338	25	380	33	338	28	0	399	80	99	7	0	186	13	34	36	83	1048
05:15 PM	15	395	24	434	45	345	43	1	434	63	98	6	0	167	27	56	59	142	1177
05:30 PM	14	364	14	392	41	381	29	1	452	82	128	10	0	220	13	58	45	116	1180
05:45 PM	6	356	21	383	44	384	46	0	474	51	112	7	0	170	20	55	39	114	1141
Total Volume	52	1453	84	1589	163	1448	146	2	1759	276	437	30	0	743	73	203	179	455	4546
% App. Total	3.3	91.4	5.3		9.3	82.3	8.3	0.1		37.1	58.8	4	0		16	44.6	39.3		
PHF	.765	.920	.840	.915	.906	.943	.793	.500	.928	.841	.854	.750	.000	.844	.676	.875	.758	.801	.963



GRTA Letter of Understanding



LETTER OF UNDERSTANDING

October 22, 2018

Mike Busher
Ashton Woods Homes
3820 Mansell Road, Suite 200
Alpharetta, GA 30022

RE: **DRI 2866 Encore by Ashton Woods**

Dear Mr. Busher:

The purpose of this letter is to document the discussions during the Pre-Review and Methodology Meeting held at ARC's office on October 5, 2018 regarding **DRI 2866 Encore by Ashton Woods**. 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 Duluth on Peachtree Industrial Boulevard, south of the Chattahoochee River.
- The DRI trigger for this development is a rezoning application.
- The project is planned primarily as a residential development with 126 townhomes, 450 apartment units, 395 single family lots and 10,000 SF of commercial space.
- The vehicular trip generation is estimated to be 7,195 gross daily trips based on the *ITE Trip Generation Manual 10th edition*.
- The development site proposes two full access driveways on Peachtree Industrial Boulevard.
- The projected build-out is one phase, to be completed by 2023.
- The applicant is applying for approval under GRTA's non-expedited review process.

STUDY NETWORK

1. Sugarloaf Parkway at US 23/SR 13/Buford Highway
2. Sugarloaf Parkway at Peachtree Industrial Boulevard
3. Peachtree Industrial Boulevard at Chattahoochee Drive
4. Peachtree Industrial Boulevard at Rogers Bridge Road
5. Rogers Bridge Road at Albion Farm Road/Highbrooke Trail
6. Rogers Bridge Road at Main Street/Chattahoochee Drive
7. US 23/SR 13/Buford Highway at Rogers Bridge Road/Old Peachtree Road
8. Peachtree Industrial Boulevard at SR 120 (Duluth Highway)/Abbotts Bridge Road
9. SR 120 (Duluth Highway) at George Rogers Avenue/Duluth High School
10. Peachtree Industrial Boulevard at State Bridge Road/Pleasant Hill Road
11. All Site Access

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 2023.
- 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 2% 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.
- Mixed-use and pass-by reductions are allowed per the ITE Trip Generation Manual. No alternate mode trip reduction shall be taken 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 DULUTH	GDOT DISTRICT 1	GWINNETT COUNTY DOT
Emily Estes 245 Peachtree Center Ave. Suite 2200 Atlanta, GA 30303	Andrew Smith International Tower 229 Peachtree Street NE Suite 100 Atlanta, GA 30303	Dan Robinson City of Duluth 3167 Main Street Duluth, Georgia 30096	Sue Anne Decker 2505 Athens Hwy SE Gainesville, GA 30507	Alex Hofelich 75 Langley Drive Lawrenceville, GA 30046

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

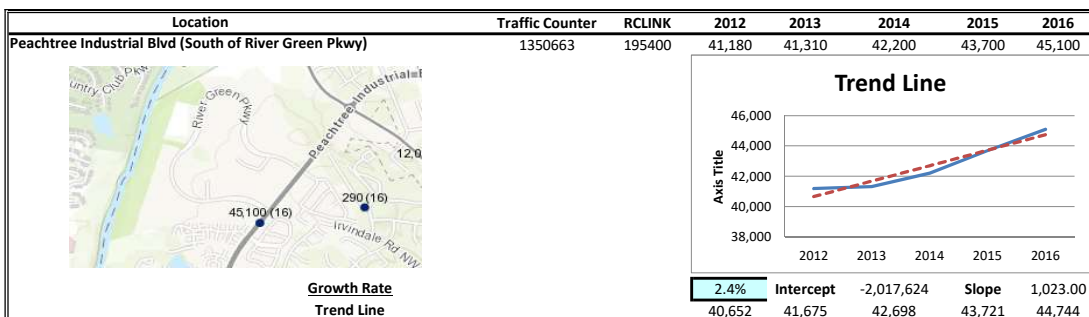
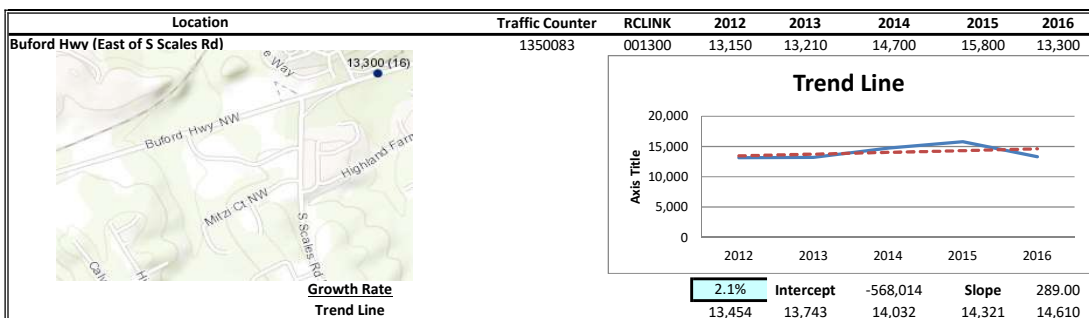
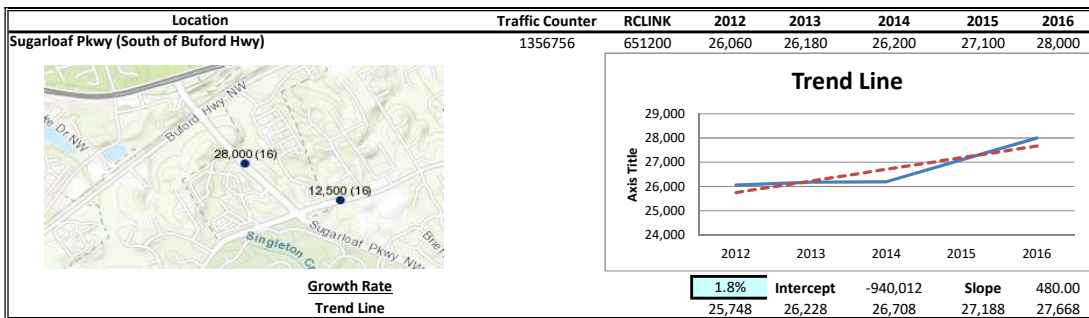
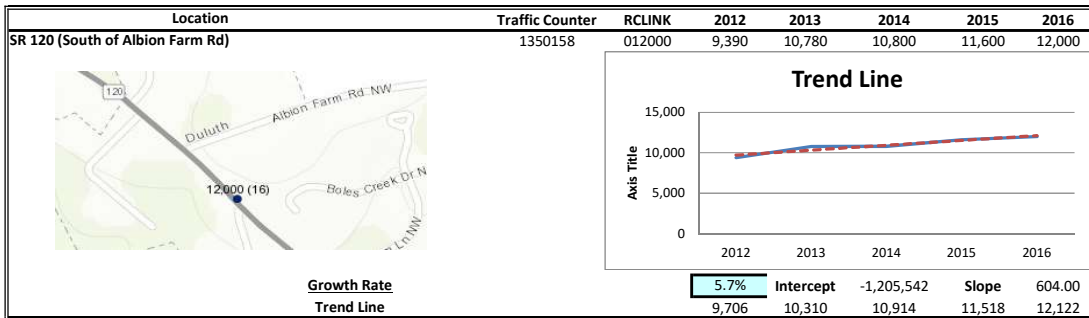
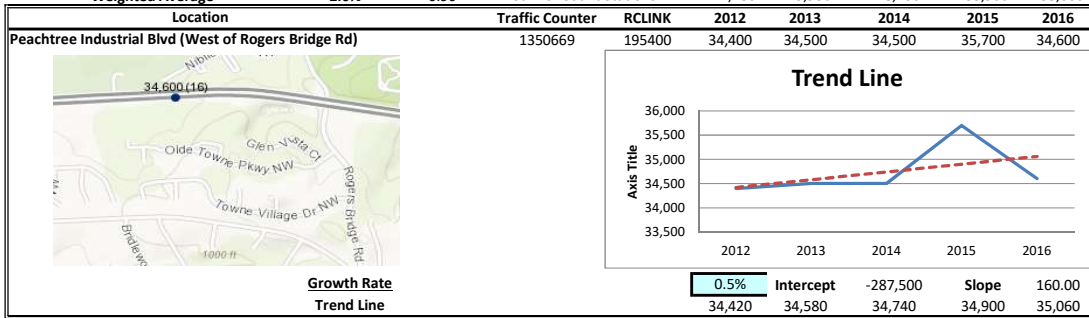
cc:

Jon West, DCA
Andrew Smith, ARC
Jared Lombard, ARC
Annie Gillespie, GRTA
Renaud Marshall, GRTA
Sue Anne Decker, GDOT District 1
Nancy Lovingood, Gwinnett County
Alex Hofelich, Gwinnett County
Daniel Robinson, City of Duluth

Sotir Christopher, CP & E
Abby Rettig, A & R Engineering
Abdul Amer, A & R Engineering

Linear Regression of Daily Traffic

Location	Growth Rate	R Squared	Station ID	Route	2012	2013	2014	2015	2016
Peachtree Industrial Blvd (West of Rogers Br	0.5%	0.22	1350669	195400	34,400	34,500	34,500	35,700	34,600
SR 120 (South of Albion Farm Rd)	5.7%	0.91	1350158	012000	9,390	10,780	10,800	11,600	12,000
Sugarloaf Pkwy (South of Buford Hwy)	1.8%	0.83	1356756	651200	26,060	26,180	26,200	27,100	28,000
Buford Hwy (East of S Scales Rd)	2.1%	0.15	1350083	001300	13,150	13,210	14,700	15,800	13,300
Peachtree Industrial Blvd (South of River Gre	2.4%	0.93	1350663	195400	41,180	41,310	42,200	43,700	45,100
Weighted Average	2.0%	0.90	Sum of Count Stations =		124,180	125,980	128,400	133,900	133,000



**Fact Sheets for Planned and Programmed
Improvements**

Short Title

 SR 120 (ABBOTTS BRIDGE ROAD / DULUTH HIGHWAY)
WIDENING FROM PEACHTREE INDUSTRIAL BOULEVARD
TO PRIMROSE PARKWAY

GDOT Project No.

721000-

Federal ID No.

STP00-0189-01(010)

Status

Programmed

Service Type

Roadway / General Purpose Capacity

Sponsor

GDOT

Jurisdiction

Fulton County (North)

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

2

LCI
☐
Planned Thru Lane

4

Flex
☐
Network Year

2030

Corridor Length

2.2 miles


Detailed Description and Justification

This project consists of widening SR 120 from 2 to 4 lanes divided by a 44' median from Old Milton Parkway in Fulton County to Peachtree Industrial Blvd in Gwinnett County. The project also includes a bike lane in each direction with curb and gutter and sidewalks. Median openings will be identified during the preliminary engineering process.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	STP - Statewide Flexible (GDOT)	AUTH	2012	\$3,427,616	\$2,742,093	\$685,523	\$0,000	\$0,000
ROW	State Right-of-Way Funds	AUTH	1991	\$2,263,449	\$0,000	\$2,263,449	\$0,000	\$0,000
ROW	Repurposed Earmark		2018	\$899,900	\$719,920	\$179,980	\$0,000	\$0,000
ROW	Surface Transportation Block Grant (STBG) Program Flex (GDOT)		2018	\$11,056,902	\$8,845,522	\$2,211,380	\$0,000	\$0,000
UTL	Transportation Funding Act (HB 170)		2020	\$1,600,000	\$0,000	\$1,600,000	\$0,000	\$0,000
CST	Transportation Funding Act (HB 170)		2020	\$28,066,133	\$0,000	\$28,066,133	\$0,000	\$0,000
				\$47,314,000	\$12,307,535	\$35,006,465	\$0,000	\$0,000

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

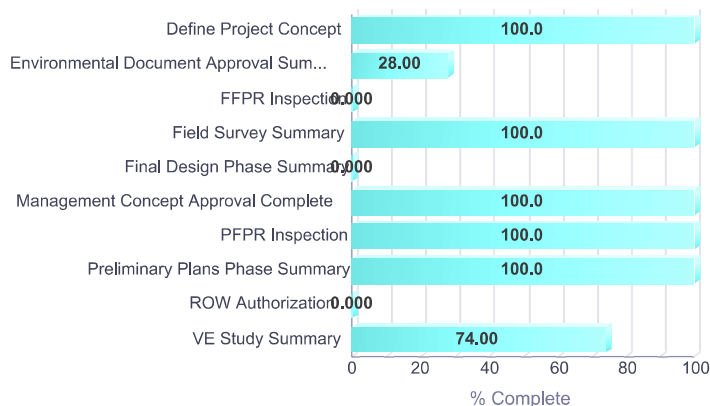


For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.



PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION							
721000-	Fulton	SR 120 FROM SR 141/FULTON TO PEACHTREE IND BLVD/GWINNETT							
Mgmt Let Date:	2021-05-15	The proposed project would widen State Route (SR) 120/Abbotts Bridge Road from SR 141/Medlock Bridge Road to Peachtree Industrial Boulevard from two to four through lanes. The total project length is approximately 2.5 miles, which includes a 1500' tie-in to SR 120 west of SR 141 and a 1000' tie-in east of Peachtree Industrial Boulevard. Both SR 141 and Peachtree Industrial Boulevard would be improved and widened for approximately 1000' in each direction approaching SR 120. Parsons Road would also be improved and widened for 1250' south of SR 120, and Boles Road would be improved for 1000' north of SR 120. All other side roads would be improved to a maximum of 500' from SR 120. The existing SR 120 bridge would be widened and/or reconstructed across the Chattahoochee River. All signalized intersections would be modified. Existing ROW within the project corridor are approximately 60 to 130 feet. Proposed ROW would be approximately 104 to 140 feet.							
PROJ NO:	STP00-0189-01(010)	SPONSOR:	GDOT	Phase	FY	Approved FY	Fund	Phase Status	
MPO TIP#:	FN-264	PROJ MGR:	Okonmkpaè to, Eka		Approved	Estimate*			
MPO:	Atlanta TMA	DOT DIST:	1, 7	Utility	2020	\$1,600,000.00	HB170	PRECST	
PROJ LENGTH (MI):	2.21	CONG DIST:	006, 007	Engineering	2012	\$5,927,616.56	L240	AUTHORIZED	
TYPE WORK:	Widening	HOUSE DIST:	050, 097	Right of Way	2018	\$5,586,651.05	Z240	PRECST	
LET	GDOT Let	SENATE DIST:	048	Right of Way	1991	\$2,263,448.99	RZ	AUTHORIZED	
RESPONSIBILITY:				Construction	2020	\$28,066,133.31	HB170	PRECST	
BIKE PROVISIONS INCLUDED?	Y			Right of Way	2018	\$899,899.96	RPS9	PRECST	



Activity	Actual Start Date	Actual Finish Date
FFPR Inspection		
VE Study Summary	2018-06-14	
Field Survey Summary	2014-01-14	2014-07-22
ROW Authorization		
PFPR Inspection	2017-02-23	2017-02-24
Final Design Phase Summary		
Management Concept Approval Complete	2015-07-23	2015-07-23
Define Project Concept	2013-12-04	2015-07-23
Preliminary Plans Phase Summary	2015-05-19	2017-06-05
Environmental Document Approval Summary (11412 through 18100)	2014-02-19	

Right of Way Acquisition Information:
Preliminary Parcel Count: 97

Total Parcel Count: 102

Acquired by : DOT

Short Title

PLEASANT HILL ROAD WIDENING FROM HOWELL FERRY ROAD / MCCLURE BRIDGE ROAD TO RIVER CHASE DRIVE / SWEET BOTTOM DRIVE

GDOT Project No.

TBD

Federal ID No.

N/A

Status

Completed

Service Type

Roadway / General Purpose Capacity

Sponsor

Gwinnett County

Jurisdiction

Gwinnett County

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

4

LCI

☐

Planned Thru Lane

6

Flex

☐

Network Year

2030

Corridor Length

1 miles



Detailed Description and Justification

This is a road widening project changing Pleasant Hill Road from Howell Ferry Road/McClure Bridge Road to River Chase Drive/Sweet Bottom Drive. The project will add two travel lanes widening the road from four travel lanes to six travel lanes.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2016	\$1,200,000	\$0,000	\$0,000	\$0,000	\$1,200,000
ROW	Local Jurisdiction/Municipality Funds	AUTH	2016	\$3,400,000	\$0,000	\$0,000	\$0,000	\$3,400,000
CST	Georgia Transportation Infrastructure Bank	AUTH	2018	\$1,500,000	\$0,000	\$1,500,000	\$0,000	\$0,000
CST	Local Jurisdiction/Municipality Funds	AUTH	2018	\$5,300,000	\$0,000	\$0,000	\$0,000	\$5,300,000
				\$11,400,000	\$0,000	\$1,500,000	\$0,000	\$9,900,000

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



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

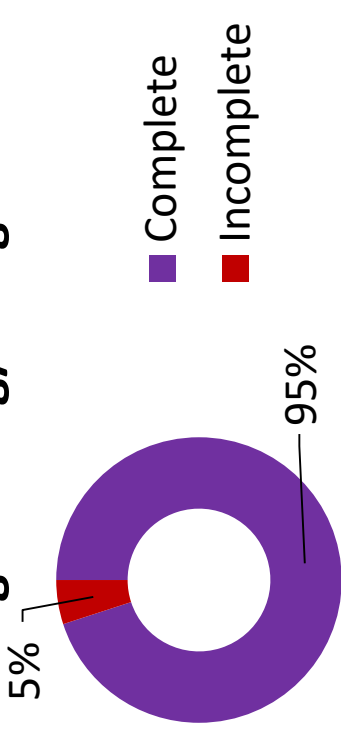


SR120 at George Rogers Avenue/Duluth HS

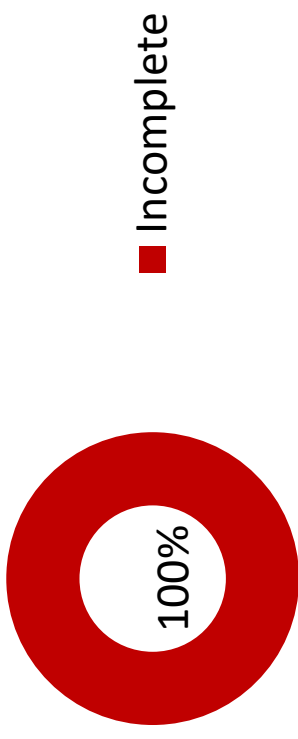
Intersection improvements include the addition of a new traffic signal with pedestrian cross walks. Project will coordinate with future sidewalks planned along SR 120.

Design – September 2018
Construction – Anticipated First Quarter 2019
Construction Duration – TBD

Engineering/Design Plans



Construction

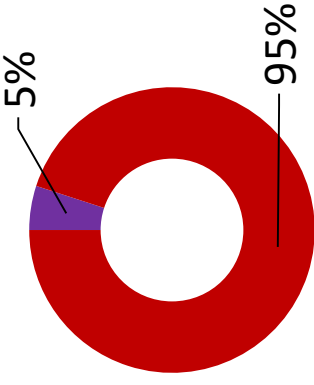


Rogers Bridge at Main Street

Intersection improvements include the addition of a new traffic signal with pedestrian cross walks. Project will coordinate with future trail along Main Street.

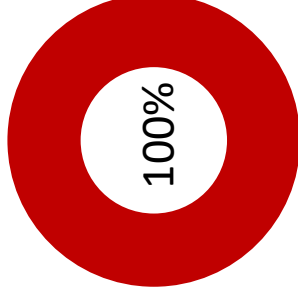
Design – September 2018
Construction – Anticipated Third Quarter 2019
Construction Duration – TBD

Engineering/Design Plans



■ Complete
■ Incomplete

Construction



■ Incomplete

PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0012883	Gwinnett	WESTERN GWINNETT BIKEWAY EXTENSION
Mgmt Let Date:	2019-07-19	The project will install a multi-use trail from approximately 2500 feet west of Rogers Bridge Road to McGinnis Ferry Road along Peachtree Industrial Blvd. A new location segment will connect to Suwanee Creek Park and a possible spur from this extension to the existing Suwanee Trail System. The trail includes some sections of boardwalk and at least one pedestrian bridge.

PROJ NO:**SPONSOR:**

Gwinnett

MPO TIP#:

GW-384

PROJ MGR:County
Williams,
Gabbie**MPO:**

Atlanta TMA

DOT DIST:

1

PROJ LENGTH (MI):

2.46

CONG DIST:

007

TYPE WORK:

Bicycle/Ped. Facility

HOUSE DIST:

097

LET

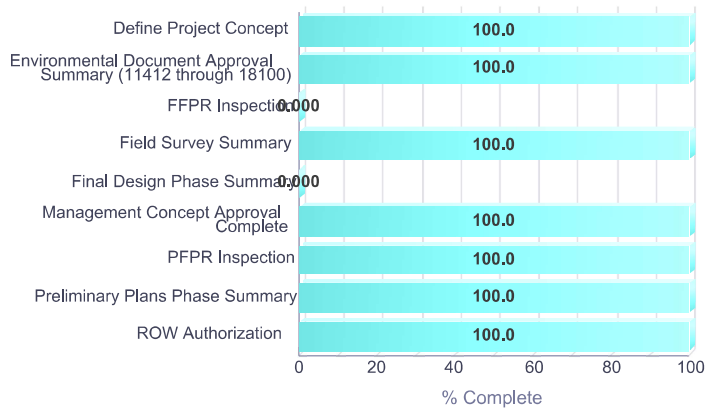
Local Let

SENATE DIST:

045, 048

RESPONSIBILITY:**BIKE PROVISIONS INCLUDED?** N

Phase	FY Approved	Approved FY Estimate*	Fund	Phase Status
Construction	2020	\$9,324,507.37	Z301	PRECST
Engineering	2014	\$1,125,000.00	M301	AUTHORIZED
Right of Way	2018	\$390,000.00	M301	AUTHORIZED
Utility	2019	\$210,550.00	LOC	PRECST



Activity	Actual Start Date	Actual Finish Date
FFPR Inspection		
Field Survey Summary	2015-07-31	2016-02-08
Define Project Concept	2014-11-11	2015-05-11
Final Design Phase Summary		
Environmental Document Approval Summary (11412 through 18100)	2015-02-09	2018-04-12
Management Concept Approval Complete	2016-01-20	2016-01-20
PFPR Inspection	2017-11-03	2017-11-03
ROW Authorization	2018-06-25	2018-06-25
Preliminary Plans Phase Summary	2015-10-01	

Right of Way Acquisition Information:

Preliminary Parcel Count: 22

Total Parcel Count:

6

Acquired by :

LOC

Short Title

WESTERN GWINNETT BIKEWAY EXTENSION FROM
FROM ROGERS BRIDGE ROAD TO NOBLIN RIDGE DRIVE

GDOT Project No.

0012883

Federal ID No.

N/A

Status

Programmed

Service Type

Last Mile Connectivity / Bicycle Facility

Sponsor

Gwinnett County

Jurisdiction

Gwinnett County

Analysis Level

Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane

N/A

LCI

☐

Planned Thru Lane

N/A

Flex

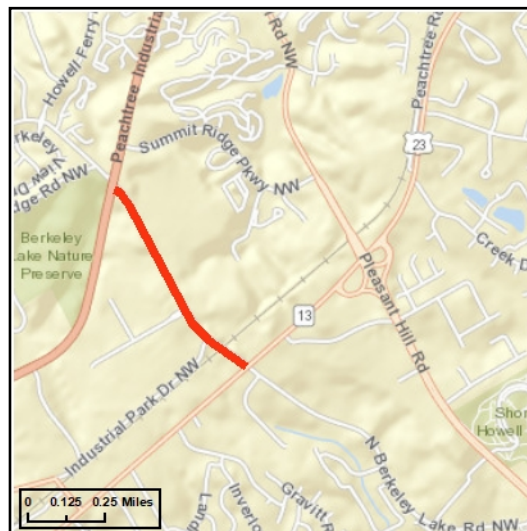
☐

Network Year

TBD

Corridor Length

4 miles



Detailed Description and Justification

Develop final design for a multi-use trail along key corridor in Gwinnett County; closes a gap in the network and connect at least 5 large county and city parks.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	TAP - Urban (>200K) (ARC)	AUTH	2014	\$1,125,000	\$900,000	\$0,000	\$0,000	\$225,000
ROW	Transportation Alternatives (Section 133(h)) - Urban (>200K) (ARC)		2018	\$1,670,000	\$1,336,000	\$0,000	\$0,000	\$334,000
UTL	Local Jurisdiction/Municipality Funds		2019	\$343,100	\$0,000	\$0,000	\$0,000	\$343,100
CST	Transportation Alternatives (Section 133(h)) - Urban (>200K) (ARC)		2020	\$13,198,755	\$3,000,000	\$0,000	\$0,000	\$10,198,755
				\$16,336,855	\$5,236,000	\$0,000	\$0,000	\$11,100,855

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



For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

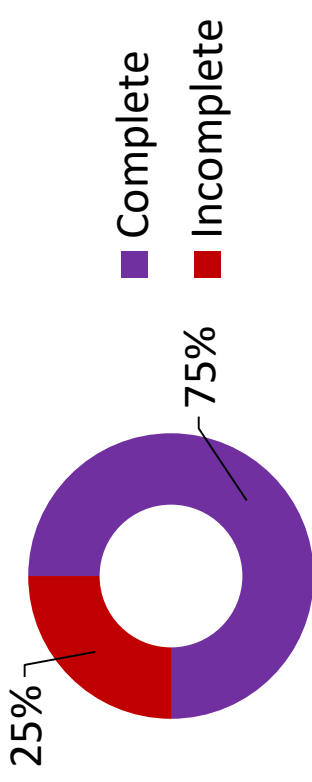


Western Gwinnett Bikeway

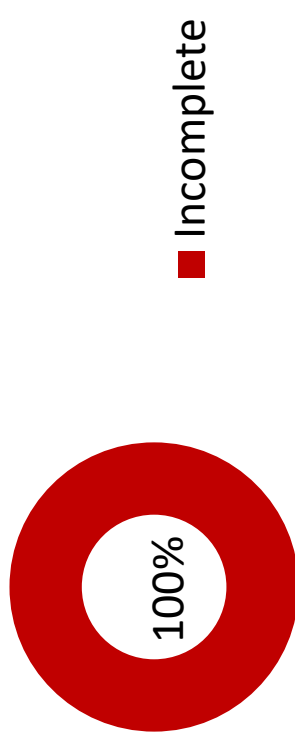
Phase III (CD – 67)

The project is the continuation of the Western Gwinnett Bikeway multi-use path. Phase III extension continues on Peachtree Industrial Boulevard from south of Rogers Bridge Road to the northern City limits eventually connecting to McGinnis Ferry Road in the City of Suwanee. The project is a collaborative effort between Duluth, Suwanee, and Gwinnett County. This will be a City/Gwinnett County 2014 SPLOST jointly funded project with Gwinnett County being responsible for design and construction. The City entered into an intergovernmental agreement with Gwinnett County in September 2014. The project is in the initial stages of preliminary design.

Engineering/Design Plans



Right of Way Acquisition



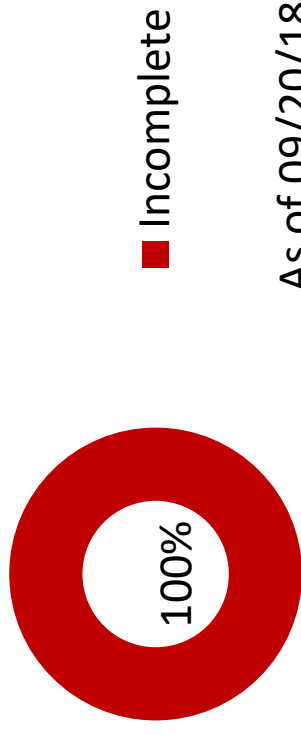
Design – November 2014

Right of Way Acquisition - TBD

Construction – Anticipated Fall 2018

Construction Duration – TBD

Construction



Existing Intersection Analysis

Timings

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

2018 Existing AM Peak

01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	296	1278	502	82	1120	81	367	1089	364	1543
Future Volume (vph)	296	1278	502	82	1120	81	367	1089	364	1543
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		1	6	5	2
Permitted Phases	4		4	8		8				
Detector Phase	7	4	4	3	8	8	1	6	5	2
Switch Phase	4			8						
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	4.0	20.0
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	15.0	38.4
Total Split (s)	25.0	65.0	65.0	15.0	55.0	55.0	28.0	50.0	30.0	52.0
Total Split (%)	15.6%	40.6%	40.6%	9.4%	34.4%	34.4%	17.5%	31.3%	18.8%	32.5%
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	4.3	5.4
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.8	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160

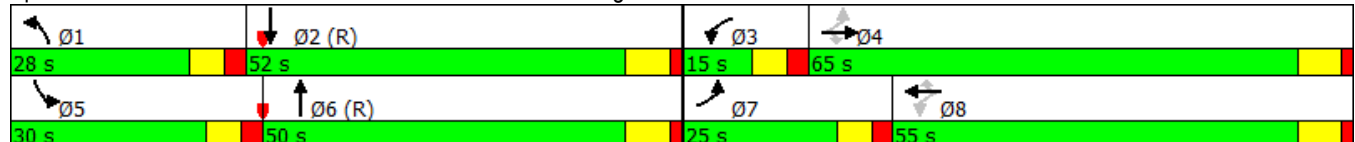
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



HCM 2010 Signalized Intersection Summary
1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

2018 Existing AM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	1278	502	82	1120	81	367	1089	59	364	1543	504
Future Volume (veh/h)	296	1278	502	82	1120	81	367	1089	59	364	1543	504
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	299	1291	0	83	1131	82	371	1100	0	368	1559	0
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	1317	589	127	1066	477	235	1370	0	257	1433	0
Arrive On Green	0.11	0.37	0.00	0.04	0.30	0.30	0.13	0.27	0.00	0.14	0.28	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	5253	0	1774	5253	0
Grp Volume(v), veh/h	299	1291	0	83	1131	82	371	1100	0	368	1559	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1695	0	1774	1695	0
Q Serve(g_s), s	18.3	57.7	0.0	5.1	48.2	6.1	21.2	32.3	0.0	23.2	45.1	0.0
Cycle Q Clear(g_c), s	18.3	57.7	0.0	5.1	48.2	6.1	21.2	32.3	0.0	23.2	45.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	248	1317	589	127	1066	477	235	1370	0	257	1433	0
V/C Ratio(X)	1.21	0.98	0.00	0.65	1.06	0.17	1.58	0.80	0.00	1.43	1.09	0.00
Avail Cap(c_a), veh/h	248	1317	589	142	1066	477	235	1370	0	257	1433	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.6	49.7	0.0	43.2	55.9	41.2	69.4	54.5	0.0	68.4	57.4	0.0
Incr Delay (d2), s/veh	124.4	20.5	0.0	8.8	45.2	0.6	279.7	5.1	0.0	214.7	51.4	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	35.1	41.2	0.0	5.1	54.4	5.0	51.6	22.2	0.0	48.1	50.3	0.0
LnGrp Delay(d),s/veh	177.0	70.2	0.0	52.0	101.1	41.8	349.1	59.6	0.0	283.1	108.8	0.0
LnGrp LOS	F	E		D	F	D	F	E		F	F	
Approach Vol, veh/h	1590				1296				1471			
Approach Delay, s/veh	90.2				94.2				132.6			
Approach LOS	F				F				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	52.0	13.7	66.3	30.0	50.0	25.0	55.0				
Change Period (Y+Rc), s	6.8	6.9	6.7	6.8	6.8	6.9	6.7	6.8				
Max Green Setting (Gmax), s	21.2	45.1	8.3	58.2	23.2	43.1	18.3	48.2				
Max Q Clear Time (g_c+I1), s	23.2	47.1	7.1	59.7	25.2	34.3	20.3	50.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	116.9											
HCM 2010 LOS	F											

Timings

2018 Existing AM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	 	 			 			 	 	 	
Traffic Volume (vph)	423	730	359	59	1530	442	288	336	215	331	658
Future Volume (vph)	423	730	359	59	1530	442	288	336	215	331	658
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2	8				Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	25.0	40.0	25.0	40.0	
Total Split (%)	9.4%	50.0%	50.0%	9.4%	50.0%	50.0%	15.6%	25.0%	15.6%	25.0%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 95 (59%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

 Ø2 (R)	 Ø1	 Ø3	 Ø4
80 s	15 s	25 s	40 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	80 s	25 s	40 s

HCM 2010 Signalized Intersection Summary

2018 Existing AM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	730	359	59	1530	442	288	336	12	215	331	658
Future Volume (veh/h)	423	730	359	59	1530	442	288	336	12	215	331	658
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	432	745	0	60	1561	0	294	343	0	219	338	0
Adj No. of Lanes	2	2	1	1	2	1	1	2	0	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	511	1995	892	76	1634	731	271	545	0	267	415	186
Arrive On Green	0.15	0.56	0.00	0.04	0.46	0.00	0.11	0.15	0.00	0.08	0.12	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	1774	3632	0	3442	3539	1583
Grp Volume(v), veh/h	432	745	0	60	1561	0	294	343	0	219	338	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1774	1770	0	1721	1770	1583
Q Serve(g_s), s	19.6	18.6	0.0	5.4	68.0	0.0	18.1	14.5	0.0	10.0	14.9	0.0
Cycle Q Clear(g_c), s	19.6	18.6	0.0	5.4	68.0	0.0	18.1	14.5	0.0	10.0	14.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	511	1995	892	76	1634	731	271	545	0	267	415	186
V/C Ratio(X)	0.84	0.37	0.00	0.79	0.96	0.00	1.09	0.63	0.00	0.82	0.81	0.00
Avail Cap(c_a), veh/h	511	1995	892	92	1635	731	271	743	0	394	743	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.3	19.3	0.0	75.9	41.5	0.0	58.5	63.4	0.0	72.7	68.9	0.0
Incr Delay (d2), s/veh	12.3	0.5	0.0	25.2	13.9	0.0	79.6	0.4	0.0	8.4	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.4	14.2	0.0	5.7	46.2	0.0	16.3	11.5	0.0	8.8	12.1	0.0
LnGrp Delay(d),s/veh	78.7	19.8	0.0	101.1	55.4	0.0	138.1	63.9	0.0	81.1	72.8	0.0
LnGrp LOS	E	B		F	E		F	E		F	E	
Approach Vol, veh/h	1177				1621				637			
Approach Delay, s/veh	41.4				57.1				98.1			
Approach LOS	D				E				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.9	80.0	25.0	25.2	13.6	96.3	19.1	31.0				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	6.4				
Max Green Setting (Gmax), s	* 8.9	* 74	18.1	33.6	* 8.3	* 74	* 18	33.6				
Max Q Clear Time (g_c+I1), s	21.6	70.0	20.1	16.9	7.4	20.6	12.0	16.5				
Green Ext Time (p_c), s	0.0	3.9	0.0	1.8	0.0	32.3	0.4	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			61.7									
HCM 2010 LOS			E									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕		↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	88	0	36	0	0	0	111	341	0	0	403	89
Future Vol, veh/h	88	0	36	0	0	0	111	341	0	0	403	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	170	-	-	-	150	-	105	165	-	105
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	0	40	0	0	0	122	375	0	0	443	98
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1062	1062	443	1082	1062	375	443	0	0	375	0	0
Stage 1	443	443	-	619	619	-	-	-	-	-	-	-
Stage 2	619	619	-	463	443	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	201	223	615	195	223	671	1117	-	-	1183	-	-
Stage 1	594	576	-	476	480	-	-	-	-	-	-	-
Stage 2	476	480	-	579	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	184	199	615	167	199	671	1117	-	-	1183	-	-
Mov Cap-2 Maneuver	184	199	-	167	199	-	-	-	-	-	-	-
Stage 1	529	576	-	424	428	-	-	-	-	-	-	-
Stage 2	424	428	-	542	576	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	34.8		0		2.1		0					
HCM LOS	D		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1117	-	-	184	615	-	1183	-	-			
HCM Lane V/C Ratio	0.109	-	-	0.526	0.064	-	-	-	-			
HCM Control Delay (s)	8.6	-	-	44.4	11.3	0	0	-	-			
HCM Lane LOS	A	-	-	E	B	A	A	-	-			
HCM 95th %tile Q(veh)	0.4	-	-	2.7	0.2	-	0	-	-			

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	868	85	20	2035	17	62	0	15	8	0	8
Future Vol, veh/h	25	868	85	20	2035	17	62	0	15	8	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	904	89	21	2120	18	65	0	16	8	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2138	0	0	904	0	0	2058	3136	452	2666	3118	1060
Stage 1	-	-	-	-	-	-	956	956	-	2162	2162	-
Stage 2	-	-	-	-	-	-	1102	2180	-	504	956	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	250	-	-	748	-	-	~ 32	11	555	11	11	220
Stage 1	-	-	-	-	-	-	277	335	-	48	85	-
Stage 2	-	-	-	-	-	-	226	83	-	518	335	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	250	-	-	748	-	-	~ 28	10	555	10	10	220
Mov Cap-2 Maneuver	-	-	-	-	-	-	141	51	-	41	75	-
Stage 1	-	-	-	-	-	-	248	300	-	43	83	-
Stage 2	-	-	-	-	-	-	211	81	-	451	300	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	41.9	73.1
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	175	250	-	-	748	-	-	69
HCM Lane V/C Ratio	0.458	0.104	-	-	0.028	-	-	0.242
HCM Control Delay (s)	41.9	21.1	-	-	10	-	-	73.1
HCM Lane LOS	E	C	-	-	A	-	-	F
HCM 95th %tile Q(veh)	2.1	0.3	-	-	0.1	-	-	0.8

Notes

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

Intersection

Int Delay, s/veh 0.6

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	14	19	866	3	6	2056	13	1	0	0	1	0	1
Future Vol, veh/h	14	19	866	3	6	2056	13	1	0	0	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	20	893	3	6	2120	13	1	0	0	1	0	1

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	2120	2133	0	0	893	0	0	2033	3106	447	2647	3093	1060
Stage 1	-	-	-	-	-	-	-	961	961	-	2132	2132	-
Stage 2	-	-	-	-	-	-	-	1072	2145	-	515	961	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	62	251	-	-	755	-	-	33	11	559	11	12	220
Stage 1	-	-	-	-	-	-	-	275	333	-	51	88	-
Stage 2	-	-	-	-	-	-	-	235	87	-	511	333	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	109	109	-	-	755	-	-	25	8	559	8	8	220
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	130	48	-	33	76	-
Stage 1	-	-	-	-	-	-	-	189	229	-	35	87	-
Stage 2	-	-	-	-	-	-	-	232	86	-	352	229	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	32.9	70.5
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	130	109	-	-	755	-	-	57
HCM Lane V/C Ratio	0.008	0.312	-	-	0.008	-	-	0.036
HCM Control Delay (s)	32.9	52.1	-	-	9.8	-	-	70.5
HCM Lane LOS	D	F	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0	1.2	-	-	0	-	-	0.1

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2018 Existing AM Peak

01/03/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	6	18	862	83	6	141	1633	31	19	47	44
Future Volume (vph)	6	18	862	83	6	141	1633	31	19	47	44
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 10 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

					
Ø2 (R)			Ø1	Ø4	Ø3
95 s			15 s	20 s	30 s
					
Ø5	Ø6 (R)				
20 s	90 s				

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2018 Existing AM Peak

01/03/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	6	18	862	83	6	141	1633	31	91	19	47	31
Future Volume (vph)	6	18	862	83	6	141	1633	31	91	19	47	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1789	1583	
Flt Permitted		0.06	1.00	1.00		0.21	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		120	3539	1583		398	3539	1583		1789	1583	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	7	20	969	93	7	158	1835	35	102	21	53	35
RTOR Reduction (vph)	0	0	0	37	0	0	0	12	0	0	48	0
Lane Group Flow (vph)	0	27	969	56	0	165	1835	23	0	123	5	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2				3
Actuated Green, G (s)		96.8	96.8	96.8		103.1	103.1	103.1		15.9	15.9	
Effective Green, g (s)		96.8	96.8	96.8		103.1	103.1	103.1		15.9	15.9	
Actuated g/C Ratio		0.60	0.60	0.60		0.64	0.64	0.64		0.10	0.10	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		121	2141	957		347	2280	1020		177	157	
v/s Ratio Prot		0.01	c0.27			0.03	c0.52			c0.07		
v/s Ratio Perm		0.13		0.04		0.27		0.01			0.00	
v/c Ratio		0.22	0.45	0.06		0.48	0.80	0.02		0.69	0.03	
Uniform Delay, d1		40.6	17.2	12.9		14.1	21.0	10.3		69.7	65.1	
Progression Factor		1.41	1.60	4.41		0.92	0.81	1.00		1.00	1.00	
Incremental Delay, d2		0.3	0.7	0.1		0.3	2.7	0.0		10.4	0.1	
Delay (s)		57.4	28.2	57.2		13.3	19.6	10.3		80.1	65.2	
Level of Service		E	C	E		B	B	B		F	E	
Approach Delay (s)			31.4				19.0			75.6		
Approach LOS			C				B			E		
Intersection Summary												
HCM 2000 Control Delay			28.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			75.5%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2018 Existing AM Peak
01/03/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	44	28
Future Volume (vph)	44	28
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1768	
Flt Permitted	0.99	
Satd. Flow (perm)	1768	
Peak-hour factor, PHF	0.89	0.89
Adj. Flow (vph)	49	31
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	107	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	12.9	
Effective Green, g (s)	12.9	
Actuated g/C Ratio	0.08	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	142	
v/s Ratio Prot	c0.06	
v/s Ratio Perm		
v/c Ratio	0.75	
Uniform Delay, d1	72.0	
Progression Factor	1.00	
Incremental Delay, d2	19.0	
Delay (s)	91.0	
Level of Service	F	
Approach Delay (s)	91.0	
Approach LOS	F	
Intersection Summary		

Timings
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2018 Existing AM Peak
01/03/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	72	26	199	60	56	186	188	6	256
Future Volume (vph)	72	26	199	60	56	186	188	6	256
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 84

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s
 Ø6	
60.8 s	

HCM 2010 Signalized Intersection Summary
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2018 Existing AM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	26	199	60	56	8	186	188	18	6	256	69
Future Volume (veh/h)	72	26	199	60	56	8	186	188	18	6	256	69
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	73	27	0	61	57	8	190	192	18	6	261	70
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	59	176	178	96	12	682	1150	108	717	709	190
Arrive On Green	0.11	0.11	0.00	0.11	0.11	0.11	0.08	0.69	0.69	0.50	0.50	0.50
Sat Flow, veh/h	1137	527	1583	721	865	107	1774	1678	157	1167	1416	380
Grp Volume(v), veh/h	100	0	0	126	0	0	190	0	210	6	0	331
Grp Sat Flow(s),veh/h/ln	1664	0	1583	1693	0	0	1774	0	1835	1167	0	1796
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	2.5	0.0	2.2	0.1	0.0	6.1
Cycle Q Clear(g_c), s	2.8	0.0	0.0	3.7	0.0	0.0	2.5	0.0	2.2	0.1	0.0	6.1
Prop In Lane	0.73		1.00	0.48		0.06	1.00		0.09	1.00		0.21
Lane Grp Cap(c), veh/h	299	0	176	286	0	0	682	0	1257	717	0	899
V/C Ratio(X)	0.33	0.00	0.00	0.44	0.00	0.00	0.28	0.00	0.17	0.01	0.00	0.37
Avail Cap(c_a), veh/h	800	0	726	834	0	0	1026	0	1852	1310	0	1812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	0.0	23.1	0.0	0.0	5.2	0.0	3.0	6.8	0.0	8.3
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.8	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	0.0	0.0	3.4	0.0	0.0	2.1	0.0	2.1	0.1	0.0	5.9
LnGrp Delay(d),s/veh	23.3	0.0	0.0	23.9	0.0	0.0	5.3	0.0	3.3	6.8	0.0	9.2
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	100			126			400			337		
Approach Delay, s/veh	23.3			23.9			4.2			9.2		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4	5	6	8					
Phs Duration (G+Y+Rc), s	43.2			11.4	10.0	33.1	11.4					
Change Period (Y+Rc), s	* 5.8			* 5.3	5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55			* 25	15.0	* 55	* 25					
Max Q Clear Time (g_c+I1), s	4.2			5.7	4.5	8.1	4.8					
Green Ext Time (p_c), s	19.9			0.5	0.2	19.2	0.5					
Intersection Summary												
HCM 2010 Ctrl Delay				10.5								
HCM 2010 LOS	B											
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	14	25	32	26	24	27	363	20	19	515	25
Future Vol, veh/h	24	14	25	32	26	24	27	363	20	19	515	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	60	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	16	28	36	30	27	31	413	23	22	585	28
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1158	1141	599	1138	1144	425	613	0	0	436	0	0
Stage 1	643	643	-	487	487	-	-	-	-	-	-	-
Stage 2	515	498	-	651	657	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	173	201	502	179	200	629	966	-	-	1124	-	-
Stage 1	462	468	-	562	550	-	-	-	-	-	-	-
Stage 2	543	544	-	457	462	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	140	191	502	152	190	629	966	-	-	1124	-	-
Mov Cap-2 Maneuver	140	191	-	152	190	-	-	-	-	-	-	-
Stage 1	447	459	-	544	532	-	-	-	-	-	-	-
Stage 2	475	527	-	408	453	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	24.3		34.4		0.6		0.3					
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	966	-	-	257	213	1124	-	-				
HCM Lane V/C Ratio	0.032	-	-	0.279	0.437	0.019	-	-				
HCM Control Delay (s)	8.8	-	-	24.3	34.4	8.3	-	-				
HCM Lane LOS	A	-	-	C	D	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.1	2.1	0.1	-	-				

Timings

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

2018 Existing AM Peak

01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	78	282	209	43	715	468	308	34	220	332
Future Volume (vph)	78	282	209	43	715	468	308	34	220	332
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 140.9

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

HCM 2010 Signalized Intersection Summary
 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

2018 Existing AM Peak

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	282	209	43	715	38	468	308	46	34	220	332
Future Volume (veh/h)	78	282	209	43	715	38	468	308	46	34	220	332
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	83	300	0	46	761	0	498	328	0	36	234	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	905	769	517	1672	0	580	553	0	252	283	241
Arrive On Green	0.04	0.49	0.00	0.03	0.47	0.00	0.17	0.30	0.00	0.02	0.15	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	83	300	0	46	761	0	498	328	0	36	234	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	3.0	12.5	0.0	1.7	18.4	0.0	17.9	19.1	0.0	2.2	15.5	0.0
Cycle Q Clear(g_c), s	3.0	12.5	0.0	1.7	18.4	0.0	17.9	19.1	0.0	2.2	15.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	905	769	517	1672	0	580	553	0	252	283	241
V/C Ratio(X)	0.23	0.33	0.00	0.09	0.46	0.00	0.86	0.59	0.00	0.14	0.83	0.00
Avail Cap(c_a), veh/h	496	905	769	682	1672	0	813	587	0	420	587	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.4	20.0	0.0	16.9	22.5	0.0	51.3	38.1	0.0	44.0	52.2	0.0
Incr Delay (d2), s/veh	0.3	1.0	0.0	0.1	0.9	0.0	6.7	1.5	0.0	0.3	6.0	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	2.7	10.9	0.0	1.5	14.2	0.0	14.0	15.3	0.0	1.9	13.2	0.0
LnGrp Delay(d),s/veh	17.8	21.0	0.0	17.0	23.4	0.0	58.0	39.6	0.0	44.3	58.3	0.0
LnGrp LOS	B	C		B	C		E	D		D	E	
Approach Vol, veh/h	383				807				826		270	
Approach Delay, s/veh	20.3				23.1				50.7		56.4	
Approach LOS	C				C				D		E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	65.6	26.3	24.9	8.5	67.3	7.9	43.3				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+I1), s	5.0	20.4	19.9	17.5	3.7	14.5	4.2	21.1				
Green Ext Time (p_c), s	0.1	29.8	1.5	1.9	0.1	30.3	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			36.5									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2018 Existing AM Peak
01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	906	18	198	1851	15	40	8	39	21
Future Volume (vph)	14	906	18	198	1851	15	40	8	39	21
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	95.0	95.0	25.0	105.0	105.0	15.0	40.0	25.0	25.0
Total Split (%)	9.4%	59.4%	59.4%	15.6%	65.6%	65.6%	9.4%	25.0%	15.6%	15.6%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 105 (66%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	105 s	15 s	25 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	95 s	40 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2018 Existing AM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	906	18	198	1851	15	40	8	41	39	21	54
Future Volume (veh/h)	14	906	18	198	1851	15	40	8	41	39	21	54
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	996	0	218	2034	16	44	9	45	43	23	59
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	3506	1092	478	3665	1141	117	37	186	130	29	75
Arrive On Green	0.01	0.69	0.00	0.03	0.48	0.48	0.03	0.14	0.14	0.06	0.06	0.06
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	271	1353	1345	464	1189
Grp Volume(v), veh/h	15	996	0	218	2034	16	44	0	54	43	0	82
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1624	1345	0	1653
Q Serve(g_s), s	0.4	12.1	0.0	5.6	45.2	0.8	3.6	0.0	4.7	5.0	0.0	7.8
Cycle Q Clear(g_c), s	0.4	12.1	0.0	5.6	45.2	0.8	3.6	0.0	4.7	5.0	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.72
Lane Grp Cap(c), veh/h	156	3506	1092	478	3665	1141	117	0	223	130	0	104
V/C Ratio(X)	0.10	0.28	0.00	0.46	0.55	0.01	0.38	0.00	0.24	0.33	0.00	0.79
Avail Cap(c_a), veh/h	223	3506	1092	600	3665	1141	152	0	327	190	0	178
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	0.63	0.63	0.63	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	9.6	0.0	6.9	23.2	11.8	65.9	0.0	61.6	72.6	0.0	73.9
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.2	0.4	0.0	0.7	0.0	0.4	1.1	0.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	9.6	0.0	4.8	27.3	0.7	3.2	0.0	3.9	3.4	0.0	6.9
LnGrp Delay(d),s/veh	12.7	9.8	0.0	7.1	23.6	11.8	66.6	0.0	62.0	73.7	0.0	83.2
LnGrp LOS	B	A		A	C	B	E		E	E		F
Approach Vol, veh/h	1011			2268			98			125		
Approach Delay, s/veh	9.8			22.0			64.1			79.9		
Approach LOS	A			C			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	8.9	121.3	11.8	17.9	13.9	116.3	29.7					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	99.0	8.0	17.2	18.9	89.0	32.2					
Max Q Clear Time (g_c+I1), s	2.4	47.2	5.6	9.8	7.6	14.1	6.7					
Green Ext Time (p_c), s	0.0	51.7	0.0	0.3	0.3	74.7	0.5					
Intersection Summary												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 11: Sugarloaf Pkwy & Peachtree Industrial Blvd

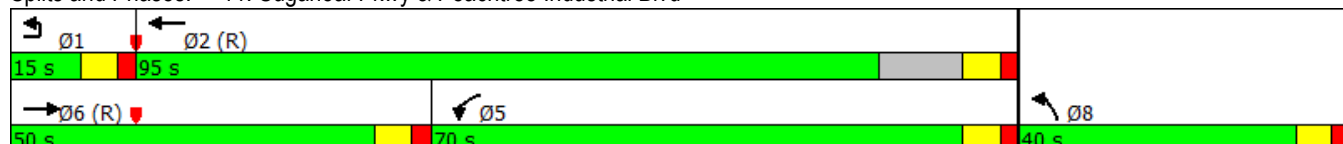
2018 Existing AM Peak
01/03/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑	
Traffic Volume (vph)	409	625	1224	1149	856	575	
Future Volume (vph)	409	625	1224	1149	856	575	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	50.0		70.0	95.0	40.0		15.0
Total Split (%)	31.3%		43.8%	59.4%	25.0%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2018 Existing AM Peak

01/03/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		  		 	  	 	
Traffic Volume (vph)	0	409	625	1224	1149	856	575
Future Volume (vph)	0	409	625	1224	1149	856	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	417	638	1249	1172	873	587
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	417	638	1249	1172	873	587
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		38.1	160.0	68.5	113.3	33.1	160.0
Effective Green, g (s)		38.1	160.0	68.5	113.3	33.1	160.0
Actuated g/C Ratio		0.24	1.00	0.43	0.71	0.21	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1210	1583	1469	3600	710	1583
v/s Ratio Prot		0.08		c0.36	0.23	c0.25	
v/s Ratio Perm			c0.40				0.37
v/c Ratio		0.34	0.40	0.85	0.33	1.23	0.37
Uniform Delay, d1		50.6	0.0	41.1	8.9	63.5	0.0
Progression Factor		0.89	1.00	1.00	1.00	0.58	1.00
Incremental Delay, d2		0.8	0.7	4.9	0.2	108.5	0.3
Delay (s)		45.6	0.7	46.1	9.1	145.2	0.3
Level of Service		D	A	D	A	F	A
Approach Delay (s)		18.5			28.2	86.9	
Approach LOS		B			C	F	
Intersection Summary							
HCM 2000 Control Delay			43.5		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.84				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			92.9%		ICU Level of Service		F
Analysis Period (min)			15				

c Critical Lane Group

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing AM Peak
01/07/2019

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	132	205	37	66	401	148	47	1169	87	1	129
Future Volume (vph)	1	132	205	37	66	401	148	47	1169	87	1	129
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	3	3	8		7	4		1	6		5	5
Permitted Phases	8	8		8	4		4	6		6	2	2
Detector Phase	7	7	8	8	3	4	4	1	6	6	5	5
Switch Phase	4	4			8							
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0
Minimum Split (s)	15.0	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0
Total Split (s)	20.0	20.0	50.0	50.0	25.0	55.0	55.0	15.0	65.0	65.0	20.0	20.0
Total Split (%)	12.5%	12.5%	31.3%	31.3%	15.6%	34.4%	34.4%	9.4%	40.6%	40.6%	12.5%	12.5%
Yellow Time (s)	3.9	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6
All-Red Time (s)	3.0	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	None	None	Max	Max	None	Max	Max	None	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 85 (53%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

			
Ø1	Ø2 (R)	Ø3	Ø4
15 s	70 s	20 s	55 s
			
Ø5	Ø6 (R)	Ø7	Ø8
20 s	65 s	25 s	50 s

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing AM Peak
01/07/2019

	↓	↘
Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1415	360
Future Volume (vph)	1415	360
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Detector Phase	2	2
Switch Phase		
Minimum Initial (s)	20.0	20.0
Minimum Split (s)	42.7	42.7
Total Split (s)	70.0	70.0
Total Split (%)	43.8%	43.8%
Yellow Time (s)	4.7	4.7
All-Red Time (s)	1.9	1.9
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.6	6.6
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	C-Min	C-Min
Intersection Summary		

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing AM Peak

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	132	205	37	66	401	148	47	1169	87	1	129
Future Volume (vph)	1	132	205	37	66	401	148	47	1169	87	1	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	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
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (prot)		1770	1863	1583	1770	1863	1583	1770	3539	1583		1770
Flt Permitted		0.25	1.00	1.00	0.44	1.00	1.00	0.07	1.00	1.00		0.06
Satd. Flow (perm)		473	1863	1583	826	1863	1583	123	3539	1583		113
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	138	214	39	69	418	154	49	1218	91	1	134
RTOR Reduction (vph)	0	0	0	28	0	0	82	0	0	57	0	0
Lane Group Flow (vph)	0	139	214	11	69	418	72	49	1218	34	0	135
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	3	3	8		7	4		1	6		5	5
Permitted Phases	8	8		8	4		4	6		6	2	2
Actuated Green, G (s)		56.3	43.2	43.2	66.3	48.2	48.2	66.2	60.4	60.4		77.4
Effective Green, g (s)		56.3	43.2	43.2	66.3	48.2	48.2	66.2	60.4	60.4		77.4
Actuated g/C Ratio		0.35	0.27	0.27	0.41	0.30	0.30	0.41	0.38	0.38		0.48
Clearance Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Vehicle Extension (s)		2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0
Lane Grp Cap (vph)		272	503	427	449	561	476	110	1335	597		172
v/s Ratio Prot		c0.04	0.11		0.02	c0.22		0.02	0.34			c0.06
v/s Ratio Perm		0.14		0.01	0.05		0.05	0.17		0.02		0.32
v/c Ratio		0.51	0.43	0.02	0.15	0.75	0.15	0.45	0.91	0.06		0.78
Uniform Delay, d1		38.2	48.2	42.9	29.2	50.4	40.9	38.5	47.3	31.7		40.7
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.55
Incremental Delay, d2		0.7	2.6	0.1	0.1	8.7	0.7	1.0	11.0	0.2		15.0
Delay (s)		38.9	50.8	43.0	29.3	59.1	41.6	39.5	58.3	31.9		77.9
Level of Service		D	D	D	C	E	D	D	E	C		E
Approach Delay (s)			45.8			51.7			55.8			
Approach LOS			D			D			E			
Intersection Summary												
HCM 2000 Control Delay			50.6			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.9			
Intersection Capacity Utilization			93.3%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing AM Peak
01/07/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1415	360
Future Volume (vph)	1415	360
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1474	375
RTOR Reduction (vph)	0	116
Lane Group Flow (vph)	1474	259
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	66.0	66.0
Effective Green, g (s)	66.0	66.0
Actuated g/C Ratio	0.41	0.41
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	6.0	6.0
Lane Grp Cap (vph)	1459	652
v/s Ratio Prot	c0.42	
v/s Ratio Perm		0.16
v/c Ratio	1.01	0.40
Uniform Delay, d1	47.0	33.0
Progression Factor	0.66	0.32
Incremental Delay, d2	23.0	1.4
Delay (s)	53.8	11.8
Level of Service	D	B
Approach Delay (s)	47.5	
Approach LOS	D	
Intersection Summary		

Timings

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

2018 Existing PM Peak

01/03/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Configurations		 			 			  		  	
Traffic Volume (vph)	351	1584	332	64	1173	231	540	2124	319	827	
Future Volume (vph)	351	1584	332	64	1173	231	540	2124	319	827	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	
Protected Phases	7	4		3	8		1	6	5	2	
Permitted Phases	4		4	8		8					
Detector Phase	7	4	4	3	8	8	1	6	5	2	
Switch Phase	4			8							
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	4.0	20.0	
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	15.0	38.4	
Total Split (s)	30.0	65.0	65.0	15.0	50.0	50.0	35.0	50.0	30.0	45.0	
Total Split (%)	18.8%	40.6%	40.6%	9.4%	31.3%	31.3%	21.9%	31.3%	18.8%	28.1%	
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	4.3	5.4	
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	2.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.8	6.9	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	None	C-Min	

Intersection Summary

Cycle Length: 160

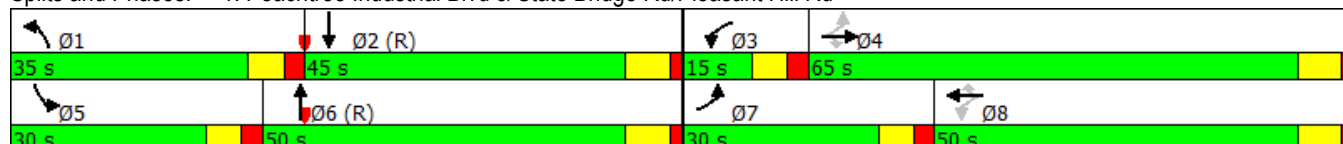
Actuated Cycle Length: 160

Offset: 20 (13%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



HCM 2010 Signalized Intersection Summary
1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

2018 Existing PM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	351	1584	332	64	1173	231	540	2124	163	319	827	422
Future Volume (veh/h)	351	1584	332	64	1173	231	540	2124	163	319	827	422
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	366	1650	0	67	1222	241	562	2212	0	332	861	0
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	1337	598	112	956	428	313	1370	0	257	1211	0
Arrive On Green	0.15	0.38	0.00	0.04	0.27	0.27	0.18	0.27	0.00	0.14	0.24	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	5253	0	1774	5253	0
Grp Volume(v), veh/h	366	1650	0	67	1222	241	562	2212	0	332	861	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1695	0	1774	1695	0
Q Serve(g_s), s	23.3	60.5	0.0	4.3	43.2	21.0	28.2	43.1	0.0	23.2	24.8	0.0
Cycle Q Clear(g_c), s	23.3	60.5	0.0	4.3	43.2	21.0	28.2	43.1	0.0	23.2	24.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	303	1337	598	112	956	428	313	1370	0	257	1211	0
V/C Ratio(X)	1.21	1.23	0.00	0.60	1.28	0.56	1.80	1.61	0.00	1.29	0.71	0.00
Avail Cap(c_a), veh/h	303	1337	598	137	956	428	313	1370	0	257	1211	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.0	49.8	0.0	45.7	58.4	50.3	65.9	58.5	0.0	68.4	55.9	0.0
Incr Delay (d2), s/veh	119.8	111.9	0.0	5.0	133.6	4.3	371.4	280.1	0.0	156.7	3.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	42.3	90.6	0.0	4.1	69.9	14.8	82.9	100.2	0.0	40.6	17.7	0.0
LnGrp Delay(d),s/veh	172.9	161.7	0.0	50.7	192.0	54.6	437.3	338.5	0.0	225.1	59.5	0.0
LnGrp LOS	F	F		D	F	D	F	F		F	E	
Approach Vol, veh/h	2016				1530				2774			
Approach Delay, s/veh	163.7				164.2				358.5			
Approach LOS	F				F				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	45.0	12.7	67.3	30.0	50.0	30.0	50.0				
Change Period (Y+Rc), s	6.8	6.9	6.7	6.8	6.8	6.9	6.7	6.8				
Max Green Setting (Gmax), s	28.2	38.1	8.3	58.2	23.2	43.1	23.3	43.2				
Max Q Clear Time (g_c+l1), s	30.2	26.8	6.3	62.5	25.2	45.1	25.3	45.2				
Green Ext Time (p_c), s	0.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	226.5											
HCM 2010 LOS	F											

Timings

2018 Existing PM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	660	1854	261	70	948	197	239	275	367	335	474
Future Volume (vph)	660	1854	261	70	948	197	239	275	367	335	474
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2	8				Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	35.0	75.0	75.0	15.0	55.0	55.0	15.0	25.0	45.0	55.0	
Total Split (%)	21.9%	46.9%	46.9%	9.4%	34.4%	34.4%	9.4%	15.6%	28.1%	34.4%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 80 (50%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

					
Ø2 (R)	Ø1	Ø3	Ø4	Ø5	Ø6 (R)
55 s	35 s	15 s	55 s	15 s	75 s
					
Ø5	Ø6 (R)	Ø7	Ø8		
15 s	75 s	45 s	25 s		

HCM 2010 Signalized Intersection Summary

2018 Existing PM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	660	1854	261	70	948	197	239	275	32	367	335	474
Future Volume (veh/h)	660	1854	261	70	948	197	239	275	32	367	335	474
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	660	1854	0	70	948	0	239	275	0	367	335	0
Adj No. of Lanes	2	2	1	1	2	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1101	2015	901	87	1070	479	219	334	0	432	594	266
Arrive On Green	0.32	0.57	0.00	0.05	0.30	0.00	0.05	0.09	0.00	0.13	0.17	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	1774	3632	0	3442	3539	1583
Grp Volume(v), veh/h	660	1854	0	70	948	0	239	275	0	367	335	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1774	1770	0	1721	1770	1583
Q Serve(g_s), s	25.8	75.8	0.0	6.2	40.8	0.0	8.1	12.2	0.0	16.7	13.9	0.0
Cycle Q Clear(g_c), s	25.8	75.8	0.0	6.2	40.8	0.0	8.1	12.2	0.0	16.7	13.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1101	2015	901	87	1070	479	219	334	0	432	594	266
V/C Ratio(X)	0.60	0.92	0.00	0.80	0.89	0.00	1.09	0.82	0.00	0.85	0.56	0.00
Avail Cap(c_a), veh/h	1101	2015	901	92	1082	484	219	411	0	824	1075	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.8	31.2	0.0	75.3	53.2	0.0	69.7	71.2	0.0	68.5	61.2	0.0
Incr Delay (d2), s/veh	0.9	8.4	0.0	33.7	10.8	0.0	87.5	8.9	0.0	4.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.2	49.4	0.0	7.0	29.2	0.0	9.6	10.6	0.0	12.9	11.2	0.0
LnGrp Delay(d),s/veh	46.7	39.5	0.0	109.0	64.0	0.0	157.2	80.0	0.0	73.3	62.0	0.0
LnGrp LOS	D	D		F	E		F	F		E	E	
Approach Vol, veh/h	2514				1018				514			
Approach Delay, s/veh	41.4				67.1				115.9			
Approach LOS	D				E				F			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	57.3	54.5	15.0	33.2	14.6	97.2	26.8	21.5				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	6.4				
Max Green Setting (Gmax), s	* 29	* 49	8.1	48.6	* 8.3	* 69	* 38	18.6				
Max Q Clear Time (g_c+I1), s	27.8	42.8	10.1	15.9	8.2	77.8	18.7	14.2				
Green Ext Time (p_c), s	1.1	5.5	0.0	1.8	0.0	0.0	1.4	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			58.9									
HCM 2010 LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕		↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	134	0	116	0	0	0	42	380	0	0	442	25
Future Vol, veh/h	134	0	116	0	0	0	42	380	0	0	442	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	170	-	-	-	150	-	105	165	-	105
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	140	0	121	0	0	0	44	396	0	0	460	26
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	944	944	460	1005	944	396	460	0	0	396	0	0
Stage 1	460	460	-	484	484	-	-	-	-	-	-	-
Stage 2	484	484	-	521	460	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	242	262	601	220	262	653	1101	-	-	1163	-	-
Stage 1	581	566	-	564	552	-	-	-	-	-	-	-
Stage 2	564	552	-	539	566	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	234	252	601	171	252	653	1101	-	-	1163	-	-
Mov Cap-2 Maneuver	234	252	-	171	252	-	-	-	-	-	-	-
Stage 1	558	566	-	541	530	-	-	-	-	-	-	-
Stage 2	541	530	-	431	566	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	27.7		0		0.8		0					
HCM LOS	D		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	1101	-	-	234	601	-	1163	-	-			
HCM Lane V/C Ratio	0.04	-	-	0.597	0.201	-	-	-	-			
HCM Control Delay (s)	8.4	-	-	40.8	12.5	0	0	-	-			
HCM Lane LOS	A	-	-	E	B	A	A	-	-			
HCM 95th %tile Q(veh)	0.1	-	-	3.4	0.7	-	0	-	-			

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	2086	115	66	1140	28	27	0	65	28	0	30
Future Vol, veh/h	31	2086	115	66	1140	28	27	0	65	28	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	2196	121	69	1200	29	28	0	68	29	0	32
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1229	0	0	2196	0	0	3000	3629	1098	2502	3600	600
Stage 1	-	-	-	-	-	-	2262	2262	-	1338	1338	-
Stage 2	-	-	-	-	-	-	738	1367	-	1164	2262	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	563	-	-	237	-	-	~ 6	5	208	~ 15	5	444
Stage 1	-	-	-	-	-	-	42	76	-	161	220	-
Stage 2	-	-	-	-	-	-	376	213	-	207	76	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	563	-	-	237	-	-	~ 4	3	208	~ 7	3	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	56	-	54	-	-
Stage 1	-	-	-	-	-	-	40	72	-	152	156	-
Stage 2	-	-	-	-	-	-	248	151	-	131	72	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.4			120.1			87.5		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	113	563	-	-	237	-	-	99				
HCM Lane V/C Ratio	0.857	0.058	-	-	0.293	-	-	0.617				
HCM Control Delay (s)	120.1	11.8	-	-	26.4	-	-	87.5				
HCM Lane LOS	F	B	-	-	D	-	-	F				
HCM 95th %tile Q(veh)	5.1	0.2	-	-	1.2	-	-	3				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection														
Int Delay, s/veh	1.1													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	7	11	2165	3	6	7	1195	8	11	0	1	17	0	21
Future Vol, veh/h	7	11	2165	3	6	7	1195	8	11	0	1	17	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	-	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	12	2279	3	6	7	1258	8	12	0	1	18	0	22
Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	1258	1266	0	0	2279	2279	0	0	2972	3609	1140	2462	3601	629
Stage 1	-	-	-	-	-	-	-	-	2317	2317	-	1284	1284	-
Stage 2	-	-	-	-	-	-	-	-	655	1292	-	1178	2317	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	226	545	-	-	48	220	-	-	~ 6	5	195	~ 16	5	425
Stage 1	-	-	-	-	-	-	-	-	38	71	-	174	234	-
Stage 2	-	-	-	-	-	-	-	-	421	232	-	203	71	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	341	341	-	-	83	83	-	-	~ 5	4	195	~ 13	4	425
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	34	58	-	112	48	-
Stage 1	-	-	-	-	-	-	-	-	36	67	-	164	194	-
Stage 2	-	-	-	-	-	-	-	-	332	193	-	191	67	-
Approach	EB			WB			NB			SB				
HCM Control Delay, s	0.1			0.6			146.2			29.1				
HCM LOS							F			D				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	37	341	-	-	83	-	-	189						
HCM Lane V/C Ratio	0.341	0.056	-	-	0.165	-	-	0.212						
HCM Control Delay (s)	146.2	16.2	-	-	56.8	-	-	29.1						
HCM Lane LOS	F	C	-	-	F	-	-	D						
HCM 95th %tile Q(veh)	1.1	0.2	-	-	0.6	-	-	0.8						
Notes														
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon					

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2018 Existing PM Peak

01/03/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	2	52	2047	158	2	61	1145	40	45	87	36
Future Volume (vph)	2	52	2047	158	2	61	1145	40	45	87	36
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 50 (31%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

 Ø2 (R)	 Ø1	 Ø3	 Ø4
95 s	15 s	30 s	20 s
 Ø5	 Ø6 (R)		
20 s	90 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2018 Existing PM Peak

01/03/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	52	2047	158	2	61	1145	40	113	45	87	34
Future Volume (vph)	2	52	2047	158	2	61	1145	40	113	45	87	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.97	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1798	1583	
Flt Permitted		0.19	1.00	1.00		0.04	1.00	1.00		0.97	1.00	
Satd. Flow (perm)		363	3539	1583		82	3539	1583		1798	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	55	2155	166	2	64	1205	42	119	47	92	36
RTOR Reduction (vph)	0	0	0	41	0	0	0	16	0	0	81	0
Lane Group Flow (vph)	0	57	2155	125	0	66	1205	26	0	166	11	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2				3
Actuated Green, G (s)		98.2	98.2	98.2		98.3	98.3	98.3		19.1	19.1	
Effective Green, g (s)		98.2	98.2	98.2		98.3	98.3	98.3		19.1	19.1	
Actuated g/C Ratio		0.61	0.61	0.61		0.61	0.61	0.61		0.12	0.12	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		288	2172	971		126	2174	972		214	188	
v/s Ratio Prot		0.01	c0.61			0.02	c0.34			c0.09		
v/s Ratio Perm		0.11		0.08		0.30		0.02			0.01	
v/c Ratio		0.20	0.99	0.13		0.52	0.55	0.03		0.78	0.06	
Uniform Delay, d1		21.2	30.5	13.0		36.9	18.0	12.1		68.4	62.5	
Progression Factor		0.27	0.50	0.13		2.50	0.52	1.00		1.00	1.00	
Incremental Delay, d2		0.0	9.5	0.1		1.7	1.0	0.0		15.4	0.1	
Delay (s)		5.7	24.7	1.8		94.1	10.3	12.1		83.8	62.6	
Level of Service		A	C	A		F	B	B		F	E	
Approach Delay (s)			22.7				14.6			76.2		
Approach LOS			C				B			E		
Intersection Summary												
HCM 2000 Control Delay			24.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			81.8%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 6: Rogers Bridge Rd & Peachtree Industrial Blvd

2018 Existing PM Peak
01/03/2019

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	36	13
Future Volume (vph)	36	13
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.98	
Satd. Flow (prot)	1786	
Flt Permitted	0.98	
Satd. Flow (perm)	1786	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	38	14
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	83	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	11.7	
Effective Green, g (s)	11.7	
Actuated g/C Ratio	0.07	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	130	
v/s Ratio Prot	c0.05	
v/s Ratio Perm		
v/c Ratio	0.64	
Uniform Delay, d1	72.1	
Progression Factor	1.00	
Incremental Delay, d2	9.2	
Delay (s)	81.3	
Level of Service	F	
Approach Delay (s)	81.3	
Approach LOS	F	
Intersection Summary		

Timings
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2018 Existing PM Peak

01/03/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	62	37	238	30	11	213	273	27	199
Future Volume (vph)	62	37	238	30	11	213	273	27	199
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 60.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

HCM 2010 Signalized Intersection Summary
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2018 Existing PM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	37	238	30	11	17	213	273	53	27	199	23
Future Volume (veh/h)	62	37	238	30	11	17	213	273	53	27	199	23
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	64	38	0	31	11	18	220	281	55	28	205	24
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	68	161	168	52	51	784	1049	205	651	814	95
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.10	0.09	0.69	0.69	0.50	0.50	0.50
Sat Flow, veh/h	943	671	1583	660	510	501	1774	1514	296	1040	1637	192
Grp Volume(v), veh/h	102	0	0	60	0	0	220	0	336	28	0	229
Grp Sat Flow(s),veh/h/ln	1614	0	1583	1670	0	0	1774	0	1810	1040	0	1829
Q Serve(g_s), s	1.4	0.0	0.0	0.0	0.0	0.0	2.9	0.0	3.8	0.7	0.0	3.9
Cycle Q Clear(g_c), s	3.1	0.0	0.0	1.7	0.0	0.0	2.9	0.0	3.8	0.7	0.0	3.9
Prop In Lane	0.63		1.00	0.52		0.30	1.00		0.16	1.00		0.10
Lane Grp Cap(c), veh/h	272	0	161	271	0	0	784	0	1254	651	0	909
V/C Ratio(X)	0.37	0.00	0.00	0.22	0.00	0.00	0.28	0.00	0.27	0.04	0.00	0.25
Avail Cap(c_a), veh/h	824	0	734	814	0	0	1115	0	1847	1195	0	1866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	0.0	22.5	0.0	0.0	4.7	0.0	3.1	7.0	0.0	7.8
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.4	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	0.0	0.0	1.5	0.0	0.0	2.4	0.0	3.6	0.4	0.0	3.7
LnGrp Delay(d),s/veh	23.7	0.0	0.0	22.8	0.0	0.0	4.8	0.0	3.5	7.1	0.0	8.3
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	102		60			556			257			
Approach Delay, s/veh	23.7		22.8			4.0			8.2			
Approach LOS	C		C			A			A			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	43.1		10.8		10.5	32.6	10.8					
Change Period (Y+Rc), s	* 5.8		* 5.3		5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55		* 25		15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	5.8		3.7		4.9	5.9	5.1					
Green Ext Time (p_c), s	20.9		0.4		0.3	20.9	0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	29	31	36	28	31	29	469	52	30	453	26
Future Vol, veh/h	26	29	31	36	28	31	29	469	52	30	453	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	60	-	-	125	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	31	33	38	29	33	31	494	55	32	477	27
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1170	1166	491	1154	1152	522	504	0	0	549	0	0
Stage 1	555	555	-	584	584	-	-	-	-	-	-	-
Stage 2	615	611	-	570	568	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	170	194	578	174	198	555	1061	-	-	1021	-	-
Stage 1	516	513	-	498	498	-	-	-	-	-	-	-
Stage 2	479	484	-	506	506	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	134	183	578	137	186	555	1061	-	-	1021	-	-
Mov Cap-2 Maneuver	134	183	-	137	186	-	-	-	-	-	-	-
Stage 1	501	497	-	484	484	-	-	-	-	-	-	-
Stage 2	411	470	-	434	490	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	28.2		39.1		0.4		0.5					
HCM LOS	D		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1061	-	-	244	202	1021	-	-				
HCM Lane V/C Ratio	0.029	-	-	0.371	0.495	0.031	-	-				
HCM Control Delay (s)	8.5	-	-	28.2	39.1	8.6	-	-				
HCM Lane LOS	A	-	-	D	E	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.6	2.5	0.1	-	-				

Timings

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

2018 Existing PM Peak

01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	253	348	505	75	311	201	264	68	371	107
Future Volume (vph)	253	348	505	75	311	201	264	68	371	107
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 148.2

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

HCM 2010 Signalized Intersection Summary
 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

2018 Existing PM Peak
 01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	348	505	75	311	34	201	264	50	68	371	107
Future Volume (veh/h)	253	348	505	75	311	34	201	264	50	68	371	107
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	266	366	0	79	327	0	212	278	0	72	391	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	620	921	783	495	1545	0	276	501	0	283	431	367
Arrive On Green	0.10	0.49	0.00	0.04	0.44	0.00	0.08	0.27	0.00	0.04	0.23	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	266	366	0	79	327	0	212	278	0	72	391	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	11.0	17.0	0.0	3.4	7.9	0.0	8.3	17.6	0.0	4.2	28.1	0.0
Cycle Q Clear(g_c), s	11.0	17.0	0.0	3.4	7.9	0.0	8.3	17.6	0.0	4.2	28.1	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	620	921	783	495	1545	0	276	501	0	283	431	367
V/C Ratio(X)	0.43	0.40	0.00	0.16	0.21	0.00	0.77	0.56	0.00	0.25	0.91	0.00
Avail Cap(c_a), veh/h	644	921	783	621	1545	0	751	542	0	400	542	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.1	21.8	0.0	20.2	24.0	0.0	61.9	43.2	0.0	38.3	51.3	0.0
Incr Delay (d2), s/veh	0.5	1.3	0.0	0.1	0.3	0.0	4.5	1.1	0.0	0.5	16.4	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	9.2	14.0	0.0	3.0	7.1	0.0	7.4	14.2	0.0	3.8	23.0	0.0
LnGrp Delay(d),s/veh	17.5	23.1	0.0	20.3	24.3	0.0	66.4	44.2	0.0	38.8	67.7	0.0
LnGrp LOS	B	C		C	C		E	D		D	E	
Approach Vol, veh/h	632			406			490			463		
Approach Delay, s/veh	20.8			23.6			53.8			63.2		
Approach LOS	C			C			D			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	65.6	15.9	37.4	10.5	73.6	10.8	42.5				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+I1), s	13.0	9.9	10.3	30.1	5.4	19.0	6.2	19.6				
Green Ext Time (p_c), s	0.2	23.0	0.7	1.8	0.1	19.2	0.1	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			39.3									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2018 Existing PM Peak
01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	54	1964	66	73	1048	13	61	27	25	10
Future Volume (vph)	54	1964	66	73	1048	13	61	27	25	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	110.0	110.0	15.0	110.0	110.0	15.0	35.0	20.0	20.0
Total Split (%)	9.4%	68.8%	68.8%	9.4%	68.8%	68.8%	9.4%	21.9%	12.5%	12.5%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	110 s	15 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	110 s	35 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2018 Existing PM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	1964	66	73	1048	13	61	27	142	25	10	18
Future Volume (veh/h)	54	1964	66	73	1048	13	61	27	142	25	10	18
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	65	2366	0	88	1263	16	73	33	171	30	12	22
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	383	3503	1091	156	3494	1088	196	42	217	90	40	73
Arrive On Green	0.02	0.69	0.00	0.05	1.00	1.00	0.05	0.16	0.16	0.07	0.07	0.07
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	262	1360	1173	590	1082
Grp Volume(v), veh/h	65	2366	0	88	1263	16	73	0	204	30	0	34
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1623	1173	0	1672
Q Serve(g_s), s	1.8	43.3	0.0	2.4	0.0	0.0	6.0	0.0	19.3	4.0	0.0	3.1
Cycle Q Clear(g_c), s	1.8	43.3	0.0	2.4	0.0	0.0	6.0	0.0	19.3	8.7	0.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.84	1.00		0.65
Lane Grp Cap(c), veh/h	383	3503	1091	156	3494	1088	196	0	259	90	0	113
V/C Ratio(X)	0.17	0.68	0.00	0.56	0.36	0.01	0.37	0.00	0.79	0.33	0.00	0.30
Avail Cap(c_a), veh/h	430	3503	1091	206	3494	1088	200	0	276	100	0	127
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	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.0	14.5	0.0	19.8	0.0	0.0	63.5	0.0	64.7	75.9	0.0	71.0
Incr Delay (d2), s/veh	0.1	1.1	0.0	1.1	0.3	0.0	0.4	0.0	12.9	1.6	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	27.9	0.0	4.3	0.2	0.0	5.3	0.0	14.7	2.4	0.0	2.6
LnGrp Delay(d),s/veh	7.0	15.6	0.0	20.9	0.3	0.0	63.9	0.0	77.5	77.5	0.0	72.1
LnGrp LOS	A	B		C	A	A	E		E	E		E
Approach Vol, veh/h	2431			1367			277			64		
Approach Delay, s/veh	15.3			1.6			73.9			74.6		
Approach LOS	B			A			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	10.8	115.9	14.7	18.6	10.5	116.2	33.3					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	104.0	8.0	12.2	8.9	104.0	27.2					
Max Q Clear Time (g_c+I1), s	3.8	2.0	8.0	10.7	4.4	45.3	21.3					
Green Ext Time (p_c), s	0.0	101.5	0.0	0.1	0.0	58.5	0.4					
Intersection Summary												
HCM 2010 Ctrl Delay				15.6								
HCM 2010 LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 11: Sugarloaf Pkwy & Peachtree Industrial Blvd

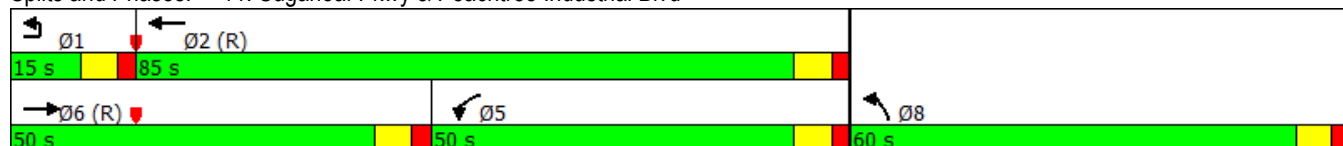
2018 Existing PM Peak
01/03/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑	
Traffic Volume (vph)	1423	859	814	575	634	1147	
Future Volume (vph)	1423	859	814	575	634	1147	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	50.0		50.0	85.0	60.0		15.0
Total Split (%)	31.3%		31.3%	53.1%	37.5%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		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: 140
Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2018 Existing PM Peak

01/03/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	1423	859	814	575	634	1147
Future Volume (vph)	0	1423	859	814	575	634	1147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1482	895	848	599	660	1195
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1482	895	848	599	660	1195
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		44.4	160.0	42.2	93.3	53.1	160.0
Effective Green, g (s)		44.4	160.0	42.2	93.3	53.1	160.0
Actuated g/C Ratio		0.28	1.00	0.26	0.58	0.33	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1411	1583	905	2965	1139	1583
v/s Ratio Prot		c0.29		c0.25	0.12	0.19	
v/s Ratio Perm			0.57				c0.75
v/c Ratio		1.05	0.57	0.94	0.20	0.58	0.75
Uniform Delay, d1		57.8	0.0	57.6	15.8	44.2	0.0
Progression Factor		1.26	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		35.4	1.1	16.6	0.2	2.2	3.4
Delay (s)		107.9	1.1	74.2	15.9	46.4	3.4
Level of Service		F	A	E	B	D	A
Approach Delay (s)		67.7			50.1	18.7	
Approach LOS		E			D	B	
Intersection Summary							
HCM 2000 Control Delay			47.2		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.94				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			85.7%		ICU Level of Service		E
Analysis Period (min)			15				

c Critical Lane Group

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing PM Peak
01/07/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	276	437	30	73	203	179	52	1453	84	2	163	1448
Future Volume (vph)	276	437	30	73	203	179	52	1453	84	2	163	1448
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases	8		8	4		4	6		6	2	2	
Detector Phase	7	8	8	3	4	4	1	6	6	5	5	2
Switch Phase	4			8								
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0	20.0
Minimum Split (s)	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0	42.7
Total Split (s)	35.0	55.0	55.0	25.0	45.0	45.0	20.0	70.0	70.0	20.0	20.0	70.0
Total Split (%)	20.6%	32.4%	32.4%	14.7%	26.5%	26.5%	11.8%	41.2%	41.2%	11.8%	11.8%	41.2%
Yellow Time (s)	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6	4.7
All-Red Time (s)	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	Max	Max	None	Max	Max	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 170

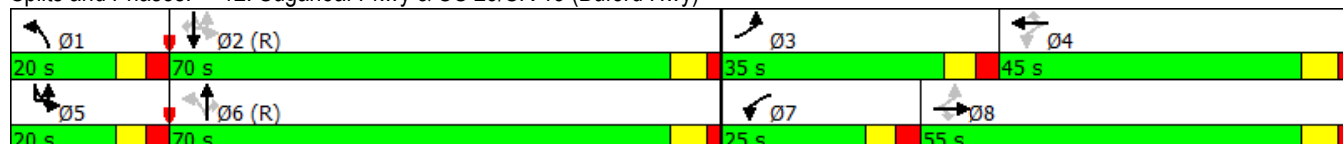
Actuated Cycle Length: 170

Offset: 70 (41%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)



Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing PM Peak
01/07/2019



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	146
Future Volume (vph)	146
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Detector Phase	2
Switch Phase	
Minimum Initial (s)	20.0
Minimum Split (s)	42.7
Total Split (s)	70.0
Total Split (%)	41.2%
Yellow Time (s)	4.7
All-Red Time (s)	1.9
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.6
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	C-Min
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing PM Peak

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	276	437	30	73	203	179	52	1453	84	2	163	1448
Future Volume (vph)	276	437	30	73	203	179	52	1453	84	2	163	1448
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583		1770	3539
Flt Permitted	0.38	1.00	1.00	0.18	1.00	1.00	0.06	1.00	1.00		0.06	1.00
Satd. Flow (perm)	711	1863	1583	337	1863	1583	118	3539	1583		106	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	288	455	31	76	211	186	54	1514	88	2	170	1508
RTOR Reduction (vph)	0	0	22	0	0	131	0	0	55	0	0	0
Lane Group Flow (vph)	288	455	9	76	211	55	54	1514	33	0	172	1508
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	3	8		7	4		1	6		5	5	2
Permitted Phases	8		8	4		4	6		6	2	2	
Actuated Green, G (s)	73.2	48.2	48.2	56.3	38.2	38.2	69.6	63.4	63.4		83.4	70.6
Effective Green, g (s)	73.2	48.2	48.2	56.3	38.2	38.2	69.6	63.4	63.4		83.4	70.6
Actuated g/C Ratio	0.43	0.28	0.28	0.33	0.22	0.22	0.41	0.37	0.37		0.49	0.42
Clearance Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Vehicle Extension (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0	6.0
Lane Grp Cap (vph)	481	528	448	264	418	355	108	1319	590		183	1469
v/s Ratio Prot	c0.10	c0.24		0.03	0.11		0.02	c0.43			c0.07	c0.43
v/s Ratio Perm	0.16		0.01	0.06		0.03	0.19		0.02		0.39	
v/c Ratio	0.60	0.86	0.02	0.29	0.50	0.15	0.50	1.15	0.06		0.94	1.03
Uniform Delay, d1	34.1	57.7	43.9	41.6	57.6	52.9	41.3	53.3	34.1		53.6	49.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.3	16.7	0.1	0.2	4.3	0.9	1.3	75.8	0.2		48.3	30.5
Delay (s)	35.5	74.5	44.0	41.9	61.9	53.9	42.6	129.1	34.3		101.9	80.2
Level of Service	D	E	D	D	E	D	D	F	C		F	F
Approach Delay (s)		58.7			55.5			121.3				78.1
Approach LOS		E			E			F				E

Intersection Summary

HCM 2000 Control Delay	87.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	26.9
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2018 Existing PM Peak
01/07/2019

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	146
Future Volume (vph)	146
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.6
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	152
RTOR Reduction (vph)	89
Lane Group Flow (vph)	63
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	70.6
Effective Green, g (s)	70.6
Actuated g/C Ratio	0.42
Clearance Time (s)	6.6
Vehicle Extension (s)	6.0
Lane Grp Cap (vph)	657
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.10
Uniform Delay, d1	30.3
Progression Factor	1.00
Incremental Delay, d2	0.3
Delay (s)	30.6
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Future “No-Build” Intersection Analysis

Timings

2023 Future No-Build AM Peak

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	327	1411	554	91	1237	89	405	1202	402	1704
Future Volume (vph)	327	1411	554	91	1237	89	405	1202	402	1704
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		1	6	5	2
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	1	6	5	2
Switch Phase	4			8						
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	4.0	20.0
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	15.0	38.4
Total Split (s)	25.0	65.0	65.0	15.0	55.0	55.0	28.0	50.0	30.0	52.0
Total Split (%)	15.6%	40.6%	40.6%	9.4%	34.4%	34.4%	17.5%	31.3%	18.8%	32.5%
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	4.3	5.4
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.8	6.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160

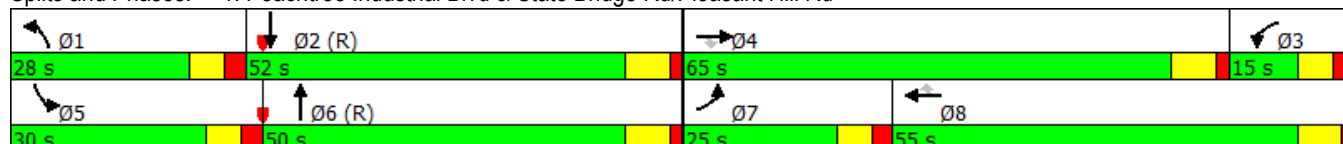
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



HCM 2010 Signalized Intersection Summary

2023 Future No-Build AM Peak

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/03/2019

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	327	1411	554	91	1237	89	405	1202	65	402	1704	556				
Future Volume (veh/h)	327	1411	554	91	1237	89	405	1202	65	402	1704	556				
Number	7	4	14	3	8	18	1	6	16	5	2	12				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	330	1425	0	92	1249	90	409	1214	0	406	1721	0				
Adj No. of Lanes	2	3	1	2	3	1	2	3	0	2	3	0				
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	372	1738	541	191	1473	459	449	1529	0	452	1535	0				
Arrive On Green	0.11	0.34	0.00	0.06	0.29	0.29	0.13	0.30	0.00	0.13	0.30	0.00				
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5253	0	3442	5253	0				
Grp Volume(v), veh/h	330	1425	0	92	1249	90	409	1214	0	406	1721	0				
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	0	1721	1695	0				
Q Serve(g_s), s	15.1	41.0	0.0	4.2	37.0	6.8	18.8	35.1	0.0	18.6	48.3	0.0				
Cycle Q Clear(g_c), s	15.1	41.0	0.0	4.2	37.0	6.8	18.8	35.1	0.0	18.6	48.3	0.0				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00				
Lane Grp Cap(c), veh/h	372	1738	541	191	1473	459	449	1529	0	452	1535	0				
V/C Ratio(X)	0.89	0.82	0.00	0.48	0.85	0.20	0.91	0.79	0.00	0.90	1.12	0.00				
Avail Cap(c_a), veh/h	394	1850	576	191	1532	477	456	1529	0	499	1535	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00				
Uniform Delay (d), s/veh	70.4	48.1	0.0	73.3	53.5	42.8	68.7	51.4	0.0	68.4	55.8	0.0				
Incr Delay (d2), s/veh	20.2	4.0	0.0	1.9	5.8	0.8	22.3	4.3	0.0	17.8	63.8	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(95%),veh/ln	13.0	27.2	0.0	3.7	25.1	5.6	15.6	23.8	0.0	15.1	57.0	0.0				
LnGrp Delay(d),s/veh	90.6	52.2	0.0	75.2	59.3	43.5	91.0	55.7	0.0	86.2	119.6	0.0				
LnGrp LOS	F	D		E	E	D	F	E		F	F					
Approach Vol, veh/h	1755				1431				1623							
Approach Delay, s/veh	59.4				59.3				64.6							
Approach LOS	E				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	27.7	55.2	15.7	61.5	27.8	55.0	24.0	53.1								
Change Period (Y+Rc), s	6.8	6.9	6.8	* 6.8	6.8	6.9	6.7	6.8								
Max Green Setting (Gmax), s	21.2	45.1	8.3	* 58	23.2	43.1	18.3	48.2								
Max Q Clear Time (g_c+I1), s	20.8	50.3	6.2	43.0	20.6	37.1	17.1	39.0								
Green Ext Time (p_c), s	0.1	0.0	1.9	11.7	0.4	6.0	0.2	7.3								
Intersection Summary																
HCM 2010 Ctrl Delay	77.1															
HCM 2010 LOS	E															
Notes																
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.																

Timings

2023 Future No-Build AM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	 	 			 		 	 	 	 	
Traffic Volume (vph)	467	806	396	65	1689	488	318	371	237	365	726
Future Volume (vph)	467	806	396	65	1689	488	318	371	237	365	726
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	25.0	40.0	25.0	40.0	
Total Split (%)	9.4%	50.0%	50.0%	9.4%	50.0%	50.0%	15.6%	25.0%	15.6%	25.0%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 95 (59%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

 Ø2 (R) 	 Ø1	 Ø3	 Ø4
80 s	15 s	25 s	40 s
 Ø5 	 Ø6 (R)	 Ø7	 Ø8
15 s	80 s	25 s	40 s

HCM 2010 Signalized Intersection Summary

2023 Future No-Build AM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	467	806	396	65	1689	488	318	371	13	237	365	726
Future Volume (veh/h)	467	806	396	65	1689	488	318	371	13	237	365	726
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	477	822	0	66	1723	0	324	379	0	242	372	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	499	1970	881	83	1635	731	365	533	0	290	452	202
Arrive On Green	0.15	0.56	0.00	0.05	0.46	0.00	0.11	0.15	0.00	0.08	0.13	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583
Grp Volume(v), veh/h	477	822	0	66	1723	0	324	379	0	242	372	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583
Q Serve(g_s), s	22.0	21.5	0.0	5.9	73.9	0.0	14.9	16.3	0.0	11.1	16.4	0.0
Cycle Q Clear(g_c), s	22.0	21.5	0.0	5.9	73.9	0.0	14.9	16.3	0.0	11.1	16.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	499	1970	881	83	1635	731	365	533	0	290	452	202
V/C Ratio(X)	0.96	0.42	0.00	0.80	1.05	0.00	0.89	0.71	0.00	0.83	0.82	0.00
Avail Cap(c_a), veh/h	499	1970	881	92	1635	731	389	743	0	394	743	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.9	20.5	0.0	75.5	43.0	0.0	70.6	64.6	0.0	72.2	68.0	0.0
Incr Delay (d2), s/veh	29.2	0.7	0.0	30.5	38.0	0.0	19.4	0.8	0.0	10.8	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.3	16.0	0.0	6.5	80.5	0.0	12.7	12.7	0.0	9.6	13.0	0.0
LnGrp Delay(d),s/veh	97.1	21.1	0.0	106.0	81.1	0.0	90.0	65.4	0.0	83.0	71.9	0.0
LnGrp LOS	F	C		F	F		F	E		F	E	
Approach Vol, veh/h	1299				1789				703			
Approach Delay, s/veh	49.0				82.0				76.8			
Approach LOS	D				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.3	80.0	23.9	26.8	14.2	95.1	20.2	30.5				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	6.4				
Max Green Setting (Gmax), s	* 8.9	* 74	18.1	33.6	* 8.3	* 74	* 18	33.6				
Max Q Clear Time (g_c+I1), s	24.0	75.9	16.9	18.4	7.9	23.5	13.1	18.3				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.0	0.0	34.6	0.4	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			70.6									
HCM 2010 LOS			E									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future No-Build AM Peak

01/03/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	97	40	123	376	445	98		
Future Volume (vph)	97	40	123	376	445	98		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	21.0	29.5	75.5	75.5	75.5	75.5	23.5	15.0
Total Split (%)	17.5%	24.6%	62.9%	62.9%	62.9%	62.9%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 43

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
75.5 s	21 s	23.5 s
 Ø6	 Ø7	 Ø8
75.5 s	15 s	29.5 s

HCM 2010 Signalized Intersection Summary
3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future No-Build AM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	0	40	0	0	0	123	376	0	0	445	98
Future Volume (veh/h)	97	0	40	0	0	0	123	376	0	0	445	98
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	107	0	44	0	0	0	135	413	0	0	489	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	155	132	138	3	0	684	1325	1127	134	1325	1127
Arrive On Green	0.08	0.00	0.08	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.71	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	904	1863	1583	969	1863	1583
Grp Volume(v), veh/h	107	0	44	0	0	0	135	413	0	0	489	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	904	1863	1583	969	1863	1583
Q Serve(g_s), s	3.2	0.0	1.4	0.0	0.0	0.0	3.7	4.4	0.0	0.0	5.5	0.0
Cycle Q Clear(g_c), s	3.2	0.0	1.4	0.0	0.0	0.0	9.2	4.4	0.0	0.0	5.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	155	132	138	3	0	684	1325	1127	134	1325	1127
V/C Ratio(X)	0.39	0.00	0.33	0.00	0.00	0.00	0.20	0.31	0.00	0.00	0.37	0.00
Avail Cap(c_a), veh/h	647	834	709	449	625	0	1221	2431	2067	710	2431	2067
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	0.0	23.2	0.0	0.0	0.0	4.8	2.9	0.0	0.0	3.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.5	0.0	0.0	0.0	0.1	0.1	0.0	0.0	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	2.9	0.0	1.2	0.0	0.0	0.0	1.7	4.0	0.0	0.0	5.0	0.0
LnGrp Delay(d),s/veh	25.0	0.0	24.6	0.0	0.0	0.0	5.0	3.0	0.0	0.0	3.2	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	151		0		548		489					
Approach Delay, s/veh	24.9		0.0		3.5		3.2					
Approach LOS	C				A		A					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	43.7		9.8	0.2	43.7		0.0	10.0				
Change Period (Y+Rc), s	5.5		5.5	5.5	5.5		5.5	5.5				
Max Green Setting (Gmax), s	70.0		15.5	18.0	70.0		9.5	24.0				
Max Q Clear Time (g_c+I1), s	11.2		5.2	0.0	7.5		0.0	3.4				
Green Ext Time (p_c), s	27.0		0.2	0.0	27.7		0.0	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			6.1									
HCM 2010 LOS			A									

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	958	94	22	2247	19	68	0	17	9	0	9
Future Vol, veh/h	28	958	94	22	2247	19	68	0	17	9	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	998	98	23	2341	20	71	0	18	9	0	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2361	0	0	998	0	0	2273	3463	499	2944	3443	1171
Stage 1	-	-	-	-	-	-	1056	1056	-	2387	2387	-
Stage 2	-	-	-	-	-	-	1217	2407	-	557	1056	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	204	-	-	689	-	-	~ 22	7	517	~ 7	7	186
Stage 1	-	-	-	-	-	-	241	300	-	35	65	-
Stage 2	-	-	-	-	-	-	192	64	-	482	300	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	204	-	-	689	-	-	~ 18	6	517	~ 6	6	186
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	31	-	28	57	-
Stage 1	-	-	-	-	-	-	207	257	-	30	63	-
Stage 2	-	-	-	-	-	-	176	62	-	399	257	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.1			67.9			118.3		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	139	204	-	-	689	-	-	49				
HCM Lane V/C Ratio	0.637	0.143	-	-	0.033	-	-	0.383				
HCM Control Delay (s)	67.9	25.6	-	-	10.4	-	-	118.3				
HCM Lane LOS	F	D	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	3.4	0.5	-	-	0.1	-	-	1.4				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection													
Int Delay, s/veh	1												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	15	21	956	3	7	2270	14	1	0	0	1	0	1
Future Vol, veh/h	15	21	956	3	7	2270	14	1	0	0	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	22	986	3	7	2340	14	1	0	0	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	2340	2354	0	0	986	0	0	2244	3428	493	2921	3414	1170
Stage 1	-	-	-	-	-	-	-	1060	1060	-	2354	2354	-
Stage 2	-	-	-	-	-	-	-	1184	2368	-	567	1060	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	44	205	-	-	696	-	-	23	7	522	7	7	186
Stage 1	-	-	-	-	-	-	-	239	299	-	36	68	-
Stage 2	-	-	-	-	-	-	-	201	67	-	476	299	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	81	81	-	-	696	-	-	15	4	522	4	4	186
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	95	27	-	19	57	-
Stage 1	-	-	-	-	-	-	-	130	163	-	20	67	-
Stage 2	-	-	-	-	-	-	-	198	66	-	259	163	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	3			0			43.3			117.6			
HCM LOS							E			F			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	95	81	-	-	696	-	-	34					
HCM Lane V/C Ratio	0.011	0.458	-	-	0.01	-	-	0.061					
HCM Control Delay (s)	43.3	82.2	-	-	10.2	-	-	117.6					
HCM Lane LOS	E	F	-	-	B	-	-	F					
HCM 95th %tile Q(veh)	0	1.9	-	-	0	-	-	0.2					

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build AM Peak

01/03/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	7	20	952	92	7	156	1803	34	21	52	49
Future Volume (vph)	7	20	952	92	7	156	1803	34	21	52	49
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 10 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

 Ø2 (R)	 Ø1	 Ø4	 Ø3
95 s	15 s	20 s	30 s
 Ø5	 Ø6 (R)		
20 s	90 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build AM Peak

01/03/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	7	20	952	92	7	156	1803	34	100	21	52	34
Future Volume (vph)	7	20	952	92	7	156	1803	34	100	21	52	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1789	1583	
Flt Permitted		0.05	1.00	1.00		0.18	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		85	3539	1583		327	3539	1583		1789	1583	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	8	22	1070	103	8	175	2026	38	112	24	58	38
RTOR Reduction (vph)	0	0	0	42	0	0	0	14	0	0	52	0
Lane Group Flow (vph)	0	30	1070	61	0	183	2026	24	0	136	6	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2			3	
Actuated Green, G (s)		94.5	94.5	94.5		99.8	99.8	99.8		17.1	17.1	
Effective Green, g (s)		94.5	94.5	94.5		99.8	99.8	99.8		17.1	17.1	
Actuated g/C Ratio		0.59	0.59	0.59		0.62	0.62	0.62		0.11	0.11	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		118	2090	934		306	2207	987		191	169	
v/s Ratio Prot		0.01	c0.30			0.04	c0.57			c0.08		
v/s Ratio Perm		0.14		0.04		0.33		0.01			0.00	
v/c Ratio		0.25	0.51	0.07		0.60	0.92	0.02		0.71	0.04	
Uniform Delay, d1		58.5	19.2	13.9		17.2	26.5	11.5		69.1	64.1	
Progression Factor		1.25	1.46	3.52		1.24	0.87	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.8	0.1		1.7	6.2	0.0		11.1	0.1	
Delay (s)		73.5	28.8	49.2		23.0	29.2	11.5		80.1	64.1	
Level of Service		E	C	D		C	C	B		F	E	
Approach Delay (s)			31.7				28.4			75.4		
Approach LOS			C				C			E		
Intersection Summary												
HCM 2000 Control Delay			34.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			80.8%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build AM Peak
01/03/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	49	31
Future Volume (vph)	49	31
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1768	
Flt Permitted	0.99	
Satd. Flow (perm)	1768	
Peak-hour factor, PHF	0.89	0.89
Adj. Flow (vph)	55	35
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	120	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.08	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	145	
v/s Ratio Prot	c0.07	
v/s Ratio Perm		
v/c Ratio	0.83	
Uniform Delay, d1	72.3	
Progression Factor	1.00	
Incremental Delay, d2	29.7	
Delay (s)	102.0	
Level of Service	F	
Approach Delay (s)	102.0	
Approach LOS	F	
Intersection Summary		

Timings

2023 Future No-Build AM Peak

7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

01/03/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	79	29	220	66	62	205	208	7	283
Future Volume (vph)	79	29	220	66	62	205	208	7	283
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 94.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

HCM 2010 Signalized Intersection Summary
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2023 Future No-Build AM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	29	220	66	62	9	205	208	20	7	283	76
Future Volume (veh/h)	79	29	220	66	62	9	205	208	20	7	283	76
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	81	30	0	67	63	9	209	212	20	7	289	78
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	60	185	175	102	13	668	1166	110	713	731	197
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.12	0.08	0.70	0.70	0.52	0.52	0.52
Sat Flow, veh/h	1128	511	1583	720	871	110	1774	1677	158	1144	1414	382
Grp Volume(v), veh/h	111	0	0	139	0	0	209	0	232	7	0	367
Grp Sat Flow(s),veh/h/ln	1639	0	1583	1702	0	0	1774	0	1835	1144	0	1795
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	2.9	0.0	2.6	0.2	0.0	7.3
Cycle Q Clear(g_c), s	3.5	0.0	0.0	4.4	0.0	0.0	2.9	0.0	2.6	0.2	0.0	7.3
Prop In Lane	0.73		1.00	0.48		0.06	1.00		0.09	1.00		0.21
Lane Grp Cap(c), veh/h	297	0	185	289	0	0	668	0	1276	713	0	928
V/C Ratio(X)	0.37	0.00	0.00	0.48	0.00	0.00	0.31	0.00	0.18	0.01	0.00	0.40
Avail Cap(c_a), veh/h	735	0	669	770	0	0	968	0	1705	1184	0	1668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	25.0	0.0	0.0	5.4	0.0	3.1	7.0	0.0	8.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.2	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	0.0	0.0	4.0	0.0	0.0	2.5	0.0	2.5	0.1	0.0	6.9
LnGrp Delay(d),s/veh	25.2	0.0	0.0	25.9	0.0	0.0	5.5	0.0	3.4	7.0	0.0	9.7
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	111			139			441			374		
Approach Delay, s/veh	25.2			25.9			4.4			9.6		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4	5	6	8					
Phs Duration (G+Y+Rc), s	47.0			12.2	10.6	36.4	12.2					
Change Period (Y+Rc), s	* 5.8			* 5.3	5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55			* 25	15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	4.6			6.4	4.9	9.3	5.5					
Green Ext Time (p_c), s	22.3			0.6	0.3	21.2	0.6					
Intersection Summary												
HCM 2010 Ctrl Delay				11.2								
HCM 2010 LOS	B											
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build AM Peak

01/03/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	15	29	30	401	21	569
Future Volume (vph)	15	29	30	401	21	569
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	24.0	24.2	71.8	71.8	71.8	71.8
Total Split (%)	20.0%	20.2%	59.8%	59.8%	59.8%	59.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
71.8 s	24.2 s	24 s
↑ Ø6 (R)		
71.8 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build AM Peak

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	15	28	35	29	26	30	401	22	21	569	28
Future Volume (vph)	26	15	28	35	29	26	30	401	22	21	569	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1728			1755		1770	1848		1770	1850	
Flt Permitted		0.98			0.98		0.33	1.00		0.44	1.00	
Satd. Flow (perm)		1728			1755		608	1848		826	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	30	17	32	40	33	30	34	456	25	24	647	32
RTOR Reduction (vph)	0	22	0	0	14	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	57	0	0	89	0	34	480	0	24	678	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Effective Green, g (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Actuated g/C Ratio		0.07			0.10		0.70	0.70		0.70	0.70	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		119			168		424	1288		576	1290	
v/s Ratio Prot		c0.03			c0.05			0.26			c0.37	
v/s Ratio Perm							0.06			0.03		
v/c Ratio		0.48			0.53		0.08	0.37		0.04	0.53	
Uniform Delay, d1		53.8			51.7		5.8	7.4		5.7	8.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			3.2		0.4	0.8		0.1	1.5	
Delay (s)		56.7			54.9		6.2	8.2		5.8	10.2	
Level of Service		E			D		A	A		A	B	
Approach Delay (s)		56.7			54.9			8.1			10.1	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			15.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.5		
Intersection Capacity Utilization			47.5%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future No-Build AM Peak

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	86	311	231	47	789	517	340	38	243	367
Future Volume (vph)	86	311	231	47	789	517	340	38	243	367
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 146

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

HCM 2010 Signalized Intersection Summary

2023 Future No-Build AM Peak

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	311	231	47	789	42	517	340	51	38	243	367
Future Volume (veh/h)	86	311	231	47	789	42	517	340	51	38	243	367
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	91	331	0	50	839	0	550	362	0	40	259	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	879	747	474	1614	0	626	583	0	251	294	250
Arrive On Green	0.04	0.47	0.00	0.03	0.46	0.00	0.18	0.31	0.00	0.03	0.16	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	91	331	0	50	839	0	550	362	0	40	259	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	3.6	15.0	0.0	2.0	22.2	0.0	20.5	21.8	0.0	2.5	17.9	0.0
Cycle Q Clear(g_c), s	3.6	15.0	0.0	2.0	22.2	0.0	20.5	21.8	0.0	2.5	17.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	879	747	474	1614	0	626	583	0	251	294	250
V/C Ratio(X)	0.29	0.38	0.00	0.11	0.52	0.00	0.88	0.62	0.00	0.16	0.88	0.00
Avail Cap(c_a), veh/h	444	879	747	631	1614	0	785	583	0	407	566	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.7	22.3	0.0	18.8	25.5	0.0	52.4	38.5	0.0	44.8	54.2	0.0
Incr Delay (d2), s/veh	0.5	1.2	0.0	0.1	1.2	0.0	9.4	2.0	0.0	0.3	8.5	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	3.2	12.7	0.0	1.7	16.6	0.0	15.8	17.0	0.0	2.2	15.1	0.0
LnGrp Delay(d),s/veh	20.2	23.5	0.0	18.9	26.7	0.0	61.8	40.5	0.0	45.1	62.8	0.0
LnGrp LOS	C	C		B	C		E	D		D	E	
Approach Vol, veh/h	422				889				912			
Approach Delay, s/veh	22.8				26.3				53.4			
Approach LOS	C				C				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	65.6	28.8	26.3	8.7	67.7	8.4	46.8				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+l1), s	5.6	24.2	22.5	19.9	4.0	17.0	4.5	23.8				
Green Ext Time (p_c), s	0.1	29.3	1.5	0.8	0.1	30.8	0.0	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			39.5									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build AM Peak
01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	15	1000	20	219	2044	17	44	9	43	23
Future Volume (vph)	15	1000	20	219	2044	17	44	9	43	23
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	95.0	95.0	25.0	105.0	105.0	15.0	40.0	25.0	25.0
Total Split (%)	9.4%	59.4%	59.4%	15.6%	65.6%	65.6%	9.4%	25.0%	15.6%	15.6%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 105 (66%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	105 s	15 s	25 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	95 s	40 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build AM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1000	20	219	2044	17	44	9	45	43	23	60
Future Volume (veh/h)	15	1000	20	219	2044	17	44	9	45	43	23	60
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	1099	0	241	2246	19	48	10	49	47	25	66
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	3441	1071	441	3622	1128	122	40	196	137	31	82
Arrive On Green	0.01	0.68	0.00	0.04	0.48	0.48	0.03	0.15	0.15	0.07	0.07	0.07
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	275	1349	1338	454	1198
Grp Volume(v), veh/h	16	1099	0	241	2246	19	48	0	59	47	0	91
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1625	1338	0	1651
Q Serve(g_s), s	0.5	14.3	0.0	6.3	52.5	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Cycle Q Clear(g_c), s	0.5	14.3	0.0	6.3	52.5	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.73
Lane Grp Cap(c), veh/h	131	3441	1071	441	3622	1128	122	0	236	137	0	113
V/C Ratio(X)	0.12	0.32	0.00	0.55	0.62	0.02	0.39	0.00	0.25	0.34	0.00	0.80
Avail Cap(c_a), veh/h	197	3441	1071	555	3622	1128	152	0	327	189	0	178
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	0.52	0.52	0.52	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	10.7	0.0	7.9	25.8	12.3	64.9	0.0	60.7	71.9	0.0	73.5
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.2	0.4	0.0	0.8	0.0	0.4	1.1	0.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	10.9	0.0	5.2	30.7	0.8	3.5	0.0	4.2	3.7	0.0	7.7
LnGrp Delay(d),s/veh	15.5	10.9	0.0	8.1	26.2	12.3	65.7	0.0	61.1	73.0	0.0	84.0
LnGrp LOS	B	B		A	C	B	E		E	E		F
Approach Vol, veh/h	1115				2506				107		138	
Approach Delay, s/veh	11.0				24.3				63.2		80.3	
Approach LOS	B				C				E		F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	9.0	120.0	12.2	18.8	14.7	114.3	31.0					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	99.0	8.0	17.2	18.9	89.0	32.2					
Max Q Clear Time (g_c+I1), s	2.5	54.5	5.9	10.7	8.3	16.3	7.2					
Green Ext Time (p_c), s	0.0	44.4	0.0	0.3	0.3	72.5	0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	23.6											
HCM 2010 LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings
11: Sugarloaf Pkwy & Peachtree Industrial Blvd

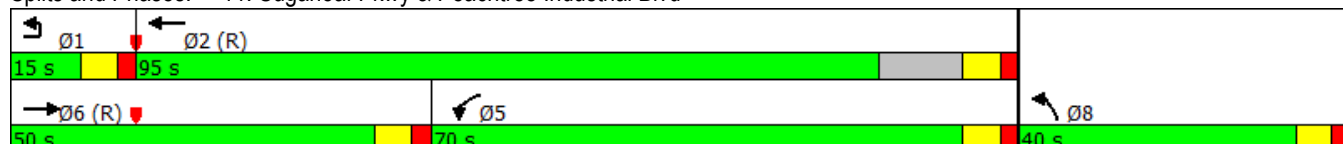
2023 Future No-Build AM Peak
01/03/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑	
Traffic Volume (vph)	452	690	1351	1269	945	635	
Future Volume (vph)	452	690	1351	1269	945	635	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	50.0		70.0	95.0	40.0		15.0
Total Split (%)	31.3%		43.8%	59.4%	25.0%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		None

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 35 (22%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future No-Build AM Peak

01/03/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	452	690	1351	1269	945	635
Future Volume (vph)	0	452	690	1351	1269	945	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	461	704	1379	1295	964	648
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	461	704	1379	1295	964	648
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		34.3	160.0	72.3	113.3	33.1	160.0
Effective Green, g (s)		34.3	160.0	72.3	113.3	33.1	160.0
Actuated g/C Ratio		0.21	1.00	0.45	0.71	0.21	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1090	1583	1551	3600	710	1583
v/s Ratio Prot		0.09		c0.40	0.25	c0.28	
v/s Ratio Perm			c0.44				0.41
v/c Ratio		0.42	0.44	0.89	0.36	1.36	0.41
Uniform Delay, d1		54.3	0.0	40.2	9.1	63.5	0.0
Progression Factor		0.89	1.00	1.00	1.00	0.58	1.00
Incremental Delay, d2		1.2	0.9	6.6	0.3	161.8	0.1
Delay (s)		49.4	0.9	46.8	9.4	198.8	0.1
Level of Service		D	A	D	A	F	A
Approach Delay (s)		20.1			28.7	118.9	
Approach LOS		C			C	F	
Intersection Summary							
HCM 2000 Control Delay			53.5		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.91				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			99.1%		ICU Level of Service		F
Analysis Period (min)			15				

c Critical Lane Group

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build AM Peak

01/07/2019

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	146	226	41	73	443	163	52	1291	96	1	142
Future Volume (vph)	1	146	226	41	73	443	163	52	1291	96	1	142
Turn Type	pm+pt	pm+pt	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	7	7	4		3	8		1	6		5	5
Permitted Phases	4	4		8	8		8	6		6	2	2
Detector Phase	3	3	4	8	7	8	8	1	6	6	5	5
Switch Phase	8	8			4							
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0
Minimum Split (s)	15.0	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0
Total Split (s)	27.0	27.0	52.0	48.0	23.0	48.0	48.0	15.0	65.0	65.0	20.0	20.0
Total Split (%)	16.9%	16.9%	32.5%	30.0%	14.4%	30.0%	30.0%	9.4%	40.6%	40.6%	12.5%	12.5%
Yellow Time (s)	3.9	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6
All-Red Time (s)	3.0	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	None	None	Max	Max	None	Max	Max	None	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 85 (53%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

			
Ø1	Ø2 (R)	Ø3	Ø4
15 s	70 s	23 s	52 s
			
Ø5	Ø6 (R)	Ø7	Ø8
20 s	65 s	27 s	48 s

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build AM Peak
01/07/2019

	↓	↘
Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1562	397
Future Volume (vph)	1562	397
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Detector Phase	2	2
Switch Phase		
Minimum Initial (s)	20.0	20.0
Minimum Split (s)	42.7	42.7
Total Split (s)	70.0	70.0
Total Split (%)	43.8%	43.8%
Yellow Time (s)	4.7	4.7
All-Red Time (s)	1.9	1.9
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.6	6.6
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	C-Min	C-Min
Intersection Summary		

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build AM Peak

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	146	226	41	73	443	163	52	1291	96	1	142
Future Volume (vph)	1	146	226	41	73	443	163	52	1291	96	1	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	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
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (prot)		1770	1863	1583	1770	1863	1583	1770	3539	1583		1770
Flt Permitted		0.09	1.00	1.00	0.52	1.00	1.00	0.07	1.00	1.00		0.06
Satd. Flow (perm)		165	1863	1583	962	1863	1583	125	3539	1583		113
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	152	235	43	76	461	170	54	1345	100	1	148
RTOR Reduction (vph)	0	0	0	32	0	0	87	0	0	63	0	0
Lane Group Flow (vph)	0	153	235	11	76	461	83	54	1345	37	0	149
Turn Type	pm+pt	pm+pt	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	7	7	4		3	8		1	6		5	5
Permitted Phases	4	4		8	8		8	6		6	2	2
Actuated Green, G (s)		65.3	45.2	41.2	57.3	41.2	41.2	65.6	59.7	59.7		78.0
Effective Green, g (s)		65.3	45.2	41.2	57.3	41.2	41.2	65.6	59.7	59.7		78.0
Actuated g/C Ratio		0.41	0.28	0.26	0.36	0.26	0.26	0.41	0.37	0.37		0.49
Clearance Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Vehicle Extension (s)		2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0
Lane Grp Cap (vph)		268	526	407	425	479	407	111	1320	590		180
v/s Ratio Prot		c0.07	0.13		0.02	c0.25		0.02	0.38			c0.06
v/s Ratio Perm		c0.16		0.01	0.05		0.05	0.18		0.02		0.34
v/c Ratio		0.57	0.45	0.03	0.18	0.96	0.20	0.49	1.02	0.06		0.83
Uniform Delay, d1		36.0	47.1	44.4	34.6	58.6	46.6	38.7	50.1	32.2		44.9
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.53
Incremental Delay, d2		1.8	2.7	0.1	0.1	32.8	1.1	1.2	29.6	0.2		18.3
Delay (s)		37.8	49.9	44.5	34.7	91.4	47.7	39.9	79.8	32.4		87.0
Level of Service		D	D	D	C	F	D	D	E	C		F
Approach Delay (s)			45.1			74.8			75.2			
Approach LOS			D			E			E			
Intersection Summary												
HCM 2000 Control Delay			72.4			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.9			
Intersection Capacity Utilization			100.4%			ICU Level of Service			G			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build AM Peak
01/07/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1562	397
Future Volume (vph)	1562	397
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1627	414
RTOR Reduction (vph)	0	116
Lane Group Flow (vph)	1627	298
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	65.9	65.9
Effective Green, g (s)	65.9	65.9
Actuated g/C Ratio	0.41	0.41
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	6.0	6.0
Lane Grp Cap (vph)	1457	651
v/s Ratio Prot	c0.46	
v/s Ratio Perm		0.19
v/c Ratio	1.12	0.46
Uniform Delay, d1	47.0	34.1
Progression Factor	0.64	0.35
Incremental Delay, d2	59.8	1.6
Delay (s)	89.7	13.5
Level of Service	F	B
Approach Delay (s)	75.1	
Approach LOS	E	
Intersection Summary		

Timings

2023 Future No-Build PM Peak

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	388	1749	367	71	1295	255	596	2345	352	913
Future Volume (vph)	388	1749	367	71	1295	255	596	2345	352	913
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		1	6	5	2
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	1	6	5	2
Switch Phase	4			8						
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	4.0	20.0
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	15.0	38.4
Total Split (s)	25.0	55.0	55.0	15.0	45.0	45.0	40.0	70.0	20.0	50.0
Total Split (%)	15.6%	34.4%	34.4%	9.4%	28.1%	28.1%	25.0%	43.8%	12.5%	31.3%
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	4.3	5.4
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.8	6.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	Min	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 140 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



HCM 2010 Signalized Intersection Summary

2023 Future No-Build PM Peak

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	1749	367	71	1295	255	596	2345	180	352	913	466
Future Volume (veh/h)	388	1749	367	71	1295	255	596	2345	180	352	913	466
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	396	1785	0	72	1321	260	608	2393	0	359	932	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	0	2	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	394	1636	509	110	1214	378	660	2110	0	284	1555	0
Arrive On Green	0.11	0.32	0.00	0.03	0.24	0.24	0.19	0.42	0.00	0.08	0.31	0.00
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5253	0	3442	5253	0
Grp Volume(v), veh/h	396	1785	0	72	1321	260	608	2393	0	359	932	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	0	1721	1695	0
Q Serve(g_s), s	18.3	51.5	0.0	3.3	38.2	23.9	27.7	66.4	0.0	13.2	24.9	0.0
Cycle Q Clear(g_c), s	18.3	51.5	0.0	3.3	38.2	23.9	27.7	66.4	0.0	13.2	24.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	394	1636	509	110	1214	378	660	2110	0	284	1555	0
V/C Ratio(X)	1.01	1.09	0.00	0.65	1.09	0.69	0.92	1.13	0.00	1.26	0.60	0.00
Avail Cap(c_a), veh/h	394	1636	509	179	1214	378	714	2110	0	284	1555	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	70.8	54.3	0.0	76.6	60.9	55.5	63.5	46.8	0.0	73.4	47.2	0.0
Incr Delay (d2), s/veh	46.9	51.5	0.0	6.3	53.2	8.6	16.7	66.8	0.0	144.0	1.7	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	20.3	57.4	0.0	3.0	42.9	16.9	21.0	79.4	0.0	21.5	17.6	0.0
LnGrp Delay(d),s/veh	117.7	105.8	0.0	82.9	114.1	64.0	80.2	113.6	0.0	217.4	48.9	0.0
LnGrp LOS	F	F		F	F	E	F	F		F	D	
Approach Vol, veh/h	2181			1653			3001			1291		
Approach Delay, s/veh	108.0			104.9			106.8			95.8		
Approach LOS	F			F			F			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.5	55.9	11.8	58.3	20.0	73.4	25.1	45.0				
Change Period (Y+Rc), s	6.8	6.9	6.7	6.8	6.8	6.9	6.8	* 6.8				
Max Green Setting (Gmax), s	33.2	43.1	8.3	48.2	13.2	63.1	18.3	* 38				
Max Q Clear Time (g_c+I1), s	29.7	26.9	5.3	53.5	15.2	68.4	20.3	40.2				
Green Ext Time (p_c), s	0.9	16.2	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	105.0											
HCM 2010 LOS	F											
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

2023 Future No-Build PM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	729	2047	288	77	1047	218	264	304	405	370	523
Future Volume (vph)	729	2047	288	77	1047	218	264	304	405	370	523
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	35.0	75.0	75.0	15.0	55.0	55.0	15.0	25.0	45.0	55.0	
Total Split (%)	21.9%	46.9%	46.9%	9.4%	34.4%	34.4%	9.4%	15.6%	28.1%	34.4%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

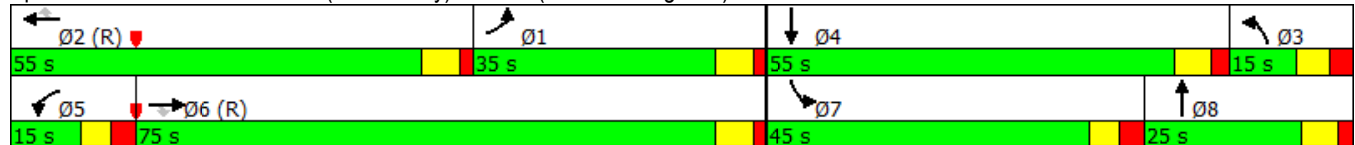
Actuated Cycle Length: 160

Offset: 80 (50%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd



HCM 2010 Signalized Intersection Summary

2023 Future No-Build PM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	729	2047	288	77	1047	218	264	304	35	405	370	523
Future Volume (veh/h)	729	2047	288	77	1047	218	264	304	35	405	370	523
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	729	2047	0	77	1047	0	264	304	0	405	370	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1024	1938	867	92	1081	484	392	350	0	471	438	196
Arrive On Green	0.30	0.55	0.00	0.05	0.31	0.00	0.11	0.10	0.00	0.14	0.12	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583
Grp Volume(v), veh/h	729	2047	0	77	1047	0	264	304	0	405	370	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583
Q Serve(g_s), s	30.2	87.6	0.0	6.9	46.7	0.0	11.8	13.5	0.0	18.4	16.4	0.0
Cycle Q Clear(g_c), s	30.2	87.6	0.0	6.9	46.7	0.0	11.8	13.5	0.0	18.4	16.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1024	1938	867	92	1081	484	392	350	0	471	438	196
V/C Ratio(X)	0.71	1.06	0.00	0.84	0.97	0.00	0.67	0.87	0.00	0.86	0.85	0.00
Avail Cap(c_a), veh/h	1024	1938	867	92	1082	484	392	411	0	824	1075	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.1	36.2	0.0	75.2	54.8	0.0	68.0	71.1	0.0	67.5	68.6	0.0
Incr Delay (d2), s/veh	2.3	37.3	0.0	43.9	20.7	0.0	3.7	14.3	0.0	4.7	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.0	94.6	0.0	8.0	34.3	0.0	9.8	11.8	0.0	14.0	13.0	0.0
LnGrp Delay(d),s/veh	52.4	73.5	0.0	119.1	75.5	0.0	71.7	85.4	0.0	72.2	73.2	0.0
LnGrp LOS	D	F		F	E		E	F		E	E	
Approach Vol, veh/h	2776				1124				568			
Approach Delay, s/veh	68.0				78.5				79.0			
Approach LOS	E				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	53.7	55.0	25.1	26.2	15.0	93.7	28.6	22.7				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	* 6.9				
Max Green Setting (Gmax), s	* 29	* 49	8.1	48.6	* 8.3	* 69	* 38	* 19				
Max Q Clear Time (g_c+I1), s	32.2	48.7	13.8	18.4	8.9	89.6	20.4	15.5				
Green Ext Time (p_c), s	0.0	0.2	0.0	1.4	0.0	0.0	1.5	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			72.1									
HCM 2010 LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future No-Build PM Peak

01/03/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	148	128	46	420	488	28		
Future Volume (vph)	148	128	46	420	488	28		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	23.0	32.0	73.0	73.0	73.0	73.0	24.0	15.0
Total Split (%)	19.2%	26.7%	60.8%	60.8%	60.8%	60.8%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 41

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
73 s	23 s	24 s
 Ø6	 Ø7	 Ø8
73 s	15 s	32 s

HCM 2010 Signalized Intersection Summary
3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future No-Build PM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	0	128	0	0	0	46	420	0	0	488	28
Future Volume (veh/h)	148	0	128	0	0	0	46	420	0	0	488	28
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	154	0	133	0	0	0	48	438	0	0	508	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	229	194	134	3	0	625	1263	1074	130	1263	1074
Arrive On Green	0.11	0.00	0.12	0.00	0.00	0.00	0.68	0.68	0.00	0.00	0.68	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	888	1863	1583	947	1863	1583
Grp Volume(v), veh/h	154	0	133	0	0	0	48	438	0	0	508	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	888	1863	1583	947	1863	1583
Q Serve(g_s), s	4.6	0.0	4.4	0.0	0.0	0.0	1.4	5.5	0.0	0.0	6.7	0.0
Cycle Q Clear(g_c), s	4.6	0.0	4.4	0.0	0.0	0.0	8.1	5.5	0.0	0.0	6.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	229	194	134	3	0	625	1263	1074	130	1263	1074
V/C Ratio(X)	0.46	0.00	0.68	0.00	0.00	0.00	0.08	0.35	0.00	0.00	0.40	0.00
Avail Cap(c_a), veh/h	693	894	760	436	624	0	1108	2277	1935	646	2277	1935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.6	0.0	23.2	0.0	0.0	0.0	5.7	3.7	0.0	0.0	3.9	0.0
Incr Delay (d2), s/veh	1.0	0.0	4.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	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	4.2	0.0	3.9	0.0	0.0	0.0	0.6	4.9	0.0	0.0	6.2	0.0
LnGrp Delay(d),s/veh	24.6	0.0	27.4	0.0	0.0	0.0	5.8	3.9	0.0	0.0	4.1	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	287				0		486				508	
Approach Delay, s/veh	25.9				0.0		4.1				4.1	
Approach LOS	C						A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	42.9		11.8	0.5	42.9		0.0	12.3				
Change Period (Y+Rc), s	5.5		5.5	5.5	5.5		5.5	5.5				
Max Green Setting (Gmax), s	67.5		17.5	18.5	67.5		9.5	26.5				
Max Q Clear Time (g_c+l1), s	10.1		6.6	0.0	8.7		0.0	6.4				
Green Ext Time (p_c), s	27.4		0.3	0.0	27.7		0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			9.0									
HCM 2010 LOS			A									

Intersection												
Int Delay, s/veh	27.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	2303	127	73	1259	31	30	0	72	31	0	33
Future Vol, veh/h	34	2303	127	73	1259	31	30	0	72	31	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	2424	134	77	1325	33	32	0	76	33	0	35
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1358	0	0	2424	0	0	3313	4008	1212	2763	3975	663
Stage 1	-	-	-	-	-	-	2496	2496	-	1479	1479	-
Stage 2	-	-	-	-	-	-	817	1512	-	1284	2496	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	502	-	-	192	-	-	~ 3	3	174	~ 9	3	404
Stage 1	-	-	-	-	-	-	~ 29	57	-	132	188	-
Stage 2	-	-	-	-	-	-	337	181	-	174	57	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	502	-	-	192	-	-	~ 2	2	174	~ 3	2	404
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 25	39	-	~ 13	~ -21	-
Stage 1	-	-	-	-	-	-	~ 27	53	-	122	113	-
Stage 2	-	-	-	-	-	-	184	108	-	91	53	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.9			\$ 379.5			\$ 1039.6		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	72	502	-	-	192	-	-	26				
HCM Lane V/C Ratio	1.491	0.071	-	-	0.4	-	-	2.591				
HCM Control Delay (s)	\$ 379.5	12.7	-	-	35.7	-	-	\$ 1039.6				
HCM Lane LOS	F	B	-	-	E	-	-	F				
HCM 95th %tile Q(veh)	8.9	0.2	-	-	1.8	-	-	8.2				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Intersection														
Int Delay, s/veh	1.7													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	8	12	2390	3	7	8	1319	9	12	0	1	19	0	23
Future Vol, veh/h	8	12	2390	3	7	8	1319	9	12	0	1	19	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	-	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	2516	3	7	8	1388	9	13	0	1	20	0	24
Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	1388	1397	0	0	2516	2516	0	0	3282	3985	1258	2718	3976	694
Stage 1	-	-	-	-	-	-	-	-	2558	2558	-	1418	1418	-
Stage 2	-	-	-	-	-	-	-	-	724	1427	-	1300	2558	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	186	485	-	-	34	177	-	-	~ 4	3	162	~ 10	3	385
Stage 1	-	-	-	-	-	-	-	-	27	53	-	144	201	-
Stage 2	-	-	-	-	-	-	-	-	383	199	-	170	53	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	284	284	-	-	60	60	-	-	~ 3	2	162	~ 7	2	385
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	24	42	-	89	30	-
Stage 1	-	-	-	-	-	-	-	-	25	49	-	133	147	-
Stage 2	-	-	-	-	-	-	-	-	263	146	-	156	49	-
Approach	EB			WB			NB			SB				
HCM Control Delay, s	0.2			1			247			37.5				
HCM LOS							F			E				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	26	284	-	-	60	-	-	154						
HCM Lane V/C Ratio	0.526	0.074	-	-	0.263	-	-	0.287						
HCM Control Delay (s)	247	18.7	-	-	85.7	-	-	37.5						
HCM Lane LOS	F	C	-	-	F	-	-	E						
HCM 95th %tile Q(veh)	1.6	0.2	-	-	0.9	-	-	1.1						
Notes														
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon						

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build PM Peak

01/03/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	2	57	2260	174	2	67	1264	44	50	96	40
Future Volume (vph)	2	57	2260	174	2	67	1264	44	50	96	40
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 50 (31%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

							
Ø2 (R)				Ø1	Ø3	Ø4	
95 s				15 s	30 s	20 s	
							
Ø5	Ø6 (R)						
20 s	90 s						

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build PM Peak

01/03/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	57	2260	174	2	67	1264	44	125	50	96	38
Future Volume (vph)	2	57	2260	174	2	67	1264	44	125	50	96	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.97	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1799	1583	
Flt Permitted		0.16	1.00	1.00		0.04	1.00	1.00		0.97	1.00	
Satd. Flow (perm)		292	3539	1583		83	3539	1583		1799	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	60	2379	183	2	71	1331	46	132	53	101	40
RTOR Reduction (vph)	0	0	0	42	0	0	0	18	0	0	88	0
Lane Group Flow (vph)	0	62	2379	141	0	73	1331	28	0	185	13	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2			3	
Actuated Green, G (s)		96.5	96.5	96.5		97.0	97.0	97.0		20.2	20.2	
Effective Green, g (s)		96.5	96.5	96.5		97.0	97.0	97.0		20.2	20.2	
Actuated g/C Ratio		0.60	0.60	0.60		0.61	0.61	0.61		0.13	0.13	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		245	2134	954		130	2145	959		227	199	
v/s Ratio Prot		0.01	c0.67			0.03	c0.38			c0.10		
v/s Ratio Perm		0.14		0.09		0.31		0.02			0.01	
v/c Ratio		0.25	1.11	0.15		0.56	0.62	0.03		0.81	0.06	
Uniform Delay, d1		26.7	31.8	13.8		36.7	19.9	12.6		68.1	61.6	
Progression Factor		0.32	0.53	0.14		2.36	0.52	1.00		1.00	1.00	
Incremental Delay, d2		0.0	52.4	0.0		3.1	1.3	0.1		19.2	0.1	
Delay (s)		8.6	69.2	2.0		89.6	11.7	12.7		87.3	61.7	
Level of Service		A	E	A		F	B	B		F	E	
Approach Delay (s)			63.1				15.6			78.3		
Approach LOS			E				B			E		
Intersection Summary												
HCM 2000 Control Delay			49.1				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			88.3%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build PM Peak

01/03/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↔	
Traffic Volume (vph)	40	14
Future Volume (vph)	40	14
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.98	
Satd. Flow (prot)	1787	
Flt Permitted	0.98	
Satd. Flow (perm)	1787	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	42	15
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	92	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	11.9	
Effective Green, g (s)	11.9	
Actuated g/C Ratio	0.07	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	132	
v/s Ratio Prot	c0.05	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	72.3	
Progression Factor	1.00	
Incremental Delay, d2	13.9	
Delay (s)	86.2	
Level of Service	F	
Approach Delay (s)	86.2	
Approach LOS	F	
Intersection Summary		

Timings
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2023 Future No-Build PM Peak

01/03/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	68	41	263	33	12	235	301	30	220
Future Volume (vph)	68	41	263	33	12	235	301	30	220
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 63.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2		 Ø4
60.8 s		30.3 s
 Ø5	 Ø6	 Ø8
20.6 s	60.8 s	30.3 s

HCM 2010 Signalized Intersection Summary
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2023 Future No-Build PM Peak
01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	41	263	33	12	19	235	301	59	30	220	25
Future Volume (veh/h)	68	41	263	33	12	19	235	301	59	30	220	25
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	70	42	0	34	12	20	242	310	61	31	227	26
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	65	158	163	50	51	784	1070	211	645	848	97
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.10	0.09	0.71	0.71	0.52	0.52	0.52
Sat Flow, veh/h	971	651	1583	682	498	513	1774	1513	298	1007	1642	188
Grp Volume(v), veh/h	112	0	0	66	0	0	242	0	371	31	0	253
Grp Sat Flow(s),veh/h/ln	1622	0	1583	1693	0	0	1774	0	1810	1007	0	1830
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	3.2	0.0	4.3	0.9	0.0	4.5
Cycle Q Clear(g_c), s	3.7	0.0	0.0	2.0	0.0	0.0	3.2	0.0	4.3	0.9	0.0	4.5
Prop In Lane	0.62		1.00	0.52		0.30	1.00		0.16	1.00		0.10
Lane Grp Cap(c), veh/h	264	0	158	264	0	0	784	0	1281	645	0	945
V/C Ratio(X)	0.43	0.00	0.00	0.25	0.00	0.00	0.31	0.00	0.29	0.05	0.00	0.27
Avail Cap(c_a), veh/h	771	0	686	763	0	0	1079	0	1726	1085	0	1744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	0.0	24.3	0.0	0.0	4.7	0.0	3.1	7.0	0.0	7.8
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.4	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.0	0.0	1.8	0.0	0.0	2.8	0.0	4.0	0.5	0.0	4.3
LnGrp Delay(d),s/veh	25.8	0.0	0.0	24.6	0.0	0.0	4.7	0.0	3.6	7.1	0.0	8.4
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	112				66		613				284	
Approach Delay, s/veh	25.8				24.6		4.0				8.2	
Approach LOS	C				C		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	46.6		11.1		11.0	35.6	11.1					
Change Period (Y+Rc), s	* 5.8		* 5.3		5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55		* 25		15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	6.3		4.0		5.2	6.5	5.7					
Green Ext Time (p_c), s	23.4		0.4		0.3	23.3	0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build PM Peak

01/03/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	32	31	32	518	33	500
Future Volume (vph)	32	31	32	518	33	500
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	25.0	26.0	69.0	69.0	69.0	69.0
Total Split (%)	20.8%	21.7%	57.5%	57.5%	57.5%	57.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
69 s	26 s	25 s
↑ Ø6 (R)		
69 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build PM Peak

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	32	34	40	31	34	32	518	57	33	500	29
Future Volume (vph)	29	32	34	40	31	34	32	518	57	33	500	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1748		1770	1835		1770	1847	
Flt Permitted		0.98			0.98		0.39	1.00		0.36	1.00	
Satd. Flow (perm)		1746			1748		720	1835		665	1847	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	34	36	42	33	36	34	545	60	35	526	31
RTOR Reduction (vph)	0	18	0	0	15	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	83	0	0	96	0	34	603	0	35	556	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Effective Green, g (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Actuated g/C Ratio		0.09			0.10		0.67	0.67		0.67	0.67	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		161			173		483	1230		446	1239	
v/s Ratio Prot		c0.05			c0.05			c0.33			0.30	
v/s Ratio Perm							0.05			0.05		
v/c Ratio		0.51			0.55		0.07	0.49		0.08	0.45	
Uniform Delay, d1		51.9			51.5		6.8	9.7		6.9	9.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8			3.8		0.3	1.4		0.3	1.2	
Delay (s)		54.6			55.3		7.1	11.1		7.2	10.5	
Level of Service		D			E		A	B		A	B	
Approach Delay (s)		54.6			55.3			10.9			10.3	
Approach LOS		D			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.5		
Intersection Capacity Utilization			48.4%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future No-Build PM Peak

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	279	384	558	83	343	222	291	75	410	118
Future Volume (vph)	279	384	558	83	343	222	291	75	410	118
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 151.3

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

HCM 2010 Signalized Intersection Summary

2023 Future No-Build PM Peak

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/03/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	279	384	558	83	343	38	222	291	55	75	410	118
Future Volume (veh/h)	279	384	558	83	343	38	222	291	55	75	410	118
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	294	404	0	87	361	0	234	306	0	79	432	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	589	890	756	449	1470	0	296	535	0	288	460	391
Arrive On Green	0.10	0.48	0.00	0.04	0.42	0.00	0.09	0.29	0.00	0.05	0.25	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	294	404	0	87	361	0	234	306	0	79	432	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	13.4	20.9	0.0	4.0	9.6	0.0	9.6	20.2	0.0	4.8	32.9	0.0
Cycle Q Clear(g_c), s	13.4	20.9	0.0	4.0	9.6	0.0	9.6	20.2	0.0	4.8	32.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	589	890	756	449	1470	0	296	535	0	288	460	391
V/C Ratio(X)	0.50	0.45	0.00	0.19	0.25	0.00	0.79	0.57	0.00	0.27	0.94	0.00
Avail Cap(c_a), veh/h	589	890	756	559	1470	0	715	535	0	391	516	438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	25.2	0.0	23.0	27.5	0.0	64.7	43.9	0.0	38.6	53.4	0.0
Incr Delay (d2), s/veh	0.7	1.7	0.0	0.2	0.4	0.0	4.7	1.5	0.0	0.5	24.1	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	10.8	16.7	0.0	3.6	8.4	0.0	8.4	16.0	0.0	4.3	27.3	0.0
LnGrp Delay(d),s/veh	20.2	26.8	0.0	23.2	27.9	0.0	69.4	45.4	0.0	39.2	77.5	0.0
LnGrp LOS	C	C		C	C		E	D		D	E	
Approach Vol, veh/h	698				448			540			511	
Approach Delay, s/veh	24.1				27.0			55.8			71.5	
Approach LOS	C				C			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	20.3	65.6	17.3	41.3	11.3	74.6	11.5	47.1				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+I1), s	15.4	11.6	11.6	34.9	6.0	22.9	6.8	22.2				
Green Ext Time (p_c), s	0.0	25.2	0.8	0.8	0.1	19.6	0.1	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build PM Peak
01/03/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	60	2168	73	81	1157	14	67	30	28	11
Future Volume (vph)	60	2168	73	81	1157	14	67	30	28	11
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	110.0	110.0	15.0	110.0	110.0	15.0	35.0	20.0	20.0
Total Split (%)	9.4%	68.8%	68.8%	9.4%	68.8%	68.8%	9.4%	21.9%	12.5%	12.5%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	110 s	15 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	110 s	35 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build PM Peak
01/03/2019

																																					
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																									
Lane Configurations																																					
Traffic Volume (veh/h)	60	2168	73	81	1157	14	67	30	157	28	11	20																									
Future Volume (veh/h)	60	2168	73	81	1157	14	67	30	157	28	11	20																									
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	1900	1863	1863	1900																									
Adj Flow Rate, veh/h	72	2612	0	98	1394	17	81	36	189	34	13	24																									
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0																									
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83																									
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2																									
Cap, veh/h	345	3435	1070	137	3436	1070	209	44	232	87	45	83																									
Arrive On Green	0.02	0.68	0.00	0.06	1.00	1.00	0.05	0.17	0.17	0.08	0.08	0.08																									
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	260	1363	1151	587	1084																									
Grp Volume(v), veh/h	72	2612	0	98	1394	17	81	0	225	34	0	37																									
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1622	1151	0	1671																									
Q Serve(g_s), s	2.0	54.8	0.0	2.8	0.0	0.0	6.6	0.0	21.4	4.7	0.0	3.3																									
Cycle Q Clear(g_c), s	2.0	54.8	0.0	2.8	0.0	0.0	6.6	0.0	21.4	11.1	0.0	3.3																									
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.84	1.00		0.65																									
Lane Grp Cap(c), veh/h	345	3435	1070	137	3436	1070	209	0	276	87	0	127																									
V/C Ratio(X)	0.21	0.76	0.00	0.71	0.41	0.02	0.39	0.00	0.82	0.39	0.00	0.29																									
Avail Cap(c_a), veh/h	390	3435	1070	183	3436	1070	209	0	276	87	0	127																									
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	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00																									
Uniform Delay (d), s/veh	7.5	17.3	0.0	31.9	0.0	0.0	62.3	0.0	64.0	76.6	0.0	69.8																									
Incr Delay (d2), s/veh	0.1	1.6	0.0	4.0	0.3	0.0	0.4	0.0	16.6	2.1	0.0	0.9																									
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																									
%ile BackOfQ(95%),veh/ln	1.8	34.3	0.0	5.4	0.2	0.0	5.8	0.0	16.3	2.8	0.0	2.9																									
LnGrp Delay(d),s/veh	7.6	19.0	0.0	35.9	0.3	0.0	62.7	0.0	80.6	78.7	0.0	70.7																									
LnGrp LOS	A	B		D	A	A	E		F	E		E																									
Approach Vol, veh/h	2684			1509			306			71																											
Approach Delay, s/veh	18.6			2.6			75.9			74.5																											
Approach LOS	B			A			E			E																											
Timer	1	2	3	4	5	6	7	8																													
Assigned Phs	1	2	3	4	5	6	8																														
Phs Duration (G+Y+Rc), s	10.9	114.1	15.0	20.0	10.9	114.1	35.0																														
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8																														
Max Green Setting (Gmax), s	8.0	104.0	8.0	12.2	8.9	104.0	27.2																														
Max Q Clear Time (g_c+I1), s	4.0	2.0	8.6	13.1	4.8	56.8	23.4																														
Green Ext Time (p_c), s	0.0	101.4	0.0	0.0	0.0	47.0	0.3																														
Intersection Summary																																					
HCM 2010 Ctrl Delay	18.1																																				
HCM 2010 LOS	B																																				
Notes																																					
User approved pedestrian interval to be less than phase max green.																																					

Timings
11: Sugarloaf Pkwy & Peachtree Industrial Blvd

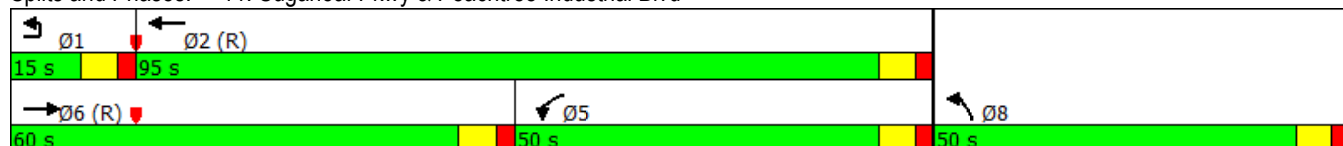
2023 Future No-Build PM Peak
01/03/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑	
Traffic Volume (vph)	1571	948	899	635	700	1266	
Future Volume (vph)	1571	948	899	635	700	1266	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	60.0		50.0	95.0	50.0		15.0
Total Split (%)	37.5%		31.3%	59.4%	31.3%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		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: 150
Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future No-Build PM Peak

01/03/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	1571	948	899	635	700	1266
Future Volume (vph)	0	1571	948	899	635	700	1266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1636	988	936	661	729	1319
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1636	988	936	661	729	1319
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		53.3	160.0	43.3	103.3	43.1	160.0
Effective Green, g (s)		53.3	160.0	43.3	103.3	43.1	160.0
Actuated g/C Ratio		0.33	1.00	0.27	0.65	0.27	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1693	1583	929	3283	924	1583
v/s Ratio Prot		c0.32		c0.27	0.13	0.21	
v/s Ratio Perm			0.62				c0.83
v/c Ratio		0.97	0.62	1.01	0.20	0.79	0.83
Uniform Delay, d1		52.5	0.0	58.4	11.5	54.2	0.0
Progression Factor		1.17	1.00	1.00	1.00	0.74	1.00
Incremental Delay, d2		11.4	1.2	31.4	0.1	0.7	0.5
Delay (s)		72.7	1.2	89.7	11.7	40.8	0.5
Level of Service		E	A	F	B	D	A
Approach Delay (s)		45.8			57.4	14.8	
Approach LOS		D			E	B	
Intersection Summary							
HCM 2000 Control Delay			38.7		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.98				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			92.9%		ICU Level of Service		F
Analysis Period (min)			15				

c Critical Lane Group

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build PM Peak

01/07/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Future Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases	4		4	8		8	6		6	2	2	
Detector Phase	3	4	4	7	8	8	1	6	6	5	5	2
Switch Phase	8			4								
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0	20.0
Minimum Split (s)	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0	42.7
Total Split (s)	25.0	50.0	50.0	15.0	40.0	40.0	20.0	76.0	76.0	19.0	19.0	75.0
Total Split (%)	15.6%	31.3%	31.3%	9.4%	25.0%	25.0%	12.5%	47.5%	47.5%	11.9%	11.9%	46.9%
Yellow Time (s)	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6	4.7
All-Red Time (s)	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 70 (44%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	75 s	15 s	50 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
19 s	76 s	25 s	40 s



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	161
Future Volume (vph)	161
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Detector Phase	2
Switch Phase	
Minimum Initial (s)	20.0
Minimum Split (s)	42.7
Total Split (s)	75.0
Total Split (%)	46.9%
Yellow Time (s)	4.7
All-Red Time (s)	1.9
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.6
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	C-Min
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build PM Peak

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Future Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583		1770	3539
Flt Permitted	0.32	1.00	1.00	0.12	1.00	1.00	0.06	1.00	1.00		0.05	1.00
Satd. Flow (perm)	603	1863	1583	224	1863	1583	107	3539	1583		98	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	502	34	84	233	206	59	1671	97	2	188	1666
RTOR Reduction (vph)	0	0	25	0	0	130	0	0	55	0	0	0
Lane Group Flow (vph)	318	502	9	84	233	76	59	1671	42	0	190	1666
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases	4		4	8		8	6		6	2	2	
Actuated Green, G (s)	58.2	43.2	43.2	41.3	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Effective Green, g (s)	58.2	43.2	43.2	41.3	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Actuated g/C Ratio	0.36	0.27	0.27	0.26	0.21	0.21	0.47	0.43	0.43		0.55	0.47
Clearance Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Vehicle Extension (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0	6.0
Lane Grp Cap (vph)	351	503	427	136	386	328	113	1535	686		183	1674
v/s Ratio Prot	c0.10	c0.27		0.03	0.13		0.02	c0.47			c0.08	c0.47
v/s Ratio Perm	0.23		0.01	0.13		0.05	0.22		0.03		0.49	
v/c Ratio	0.91	1.00	0.02	0.62	0.60	0.23	0.52	1.09	0.06		1.04	1.00
Uniform Delay, d1	44.4	58.4	42.9	48.9	57.4	52.8	36.9	45.3	26.4		53.4	42.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.73	0.49
Incremental Delay, d2	25.3	39.5	0.1	5.8	4.7	1.0	2.0	51.1	0.2		62.4	16.1
Delay (s)	69.7	97.9	42.9	54.6	62.1	53.8	38.9	96.4	26.5		154.7	36.8
Level of Service	E	F	D	D	E	D	D	F	C		F	D
Approach Delay (s)		85.2			57.7			90.8				44.8
Approach LOS		F			E			F				D
Intersection Summary												
HCM 2000 Control Delay			68.8		HCM 2000 Level of Service				E			
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			160.0		Sum of lost time (s)				26.9			
Intersection Capacity Utilization			110.4%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	161
Future Volume (vph)	161
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.6
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	168
RTOR Reduction (vph)	87
Lane Group Flow (vph)	81
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	75.7
Effective Green, g (s)	75.7
Actuated g/C Ratio	0.47
Clearance Time (s)	6.6
Vehicle Extension (s)	6.0
Lane Grp Cap (vph)	748
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.11
Uniform Delay, d1	23.4
Progression Factor	0.01
Incremental Delay, d2	0.2
Delay (s)	0.4
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Future “No-Build” Improved Intersection Analysis

Timings

2023 Future No-Build AM Peak - Improved

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	327	1411	554	91	1237	89	405	1202	65	402	1704
Future Volume (vph)	327	1411	554	91	1237	89	405	1202	65	402	1704
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		1	6		5	2
Permitted Phases			4			8			6		
Detector Phase	7	4	4	3	8	8	1	6	6	5	2
Switch Phase	4			8							
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	20.0	4.0	20.0
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	38.9	15.0	38.4
Total Split (s)	25.0	65.0	65.0	15.0	55.0	55.0	28.0	50.0	50.0	30.0	52.0
Total Split (%)	15.6%	40.6%	40.6%	9.4%	34.4%	34.4%	17.5%	31.3%	31.3%	18.8%	32.5%
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	5.4	4.3	5.4
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.9	6.8	6.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160

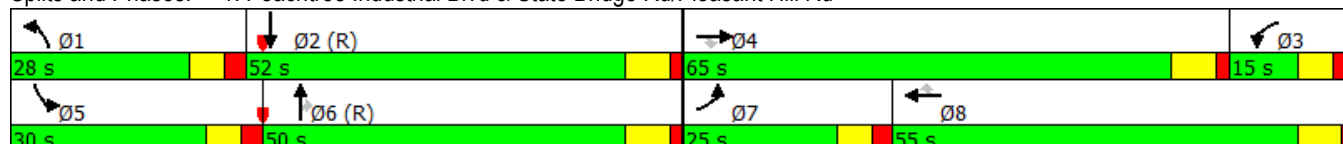
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



																												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																
Lane Configurations																												
Traffic Volume (veh/h)	327	1411	554	91	1237	89	405	1202	65	402	1704	556																
Future Volume (veh/h)	327	1411	554	91	1237	89	405	1202	65	402	1704	556																
Number	7	4	14	3	8	18	1	6	16	5	2	12																
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00																
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900																
Adj Flow Rate, veh/h	330	1425	0	92	1249	90	409	1214	0	406	1721	0																
Adj No. of Lanes	2	3	1	2	3	1	3	3	1	3	3	0																
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99																
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2																
Cap, veh/h	375	1850	524	217	1471	458	501	1878	532	495	1734	0																
Arrive On Green	0.11	0.33	0.00	0.06	0.29	0.29	0.09	0.34	0.00	0.10	0.34	0.00																
Sat Flow, veh/h	3548	5588	1583	3442	5085	1583	5322	5588	1583	5003	5253	0																
Grp Volume(v), veh/h	330	1425	0	92	1249	90	409	1214	0	406	1721	0																
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1695	1583	1774	1863	1583	1668	1695	0																
Q Serve(g_s), s	14.7	36.6	0.0	4.1	37.0	6.9	12.1	29.5	0.0	12.7	53.9	0.0																
Cycle Q Clear(g_c), s	14.7	36.6	0.0	4.1	37.0	6.9	12.1	29.5	0.0	12.7	53.9	0.0																
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00																
Lane Grp Cap(c), veh/h	375	1850	524	217	1471	458	501	1878	532	495	1734	0																
V/C Ratio(X)	0.88	0.77	0.00	0.42	0.85	0.20	0.82	0.65	0.00	0.82	0.99	0.00																
Avail Cap(c_a), veh/h	406	2033	576	217	1532	477	705	1878	532	725	1734	0																
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00																
Uniform Delay (d), s/veh	70.6	48.0	0.0	72.2	53.6	42.9	71.1	45.0	0.0	70.7	52.5	0.0																
Incr Delay (d2), s/veh	18.6	2.8	0.0	1.3	5.8	0.8	5.1	1.7	0.0	4.8	19.9	0.0																
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																
%ile BackOfQ(95%),veh/ln	12.9	26.6	0.0	3.6	25.1	5.6	10.2	21.9	0.0	10.1	37.1	0.0																
LnGrp Delay(d),s/veh	89.2	50.8	0.0	73.5	59.4	43.6	76.2	46.8	0.0	75.5	72.4	0.0																
LnGrp LOS	F	D		E	E	D	E	D		E	E																	
Approach Vol, veh/h	1755				1431				1623																			
Approach Delay, s/veh	58.0				59.3				54.2																			
Approach LOS	E				E				D																			
Timer	1	2	3	4	5	6	7	8																				
Assigned Phs	1	2	3	4	5	6	7	8																				
Phs Duration (G+Y+Rc), s	21.9	61.5	16.9	59.8	22.6	60.7	23.6	53.1																				
Change Period (Y+Rc), s	6.8	6.9	6.8	* 6.8	6.8	6.9	6.7	6.8																				
Max Green Setting (Gmax), s	21.2	45.1	8.3	* 58	23.2	43.1	18.3	48.2																				
Max Q Clear Time (g_c+I1), s	14.1	55.9	6.1	38.6	14.7	31.5	16.7	39.0																				
Green Ext Time (p_c), s	1.0	0.0	1.9	14.3	1.1	11.6	0.2	7.2																				
Intersection Summary																												
HCM 2010 Ctrl Delay	62.0																											
HCM 2010 LOS	E																											
Notes																												
User approved volume balancing among the lanes for turning movement.																												

Timings

2023 Future No-Build AM Peak - Improved

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	 	 			 		 	 	 	 	
Traffic Volume (vph)	467	806	396	65	1689	488	318	371	237	365	726
Future Volume (vph)	467	806	396	65	1689	488	318	371	237	365	726
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	25.0	40.0	25.0	40.0	
Total Split (%)	9.4%	50.0%	50.0%	9.4%	50.0%	50.0%	15.6%	25.0%	15.6%	25.0%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 95 (59%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

 Ø2 (R) 	 Ø1	 Ø3	 Ø4
80 s	15 s	25 s	40 s
 Ø5 	 Ø6 (R)	 Ø7	 Ø8
15 s	80 s	25 s	40 s

																												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																
Lane Configurations																												
Traffic Volume (veh/h)	467	806	396	65	1689	488	318	371	13	237	365	726																
Future Volume (veh/h)	467	806	396	65	1689	488	318	371	13	237	365	726																
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	1900	1863	1863	1863																
Adj Flow Rate, veh/h	477	822	0	66	1723	0	324	379	0	242	372	0																
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1																
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98																
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2																
Cap, veh/h	499	1970	881	83	1635	731	365	533	0	290	452	202																
Arrive On Green	0.15	0.56	0.00	0.05	0.46	0.00	0.11	0.15	0.00	0.08	0.13	0.00																
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583																
Grp Volume(v), veh/h	477	822	0	66	1723	0	324	379	0	242	372	0																
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583																
Q Serve(g_s), s	22.0	21.5	0.0	5.9	73.9	0.0	14.9	16.3	0.0	11.1	16.4	0.0																
Cycle Q Clear(g_c), s	22.0	21.5	0.0	5.9	73.9	0.0	14.9	16.3	0.0	11.1	16.4	0.0																
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00																
Lane Grp Cap(c), veh/h	499	1970	881	83	1635	731	365	533	0	290	452	202																
V/C Ratio(X)	0.96	0.42	0.00	0.80	1.05	0.00	0.89	0.71	0.00	0.83	0.82	0.00																
Avail Cap(c_a), veh/h	499	1970	881	92	1635	731	389	743	0	394	743	332																
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00																
Uniform Delay (d), s/veh	67.9	20.5	0.0	75.5	43.0	0.0	70.6	64.6	0.0	72.2	68.0	0.0																
Incr Delay (d2), s/veh	29.2	0.7	0.0	30.5	38.0	0.0	19.4	0.8	0.0	10.8	3.9	0.0																
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																
%ile BackOfQ(95%),veh/ln	18.3	16.0	0.0	6.5	80.5	0.0	12.7	12.7	0.0	9.6	13.0	0.0																
LnGrp Delay(d),s/veh	97.1	21.1	0.0	106.0	81.1	0.0	90.0	65.4	0.0	83.0	71.9	0.0																
LnGrp LOS	F	C		F	F		F	E		F	E																	
Approach Vol, veh/h	1299				1789				703																			
Approach Delay, s/veh	49.0				82.0				76.8																			
Approach LOS	D				F				E																			
Timer	1	2	3	4	5	6	7	8																				
Assigned Phs	1	2	3	4	5	6	7	8																				
Phs Duration (G+Y+Rc), s	29.3	80.0	23.9	26.8	14.2	95.1	20.2	30.5																				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	6.4																				
Max Green Setting (Gmax), s	* 8.9	* 74	18.1	33.6	* 8.3	* 74	* 18	33.6																				
Max Q Clear Time (g_c+l1), s	24.0	75.9	16.9	18.4	7.9	23.5	13.1	18.3																				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.0	0.0	34.6	0.4	2.0																				
Intersection Summary																												
HCM 2010 Ctrl Delay	70.6																											
HCM 2010 LOS	E																											
Notes																												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.																												

Timings

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future No-Build AM Peak - Improved

01/07/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	97	40	123	376	445	98		
Future Volume (vph)	97	40	123	376	445	98		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	21.0	29.5	75.5	75.5	75.5	75.5	23.5	15.0
Total Split (%)	17.5%	24.6%	62.9%	62.9%	62.9%	62.9%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 43

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
75.5 s	21 s	23.5 s
 Ø6	 Ø7	 Ø8
75.5 s	15 s	29.5 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	0	40	0	0	0	123	376	0	0	445	98
Future Volume (veh/h)	97	0	40	0	0	0	123	376	0	0	445	98
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	107	0	44	0	0	0	135	413	0	0	489	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	155	132	138	3	0	684	1325	1127	134	1325	1127
Arrive On Green	0.08	0.00	0.08	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.71	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	904	1863	1583	969	1863	1583
Grp Volume(v), veh/h	107	0	44	0	0	0	135	413	0	0	489	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	904	1863	1583	969	1863	1583
Q Serve(g_s), s	3.2	0.0	1.4	0.0	0.0	0.0	3.7	4.4	0.0	0.0	5.5	0.0
Cycle Q Clear(g_c), s	3.2	0.0	1.4	0.0	0.0	0.0	9.2	4.4	0.0	0.0	5.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	155	132	138	3	0	684	1325	1127	134	1325	1127
V/C Ratio(X)	0.39	0.00	0.33	0.00	0.00	0.00	0.20	0.31	0.00	0.00	0.37	0.00
Avail Cap(c_a), veh/h	647	834	709	449	625	0	1221	2431	2067	710	2431	2067
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	0.0	23.2	0.0	0.0	0.0	4.8	2.9	0.0	0.0	3.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.5	0.0	0.0	0.0	0.1	0.1	0.0	0.0	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	2.9	0.0	1.2	0.0	0.0	0.0	1.7	4.0	0.0	0.0	5.0	0.0
LnGrp Delay(d),s/veh	25.0	0.0	24.6	0.0	0.0	0.0	5.0	3.0	0.0	0.0	3.2	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	151		0		548		489					
Approach Delay, s/veh	24.9		0.0		3.5		3.2					
Approach LOS	C				A		A					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	43.7		9.8	0.2	43.7		0.0	10.0				
Change Period (Y+Rc), s	5.5		5.5	5.5	5.5		5.5	5.5				
Max Green Setting (Gmax), s	70.0		15.5	18.0	70.0		9.5	24.0				
Max Q Clear Time (g_c+l1), s	11.2		5.2	0.0	7.5		0.0	3.4				
Green Ext Time (p_c), s	27.0		0.2	0.0	27.7		0.0	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			6.1									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰		↰↰			↰↰	
Traffic Vol, veh/h	28	958	94	22	2247	19	68	0	17	9	0	9
Future Vol, veh/h	28	958	94	22	2247	19	68	0	17	9	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	998	98	23	2341	20	71	0	18	9	0	9

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	2361	0	0	998	0	0	2273	3463	499	2944	3443	1171
Stage 1	-	-	-	-	-	-	1056	1056	-	2387	2387	-
Stage 2	-	-	-	-	-	-	1217	2407	-	557	1056	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	204	-	-	689	-	-	~ 22	7	517	~ 7	7	186
Stage 1	-	-	-	-	-	-	241	300	-	35	65	-
Stage 2	-	-	-	-	-	-	192	64	-	482	300	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	204	-	-	689	-	-	~ 18	6	517	~ 6	6	186
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	31	-	28	57	-
Stage 1	-	-	-	-	-	-	207	257	-	30	63	-
Stage 2	-	-	-	-	-	-	176	62	-	399	257	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	67.9	118.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	139	204	-	-	689	-	-	49
HCM Lane V/C Ratio	0.637	0.143	-	-	0.033	-	-	0.383
HCM Control Delay (s)	67.9	25.6	-	-	10.4	-	-	118.3
HCM Lane LOS	F	D	-	-	B	-	-	F
HCM 95th %tile Q(veh)	3.4	0.5	-	-	0.1	-	-	1.4

Notes

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

Intersection

Int Delay, s/veh 1

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱	↕	↱	↱	↕	↱		↕			↕	
Traffic Vol, veh/h	15	21	956	3	7	2270	14	1	0	0	1	0	1
Future Vol, veh/h	15	21	956	3	7	2270	14	1	0	0	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	22	986	3	7	2340	14	1	0	0	1	0	1

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	2340	2354	0	0	986	0	0	2244	3428	493	2921	3414	1170
Stage 1	-	-	-	-	-	-	-	1060	1060	-	2354	2354	-
Stage 2	-	-	-	-	-	-	-	1184	2368	-	567	1060	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	44	205	-	-	696	-	-	23	7	522	7	7	186
Stage 1	-	-	-	-	-	-	-	239	299	-	36	68	-
Stage 2	-	-	-	-	-	-	-	201	67	-	476	299	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	81	81	-	-	696	-	-	15	4	522	4	4	186
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	95	27	-	19	57	-
Stage 1	-	-	-	-	-	-	-	130	163	-	20	67	-
Stage 2	-	-	-	-	-	-	-	198	66	-	259	163	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0	43.3	117.6
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	95	81	-	-	696	-	-	34
HCM Lane V/C Ratio	0.011	0.458	-	-	0.01	-	-	0.061
HCM Control Delay (s)	43.3	82.2	-	-	10.2	-	-	117.6
HCM Lane LOS	E	F	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0	1.9	-	-	0	-	-	0.2

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build AM Peak - Improved

01/07/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	7	20	952	92	7	156	1803	34	21	52	49
Future Volume (vph)	7	20	952	92	7	156	1803	34	21	52	49
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 10 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

 Ø2 (R)	 Ø1	 Ø4	 Ø3
95 s	15 s	20 s	30 s
 Ø5	 Ø6 (R)		
20 s	90 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build AM Peak - Improved

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	7	20	952	92	7	156	1803	34	100	21	52	34
Future Volume (vph)	7	20	952	92	7	156	1803	34	100	21	52	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1789	1583	
Flt Permitted		0.05	1.00	1.00		0.18	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		85	3539	1583		327	3539	1583		1789	1583	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	8	22	1070	103	8	175	2026	38	112	24	58	38
RTOR Reduction (vph)	0	0	0	42	0	0	0	14	0	0	52	0
Lane Group Flow (vph)	0	30	1070	61	0	183	2026	24	0	136	6	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2			3	
Actuated Green, G (s)		94.5	94.5	94.5		99.8	99.8	99.8		17.1	17.1	
Effective Green, g (s)		94.5	94.5	94.5		99.8	99.8	99.8		17.1	17.1	
Actuated g/C Ratio		0.59	0.59	0.59		0.62	0.62	0.62		0.11	0.11	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		118	2090	934		306	2207	987		191	169	
v/s Ratio Prot		0.01	c0.30			0.04	c0.57			c0.08		
v/s Ratio Perm		0.14		0.04		0.33		0.01			0.00	
v/c Ratio		0.25	0.51	0.07		0.60	0.92	0.02		0.71	0.04	
Uniform Delay, d1		58.5	19.2	13.9		17.2	26.5	11.5		69.1	64.1	
Progression Factor		1.24	1.42	3.47		1.16	0.78	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.8	0.1		1.7	6.2	0.0		11.1	0.1	
Delay (s)		72.7	28.2	48.5		21.7	26.8	11.5		80.1	64.1	
Level of Service		E	C	D		C	C	B		F	E	
Approach Delay (s)			31.1				26.1			75.4		
Approach LOS			C				C			E		
Intersection Summary												
HCM 2000 Control Delay			32.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			80.8%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	49	31
Future Volume (vph)	49	31
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1768	
Flt Permitted	0.99	
Satd. Flow (perm)	1768	
Peak-hour factor, PHF	0.89	0.89
Adj. Flow (vph)	55	35
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	120	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.08	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	145	
v/s Ratio Prot	c0.07	
v/s Ratio Perm		
v/c Ratio	0.83	
Uniform Delay, d1	72.3	
Progression Factor	1.00	
Incremental Delay, d2	29.7	
Delay (s)	102.0	
Level of Service	F	
Approach Delay (s)	102.0	
Approach LOS	F	
Intersection Summary		

Timings

2023 Future No-Build AM Peak - Improved

7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

01/07/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	79	29	220	66	62	205	208	7	283
Future Volume (vph)	79	29	220	66	62	205	208	7	283
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 94.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	29	220	66	62	9	205	208	20	7	283	76
Future Volume (veh/h)	79	29	220	66	62	9	205	208	20	7	283	76
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	81	30	0	67	63	9	209	212	20	7	289	78
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	60	185	175	102	13	668	1166	110	713	731	197
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.12	0.08	0.70	0.70	0.52	0.52	0.52
Sat Flow, veh/h	1128	511	1583	720	871	110	1774	1677	158	1144	1414	382
Grp Volume(v), veh/h	111	0	0	139	0	0	209	0	232	7	0	367
Grp Sat Flow(s),veh/h/ln	1639	0	1583	1702	0	0	1774	0	1835	1144	0	1795
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	2.9	0.0	2.6	0.2	0.0	7.3
Cycle Q Clear(g_c), s	3.5	0.0	0.0	4.4	0.0	0.0	2.9	0.0	2.6	0.2	0.0	7.3
Prop In Lane	0.73		1.00	0.48		0.06	1.00		0.09	1.00		0.21
Lane Grp Cap(c), veh/h	297	0	185	289	0	0	668	0	1276	713	0	928
V/C Ratio(X)	0.37	0.00	0.00	0.48	0.00	0.00	0.31	0.00	0.18	0.01	0.00	0.40
Avail Cap(c_a), veh/h	735	0	669	770	0	0	968	0	1705	1184	0	1668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	25.0	0.0	0.0	5.4	0.0	3.1	7.0	0.0	8.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.2	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	0.0	0.0	4.0	0.0	0.0	2.5	0.0	2.5	0.1	0.0	6.9
LnGrp Delay(d),s/veh	25.2	0.0	0.0	25.9	0.0	0.0	5.5	0.0	3.4	7.0	0.0	9.7
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	111			139			441			374		
Approach Delay, s/veh	25.2			25.9			4.4			9.6		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4	5	6	8					
Phs Duration (G+Y+Rc), s	47.0			12.2	10.6	36.4	12.2					
Change Period (Y+Rc), s	* 5.8			* 5.3	5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55			* 25	15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	4.6			6.4	4.9	9.3	5.5					
Green Ext Time (p_c), s	22.3			0.6	0.3	21.2	0.6					
Intersection Summary												
HCM 2010 Ctrl Delay				11.2								
HCM 2010 LOS	B											
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build AM Peak - Improved

01/07/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	15	29	30	401	21	569
Future Volume (vph)	15	29	30	401	21	569
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	24.0	24.2	71.8	71.8	71.8	71.8
Total Split (%)	20.0%	20.2%	59.8%	59.8%	59.8%	59.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
71.8 s	24.2 s	24 s
↑ Ø6 (R)		
71.8 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build AM Peak - Improved

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	15	28	35	29	26	30	401	22	21	569	28
Future Volume (vph)	26	15	28	35	29	26	30	401	22	21	569	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1728			1755		1770	1848		1770	1850	
Flt Permitted		0.98			0.98		0.33	1.00		0.44	1.00	
Satd. Flow (perm)		1728			1755		608	1848		826	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	30	17	32	40	33	30	34	456	25	24	647	32
RTOR Reduction (vph)	0	22	0	0	14	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	57	0	0	89	0	34	480	0	24	678	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Effective Green, g (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Actuated g/C Ratio		0.07			0.10		0.70	0.70		0.70	0.70	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		119			168		424	1288		576	1290	
v/s Ratio Prot		c0.03			c0.05			0.26			c0.37	
v/s Ratio Perm							0.06			0.03		
v/c Ratio		0.48			0.53		0.08	0.37		0.04	0.53	
Uniform Delay, d1		53.8			51.7		5.8	7.4		5.7	8.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			3.2		0.4	0.8		0.1	1.5	
Delay (s)		56.7			54.9		6.2	8.2		5.8	10.2	
Level of Service		E			D		A	A		A	B	
Approach Delay (s)		56.7			54.9			8.1			10.1	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			15.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.5		
Intersection Capacity Utilization			47.5%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future No-Build AM Peak - Improved

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	86	311	231	47	789	517	340	38	243	367
Future Volume (vph)	86	311	231	47	789	517	340	38	243	367
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 146

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	311	231	47	789	42	517	340	51	38	243	367
Future Volume (veh/h)	86	311	231	47	789	42	517	340	51	38	243	367
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	91	331	0	50	839	0	550	362	0	40	259	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	879	747	474	1614	0	626	583	0	251	294	250
Arrive On Green	0.04	0.47	0.00	0.03	0.46	0.00	0.18	0.31	0.00	0.03	0.16	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	91	331	0	50	839	0	550	362	0	40	259	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	3.6	15.0	0.0	2.0	22.2	0.0	20.5	21.8	0.0	2.5	17.9	0.0
Cycle Q Clear(g_c), s	3.6	15.0	0.0	2.0	22.2	0.0	20.5	21.8	0.0	2.5	17.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	879	747	474	1614	0	626	583	0	251	294	250
V/C Ratio(X)	0.29	0.38	0.00	0.11	0.52	0.00	0.88	0.62	0.00	0.16	0.88	0.00
Avail Cap(c_a), veh/h	444	879	747	631	1614	0	785	583	0	407	566	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.7	22.3	0.0	18.8	25.5	0.0	52.4	38.5	0.0	44.8	54.2	0.0
Incr Delay (d2), s/veh	0.5	1.2	0.0	0.1	1.2	0.0	9.4	2.0	0.0	0.3	8.5	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	3.2	12.7	0.0	1.7	16.6	0.0	15.8	17.0	0.0	2.2	15.1	0.0
LnGrp Delay(d),s/veh	20.2	23.5	0.0	18.9	26.7	0.0	61.8	40.5	0.0	45.1	62.8	0.0
LnGrp LOS	C	C		B	C		E	D		D	E	
Approach Vol, veh/h	422				889		912				299	
Approach Delay, s/veh	22.8				26.3		53.4				60.4	
Approach LOS	C				C		D				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	65.6	28.8	26.3	8.7	67.7	8.4	46.8				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+I1), s	5.6	24.2	22.5	19.9	4.0	17.0	4.5	23.8				
Green Ext Time (p_c), s	0.1	29.3	1.5	0.8	0.1	30.8	0.0	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			39.5									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build AM Peak - Improved
01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	15	1000	20	219	2044	17	44	9	43	23
Future Volume (vph)	15	1000	20	219	2044	17	44	9	43	23
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	95.0	95.0	25.0	105.0	105.0	15.0	40.0	25.0	25.0
Total Split (%)	9.4%	59.4%	59.4%	15.6%	65.6%	65.6%	9.4%	25.0%	15.6%	15.6%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 105 (66%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	105 s	15 s	25 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	95 s	40 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build AM Peak - Improved
01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1000	20	219	2044	17	44	9	45	43	23	60
Future Volume (veh/h)	15	1000	20	219	2044	17	44	9	45	43	23	60
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	1099	0	241	2246	19	48	10	49	47	25	66
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	3441	1071	441	3622	1128	122	40	196	137	31	82
Arrive On Green	0.01	0.68	0.00	0.04	0.48	0.48	0.03	0.15	0.15	0.07	0.07	0.07
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	275	1349	1338	454	1198
Grp Volume(v), veh/h	16	1099	0	241	2246	19	48	0	59	47	0	91
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1625	1338	0	1651
Q Serve(g_s), s	0.5	14.3	0.0	6.3	52.5	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Cycle Q Clear(g_c), s	0.5	14.3	0.0	6.3	52.5	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.73
Lane Grp Cap(c), veh/h	131	3441	1071	441	3622	1128	122	0	236	137	0	113
V/C Ratio(X)	0.12	0.32	0.00	0.55	0.62	0.02	0.39	0.00	0.25	0.34	0.00	0.80
Avail Cap(c_a), veh/h	197	3441	1071	555	3622	1128	152	0	327	189	0	178
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	0.69	0.69	0.69	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	10.7	0.0	7.9	25.8	12.3	64.9	0.0	60.7	71.9	0.0	73.5
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.3	0.6	0.0	0.8	0.0	0.4	1.1	0.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	10.9	0.0	5.5	31.6	0.8	3.5	0.0	4.2	3.7	0.0	7.7
LnGrp Delay(d),s/veh	15.5	10.9	0.0	8.1	26.3	12.3	65.7	0.0	61.1	73.0	0.0	84.0
LnGrp LOS	B	B		A	C	B	E		E	E		F
Approach Vol, veh/h	1115				2506				107		138	
Approach Delay, s/veh	11.0				24.5				63.2		80.3	
Approach LOS	B				C				E		F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	9.0	120.0	12.2	18.8	14.7	114.3	31.0					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	99.0	8.0	17.2	18.9	89.0	32.2					
Max Q Clear Time (g_c+I1), s	2.5	54.5	5.9	10.7	8.3	16.3	7.2					
Green Ext Time (p_c), s	0.0	44.4	0.0	0.3	0.3	72.5	0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	23.6											
HCM 2010 LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings
11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future No-Build AM Peak - Improved

01/07/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↘	↑↑↑	↘↘	↑	
Traffic Volume (vph)	452	690	1351	1269	945	635	
Future Volume (vph)	452	690	1351	1269	945	635	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	50.0		60.0	95.0	50.0		15.0
Total Split (%)	31.3%		37.5%	59.4%	31.3%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		None

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 35 (22%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future No-Build AM Peak - Improved

01/07/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	452	690	1351	1269	945	635
Future Volume (vph)	0	452	690	1351	1269	945	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	461	704	1379	1295	964	648
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	461	704	1379	1295	964	648
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		30.6	160.0	66.0	103.3	43.1	160.0
Effective Green, g (s)		30.6	160.0	66.0	103.3	43.1	160.0
Actuated g/C Ratio		0.19	1.00	0.41	0.65	0.27	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		972	1583	1416	3283	924	1583
v/s Ratio Prot		0.09		c0.40	0.25	c0.28	
v/s Ratio Perm			c0.44				0.41
v/c Ratio		0.47	0.44	0.97	0.39	1.04	0.41
Uniform Delay, d1		57.5	0.0	46.2	13.5	58.5	0.0
Progression Factor		0.89	1.00	1.00	1.00	0.61	1.00
Incremental Delay, d2		1.6	0.9	17.9	0.4	30.6	0.3
Delay (s)		52.7	0.9	64.0	13.8	66.4	0.3
Level of Service		D	A	E	B	E	A
Approach Delay (s)		21.4			39.7	39.8	
Approach LOS		C			D	D	
Intersection Summary							
HCM 2000 Control Delay			35.8		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.90				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			99.1%		ICU Level of Service		F
Analysis Period (min)			15				

c Critical Lane Group

Timings

2023 Future No-Build AM Peak - Improved

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

01/07/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	146	226	41	73	443	163	52	1291	96	1	142	1562
Future Volume (vph)	146	226	41	73	443	163	52	1291	96	1	142	1562
Turn Type	Prot	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases			8	8		8	6		6	2	2	
Detector Phase	3	4	8	7	8	8	1	6	6	5	5	2
Switch Phase	8			4								
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0	20.0
Minimum Split (s)	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0	42.7
Total Split (s)	17.0	53.0	53.0	17.0	53.0	53.0	15.0	75.0	75.0	15.0	15.0	75.0
Total Split (%)	10.6%	33.1%	33.1%	10.6%	33.1%	33.1%	9.4%	46.9%	46.9%	9.4%	9.4%	46.9%
Yellow Time (s)	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6	4.7
All-Red Time (s)	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	Max	Max	None	Max	Max	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 74 (46%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)	Ø7	Ø8		
15 s	75 s		17 s	53 s		15 s	75 s	17 s	53 s		

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	397
Future Volume (vph)	397
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Detector Phase	2
Switch Phase	
Minimum Initial (s)	20.0
Minimum Split (s)	42.7
Total Split (s)	75.0
Total Split (%)	46.9%
Yellow Time (s)	4.7
All-Red Time (s)	1.9
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.6
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	C-Min
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build AM Peak - Improved

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	146	226	41	73	443	163	52	1291	96	1	142
Future Volume (vph)	1	146	226	41	73	443	163	52	1291	96	1	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lane Util. Factor		0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	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
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (prot)		3433	1863	1583	1770	1863	1583	1770	3539	1583		1770
Flt Permitted		0.95	1.00	1.00	0.48	1.00	1.00	0.06	1.00	1.00		0.06
Satd. Flow (perm)		3433	1863	1583	887	1863	1583	109	3539	1583		105
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	152	235	43	76	461	170	54	1345	100	1	148
RTOR Reduction (vph)	0	0	0	31	0	0	83	0	0	57	0	0
Lane Group Flow (vph)	0	153	235	12	76	461	87	54	1345	43	0	149
Turn Type	Prot	Prot	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	7	7	4		3	8		1	6		5	5
Permitted Phases				8	8		8	6		6	2	2
Actuated Green, G (s)		10.1	46.2	46.2	56.3	46.2	46.2	74.2	68.4	68.4		79.4
Effective Green, g (s)		10.1	46.2	46.2	56.3	46.2	46.2	74.2	68.4	68.4		79.4
Actuated g/C Ratio		0.06	0.29	0.29	0.35	0.29	0.29	0.46	0.43	0.43		0.50
Clearance Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Vehicle Extension (s)		2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0
Lane Grp Cap (vph)		216	537	457	367	537	457	110	1512	676		139
v/s Ratio Prot		c0.04	0.13		0.01	c0.25		0.02	0.38			c0.06
v/s Ratio Perm				0.01	0.06		0.05	0.21		0.03		c0.47
v/c Ratio		0.71	0.44	0.03	0.21	0.86	0.19	0.49	0.89	0.06		1.07
Uniform Delay, d1		73.5	46.3	40.8	35.5	53.8	42.8	37.1	42.3	26.9		44.8
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.61
Incremental Delay, d2		8.4	2.6	0.1	0.1	16.2	0.9	1.3	8.2	0.2		81.1
Delay (s)		81.9	48.9	40.9	35.6	70.0	43.7	38.3	50.5	27.1		153.3
Level of Service		F	D	D	D	E	D	D	D	C		F
Approach Delay (s)			59.8			60.0			48.5			
Approach LOS			E			E			D			
Intersection Summary												
HCM 2000 Control Delay			52.8			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.9			
Intersection Capacity Utilization			96.4%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build AM Peak - Improved

01/07/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1562	397
Future Volume (vph)	1562	397
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1627	414
RTOR Reduction (vph)	0	116
Lane Group Flow (vph)	1627	298
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	71.0	71.0
Effective Green, g (s)	71.0	71.0
Actuated g/C Ratio	0.44	0.44
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	6.0	6.0
Lane Grp Cap (vph)	1570	702
v/s Ratio Prot	0.46	
v/s Ratio Perm		0.19
v/c Ratio	1.04	0.42
Uniform Delay, d1	44.5	30.5
Progression Factor	0.57	0.26
Incremental Delay, d2	28.3	1.2
Delay (s)	53.7	9.0
Level of Service	D	A
Approach Delay (s)	52.0	
Approach LOS	D	
Intersection Summary		

Timings

2023 Future No-Build PM Peak - Improved

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 	  		 	  		  	  		  	  
Traffic Volume (vph)	388	1749	367	71	1295	255	596	2345	180	352	913
Future Volume (vph)	388	1749	367	71	1295	255	596	2345	180	352	913
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		1	6		5	2
Permitted Phases			4			8			6		
Detector Phase	7	4	4	3	8	8	1	6	6	5	2
Switch Phase	4			8							
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	20.0	4.0	20.0
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	38.9	15.0	38.4
Total Split (s)	24.0	55.0	55.0	16.0	47.0	47.0	39.0	72.0	72.0	17.0	50.0
Total Split (%)	15.0%	34.4%	34.4%	10.0%	29.4%	29.4%	24.4%	45.0%	45.0%	10.6%	31.3%
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	5.4	4.3	5.4
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.9	6.8	6.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	C-Min	Min	C-Min

Intersection Summary

Cycle Length: 160

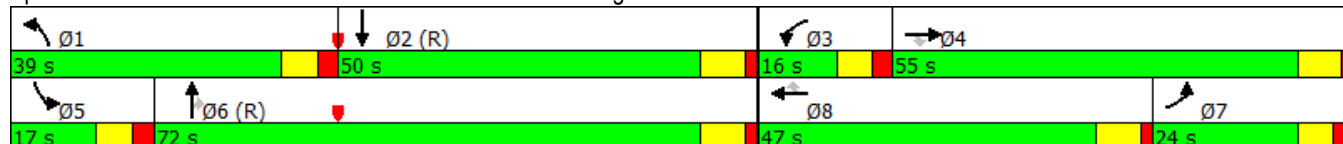
Actuated Cycle Length: 160

Offset: 140 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	388	1749	367	71	1295	255	596	2345	180	352	913	466				
Future Volume (veh/h)	388	1749	367	71	1295	255	596	2345	180	352	913	466				
Number	7	4	14	3	8	18	1	6	16	5	2	12				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900				
Adj Flow Rate, veh/h	392	1767	0	72	1308	258	602	2369	0	356	922	0				
Adj No. of Lanes	2	3	1	2	3	1	3	3	1	3	3	0				
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	384	1832	519	111	1278	398	724	2389	677	319	1806	0				
Arrive On Green	0.11	0.33	0.00	0.03	0.25	0.25	0.14	0.43	0.00	0.06	0.36	0.00				
Sat Flow, veh/h	3548	5588	1583	3442	5085	1583	5322	5588	1583	5003	5253	0				
Grp Volume(v), veh/h	392	1767	0	72	1308	258	602	2369	0	356	922	0				
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1695	1583	1774	1863	1583	1668	1695	0				
Q Serve(g_s), s	17.3	49.7	0.0	3.3	40.2	17.1	17.6	67.4	0.0	10.2	22.8	0.0				
Cycle Q Clear(g_c), s	17.3	49.7	0.0	3.3	40.2	17.1	17.6	67.4	0.0	10.2	22.8	0.0				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00				
Lane Grp Cap(c), veh/h	384	1832	519	111	1278	398	724	2389	677	319	1806	0				
V/C Ratio(X)	1.02	0.96	0.00	0.65	1.02	0.65	0.83	0.99	0.00	1.12	0.51	0.00				
Avail Cap(c_a), veh/h	384	1832	519	200	1278	398	1071	2389	677	319	1806	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00				
Uniform Delay (d), s/veh	71.3	52.9	0.0	76.5	59.9	28.8	67.3	45.5	0.0	74.9	40.6	0.0				
Incr Delay (d2), s/veh	51.6	14.0	0.0	6.3	31.4	6.8	3.7	16.6	0.0	85.5	1.0	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	20.2	36.6	0.0	3.0	40.5	12.9	13.8	48.5	0.0	13.0	16.2	0.0				
LnGrp Delay(d),s/veh	123.0	66.9	0.0	82.8	91.3	35.6	71.0	62.1	0.0	160.4	41.7	0.0				
LnGrp LOS	F	E		F	F	D	E	E		F	D					
Approach Vol, veh/h	2159				1638				2971							
Approach Delay, s/veh	77.0				82.1				63.9							
Approach LOS	E				F				E							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	28.6	63.8	11.8	59.3	17.0	75.4	24.1	47.0								
Change Period (Y+Rc), s	6.8	6.9	6.7	6.8	6.8	6.9	6.8	* 6.8								
Max Green Setting (Gmax), s	32.2	43.1	9.3	48.2	10.2	65.1	17.3	* 40								
Max Q Clear Time (g_c+l1), s	19.6	24.8	5.3	51.7	12.2	69.4	19.3	42.2								
Green Ext Time (p_c), s	2.1	18.2	0.1	0.0	0.0	0.0	0.0	0.0								
Intersection Summary																
HCM 2010 Ctrl Delay	72.9															
HCM 2010 LOS	E															
Notes																
User approved volume balancing among the lanes for turning movement.																

Timings

2023 Future No-Build PM Peak - Improved

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	729	2047	288	77	1047	218	264	304	405	370	523
Future Volume (vph)	729	2047	288	77	1047	218	264	304	405	370	523
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	35.0	75.0	75.0	15.0	55.0	55.0	15.0	25.0	45.0	55.0	
Total Split (%)	21.9%	46.9%	46.9%	9.4%	34.4%	34.4%	9.4%	15.6%	28.1%	34.4%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

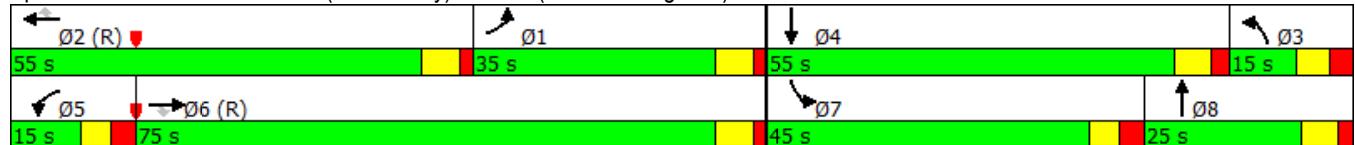
Actuated Cycle Length: 160

Offset: 80 (50%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	729	2047	288	77	1047	218	264	304	35	405	370	523
Future Volume (veh/h)	729	2047	288	77	1047	218	264	304	35	405	370	523
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	729	2047	0	77	1047	0	264	304	0	405	370	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1024	1938	867	92	1081	484	392	350	0	471	438	196
Arrive On Green	0.30	0.55	0.00	0.05	0.31	0.00	0.11	0.10	0.00	0.14	0.12	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583
Grp Volume(v), veh/h	729	2047	0	77	1047	0	264	304	0	405	370	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583
Q Serve(g_s), s	30.2	87.6	0.0	6.9	46.7	0.0	11.8	13.5	0.0	18.4	16.4	0.0
Cycle Q Clear(g_c), s	30.2	87.6	0.0	6.9	46.7	0.0	11.8	13.5	0.0	18.4	16.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1024	1938	867	92	1081	484	392	350	0	471	438	196
V/C Ratio(X)	0.71	1.06	0.00	0.84	0.97	0.00	0.67	0.87	0.00	0.86	0.85	0.00
Avail Cap(c_a), veh/h	1024	1938	867	92	1082	484	392	411	0	824	1075	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.1	36.2	0.0	75.2	54.8	0.0	68.0	71.1	0.0	67.5	68.6	0.0
Incr Delay (d2), s/veh	2.3	37.3	0.0	43.9	20.7	0.0	3.7	14.3	0.0	4.7	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.0	94.6	0.0	8.0	34.3	0.0	9.8	11.8	0.0	14.0	13.0	0.0
LnGrp Delay(d),s/veh	52.4	73.5	0.0	119.1	75.5	0.0	71.7	85.4	0.0	72.2	73.2	0.0
LnGrp LOS	D	F		F	E		E	F		E	E	
Approach Vol, veh/h	2776		1124				568		775			
Approach Delay, s/veh	68.0		78.5				79.0		72.7			
Approach LOS	E		E				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	53.7	55.0	25.1	26.2	15.0	93.7	28.6	22.7				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	* 6.9				
Max Green Setting (Gmax), s	* 29	* 49	8.1	48.6	* 8.3	* 69	* 38	* 19				
Max Q Clear Time (g_c+I1), s	32.2	48.7	13.8	18.4	8.9	89.6	20.4	15.5				
Green Ext Time (p_c), s	0.0	0.2	0.0	1.4	0.0	0.0	1.5	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			72.1									
HCM 2010 LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future No-Build PM Peak - Improved

01/07/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	148	128	46	420	488	28		
Future Volume (vph)	148	128	46	420	488	28		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	23.0	32.0	73.0	73.0	73.0	73.0	24.0	15.0
Total Split (%)	19.2%	26.7%	60.8%	60.8%	60.8%	60.8%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 41

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
73 s	23 s	24 s
 Ø6	 Ø7	 Ø8
73 s	15 s	32 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	0	128	0	0	0	46	420	0	0	488	28
Future Volume (veh/h)	148	0	128	0	0	0	46	420	0	0	488	28
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	154	0	133	0	0	0	48	438	0	0	508	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	229	194	134	3	0	625	1263	1074	130	1263	1074
Arrive On Green	0.11	0.00	0.12	0.00	0.00	0.00	0.68	0.68	0.00	0.00	0.68	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	888	1863	1583	947	1863	1583
Grp Volume(v), veh/h	154	0	133	0	0	0	48	438	0	0	508	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	888	1863	1583	947	1863	1583
Q Serve(g_s), s	4.6	0.0	4.4	0.0	0.0	0.0	1.4	5.5	0.0	0.0	6.7	0.0
Cycle Q Clear(g_c), s	4.6	0.0	4.4	0.0	0.0	0.0	8.1	5.5	0.0	0.0	6.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	229	194	134	3	0	625	1263	1074	130	1263	1074
V/C Ratio(X)	0.46	0.00	0.68	0.00	0.00	0.00	0.08	0.35	0.00	0.00	0.40	0.00
Avail Cap(c_a), veh/h	693	894	760	436	624	0	1108	2277	1935	646	2277	1935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.6	0.0	23.2	0.0	0.0	0.0	5.7	3.7	0.0	0.0	3.9	0.0
Incr Delay (d2), s/veh	1.0	0.0	4.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	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	4.2	0.0	3.9	0.0	0.0	0.0	0.6	4.9	0.0	0.0	6.2	0.0
LnGrp Delay(d),s/veh	24.6	0.0	27.4	0.0	0.0	0.0	5.8	3.9	0.0	0.0	4.1	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	287		0		486		508					
Approach Delay, s/veh	25.9		0.0		4.1		4.1					
Approach LOS	C				A		A					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	42.9		11.8	0.5	42.9		0.0	12.3				
Change Period (Y+Rc), s	5.5		5.5	5.5	5.5		5.5	5.5				
Max Green Setting (Gmax), s	67.5		17.5	18.5	67.5		9.5	26.5				
Max Q Clear Time (g_c+I1), s	10.1		6.6	0.0	8.7		0.0	6.4				
Green Ext Time (p_c), s	27.4		0.3	0.0	27.7		0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			9.0									
HCM 2010 LOS			A									

Intersection												
Int Delay, s/veh	27.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	2303	127	73	1259	31	30	0	72	31	0	33
Future Vol, veh/h	34	2303	127	73	1259	31	30	0	72	31	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	2424	134	77	1325	33	32	0	76	33	0	35
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1358	0	0	2424	0	0	3313	4008	1212	2763	3975	663
Stage 1	-	-	-	-	-	-	2496	2496	-	1479	1479	-
Stage 2	-	-	-	-	-	-	817	1512	-	1284	2496	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	502	-	-	192	-	-	~ 3	3	174	~ 9	3	404
Stage 1	-	-	-	-	-	-	~ 29	57	-	132	188	-
Stage 2	-	-	-	-	-	-	337	181	-	174	57	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	502	-	-	192	-	-	~ 2	2	174	~ 3	2	404
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 25	39	-	~ 13	~ -21	-
Stage 1	-	-	-	-	-	-	~ 27	53	-	122	113	-
Stage 2	-	-	-	-	-	-	184	108	-	91	53	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.9			\$ 379.5			\$ 1039.6		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	72	502	-	-	192	-	-	26				
HCM Lane V/C Ratio	1.491	0.071	-	-	0.4	-	-	2.591				
HCM Control Delay (s)	\$ 379.5	12.7	-	-	35.7	-	-	\$ 1039.6				
HCM Lane LOS	F	B	-	-	E	-	-	F				
HCM 95th %tile Q(veh)	8.9	0.2	-	-	1.8	-	-	8.2				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

Intersection														
Int Delay, s/veh	1.7													
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	8	12	2390	3	7	8	1319	9	12	0	1	19	0	23
Future Vol, veh/h	8	12	2390	3	7	8	1319	9	12	0	1	19	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	-	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	2516	3	7	8	1388	9	13	0	1	20	0	24
Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	1388	1397	0	0	2516	2516	0	0	3282	3985	1258	2718	3976	694
Stage 1	-	-	-	-	-	-	-	-	2558	2558	-	1418	1418	-
Stage 2	-	-	-	-	-	-	-	-	724	1427	-	1300	2558	-
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	186	485	-	-	34	177	-	-	~ 4	3	162	~ 10	3	385
Stage 1	-	-	-	-	-	-	-	-	27	53	-	144	201	-
Stage 2	-	-	-	-	-	-	-	-	383	199	-	170	53	-
Platoon blocked, %			-	-			-	-						
Mov Cap-1 Maneuver	284	284	-	-	60	60	-	-	~ 3	2	162	~ 7	2	385
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	24	42	-	89	30	-
Stage 1	-	-	-	-	-	-	-	-	25	49	-	133	147	-
Stage 2	-	-	-	-	-	-	-	-	263	146	-	156	49	-
Approach	EB			WB			NB			SB				
HCM Control Delay, s	0.2			1			247			37.5				
HCM LOS							F			E				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	26	284	-	-	60	-	-	154						
HCM Lane V/C Ratio	0.526	0.074	-	-	0.263	-	-	0.287						
HCM Control Delay (s)	247	18.7	-	-	85.7	-	-	37.5						
HCM Lane LOS	F	C	-	-	F	-	-	E						
HCM 95th %tile Q(veh)	1.6	0.2	-	-	0.9	-	-	1.1						
Notes														
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon						

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build PM Peak - Improved

01/07/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	2	57	2260	174	2	67	1264	44	50	96	40
Future Volume (vph)	2	57	2260	174	2	67	1264	44	50	96	40
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 50 (31%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

 Ø2 (R)	 Ø1	 Ø3	 Ø4
95 s	15 s	30 s	20 s
 Ø5	 Ø6 (R)		
20 s	90 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future No-Build PM Peak - Improved

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	57	2260	174	2	67	1264	44	125	50	96	38
Future Volume (vph)	2	57	2260	174	2	67	1264	44	125	50	96	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.97	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1799	1583	
Flt Permitted		0.16	1.00	1.00		0.04	1.00	1.00		0.97	1.00	
Satd. Flow (perm)		292	3539	1583		83	3539	1583		1799	1583	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	60	2379	183	2	71	1331	46	132	53	101	40
RTOR Reduction (vph)	0	0	0	42	0	0	0	18	0	0	88	0
Lane Group Flow (vph)	0	62	2379	141	0	73	1331	28	0	185	13	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2			3	
Actuated Green, G (s)		96.5	96.5	96.5		97.0	97.0	97.0		20.2	20.2	
Effective Green, g (s)		96.5	96.5	96.5		97.0	97.0	97.0		20.2	20.2	
Actuated g/C Ratio		0.60	0.60	0.60		0.61	0.61	0.61		0.13	0.13	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		245	2134	954		130	2145	959		227	199	
v/s Ratio Prot		0.01	c0.67			0.03	c0.38			c0.10		
v/s Ratio Perm		0.14		0.09		0.31		0.02			0.01	
v/c Ratio		0.25	1.11	0.15		0.56	0.62	0.03		0.81	0.06	
Uniform Delay, d1		26.7	31.8	13.8		36.7	19.9	12.6		68.1	61.6	
Progression Factor		0.32	0.53	0.14		1.94	0.76	1.00		1.00	1.00	
Incremental Delay, d2		0.0	52.4	0.0		3.1	1.3	0.1		19.2	0.1	
Delay (s)		8.6	69.2	2.0		74.2	16.5	12.7		87.3	61.7	
Level of Service		A	E	A		E	B	B		F	E	
Approach Delay (s)			63.1				19.2			78.3		
Approach LOS			E				B			E		
Intersection Summary												
HCM 2000 Control Delay			50.3				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			88.3%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	40	14
Future Volume (vph)	40	14
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.98	
Satd. Flow (prot)	1787	
Flt Permitted	0.98	
Satd. Flow (perm)	1787	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	42	15
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	92	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	11.9	
Effective Green, g (s)	11.9	
Actuated g/C Ratio	0.07	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	132	
v/s Ratio Prot	c0.05	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	72.3	
Progression Factor	1.00	
Incremental Delay, d2	13.9	
Delay (s)	86.2	
Level of Service	F	
Approach Delay (s)	86.2	
Approach LOS	F	
Intersection Summary		

Timings

2023 Future No-Build PM Peak - Improved

7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

01/07/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	68	41	263	33	12	235	301	30	220
Future Volume (vph)	68	41	263	33	12	235	301	30	220
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 63

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	41	263	33	12	19	235	301	59	30	220	25
Future Volume (veh/h)	68	41	263	33	12	19	235	301	59	30	220	25
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	70	42	0	34	12	20	242	310	61	31	227	26
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	65	158	163	50	51	784	1070	211	645	848	97
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.10	0.09	0.71	0.71	0.52	0.52	0.52
Sat Flow, veh/h	971	651	1583	682	498	513	1774	1513	298	1007	1642	188
Grp Volume(v), veh/h	112	0	0	66	0	0	242	0	371	31	0	253
Grp Sat Flow(s),veh/h/ln	1622	0	1583	1693	0	0	1774	0	1810	1007	0	1830
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	3.2	0.0	4.3	0.9	0.0	4.5
Cycle Q Clear(g_c), s	3.7	0.0	0.0	2.0	0.0	0.0	3.2	0.0	4.3	0.9	0.0	4.5
Prop In Lane	0.62		1.00	0.52		0.30	1.00		0.16	1.00		0.10
Lane Grp Cap(c), veh/h	264	0	158	264	0	0	784	0	1281	645	0	945
V/C Ratio(X)	0.43	0.00	0.00	0.25	0.00	0.00	0.31	0.00	0.29	0.05	0.00	0.27
Avail Cap(c_a), veh/h	771	0	686	763	0	0	1079	0	1726	1085	0	1744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	0.0	24.3	0.0	0.0	4.7	0.0	3.1	7.0	0.0	7.8
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.4	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.0	0.0	1.8	0.0	0.0	2.8	0.0	4.0	0.5	0.0	4.3
LnGrp Delay(d),s/veh	25.8	0.0	0.0	24.6	0.0	0.0	4.7	0.0	3.6	7.1	0.0	8.4
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	112				66				613			
Approach Delay, s/veh	25.8				24.6				4.0			
Approach LOS	C				C				A			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	46.6		11.1		11.0	35.6	11.1					
Change Period (Y+Rc), s	* 5.8		* 5.3		5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55		* 25		15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	6.3		4.0		5.2	6.5	5.7					
Green Ext Time (p_c), s	23.4		0.4		0.3	23.3	0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build PM Peak - Improved

01/07/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	32	31	32	518	33	500
Future Volume (vph)	32	31	32	518	33	500
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	25.0	26.0	69.0	69.0	69.0	69.0
Total Split (%)	20.8%	21.7%	57.5%	57.5%	57.5%	57.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
69 s	26 s	25 s
↑ Ø6 (R)		
69 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future No-Build PM Peak - Improved

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	32	34	40	31	34	32	518	57	33	500	29
Future Volume (vph)	29	32	34	40	31	34	32	518	57	33	500	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1748		1770	1835		1770	1847	
Flt Permitted		0.98			0.98		0.39	1.00		0.36	1.00	
Satd. Flow (perm)		1746			1748		720	1835		665	1847	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	34	36	42	33	36	34	545	60	35	526	31
RTOR Reduction (vph)	0	18	0	0	15	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	83	0	0	96	0	34	603	0	35	556	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Effective Green, g (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Actuated g/C Ratio		0.09			0.10		0.67	0.67		0.67	0.67	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		161			173		483	1230		446	1239	
v/s Ratio Prot		c0.05			c0.05			c0.33			0.30	
v/s Ratio Perm							0.05			0.05		
v/c Ratio		0.51			0.55		0.07	0.49		0.08	0.45	
Uniform Delay, d1		51.9			51.5		6.8	9.7		6.9	9.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8			3.8		0.3	1.4		0.3	1.2	
Delay (s)		54.6			55.3		7.1	11.1		7.2	10.5	
Level of Service		D			E		A	B		A	B	
Approach Delay (s)		54.6			55.3			10.9			10.3	
Approach LOS		D			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.5			
Intersection Capacity Utilization			48.4%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future No-Build PM Peak - Improved

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	279	384	558	83	343	222	291	75	410	118
Future Volume (vph)	279	384	558	83	343	222	291	75	410	118
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 150.9

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	279	384	558	83	343	38	222	291	55	75	410	118
Future Volume (veh/h)	279	384	558	83	343	38	222	291	55	75	410	118
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	294	404	0	87	361	0	234	306	0	79	432	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	589	890	756	449	1470	0	296	535	0	288	460	391
Arrive On Green	0.10	0.48	0.00	0.04	0.42	0.00	0.09	0.29	0.00	0.05	0.25	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	294	404	0	87	361	0	234	306	0	79	432	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	13.4	20.9	0.0	4.0	9.6	0.0	9.6	20.2	0.0	4.8	32.9	0.0
Cycle Q Clear(g_c), s	13.4	20.9	0.0	4.0	9.6	0.0	9.6	20.2	0.0	4.8	32.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	589	890	756	449	1470	0	296	535	0	288	460	391
V/C Ratio(X)	0.50	0.45	0.00	0.19	0.25	0.00	0.79	0.57	0.00	0.27	0.94	0.00
Avail Cap(c_a), veh/h	589	890	756	559	1470	0	715	535	0	391	516	438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	25.2	0.0	23.0	27.5	0.0	64.7	43.9	0.0	38.6	53.4	0.0
Incr Delay (d2), s/veh	0.7	1.7	0.0	0.2	0.4	0.0	4.7	1.5	0.0	0.5	24.1	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	10.8	16.7	0.0	3.6	8.4	0.0	8.4	16.0	0.0	4.3	27.3	0.0
LnGrp Delay(d),s/veh	20.2	26.8	0.0	23.2	27.9	0.0	69.4	45.4	0.0	39.2	77.5	0.0
LnGrp LOS	C	C		C	C		E	D		D	E	
Approach Vol, veh/h	698				448				540			
Approach Delay, s/veh	24.1				27.0				55.8			
Approach LOS	C				C				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	20.3	65.6	17.3	41.3	11.3	74.6	11.5	47.1				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+l1), s	15.4	11.6	11.6	34.9	6.0	22.9	6.8	22.2				
Green Ext Time (p_c), s	0.0	25.2	0.8	0.8	0.1	19.6	0.1	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			43.5									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build PM Peak - Improved
01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	60	2168	73	81	1157	14	67	30	28	11
Future Volume (vph)	60	2168	73	81	1157	14	67	30	28	11
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	110.0	110.0	15.0	110.0	110.0	15.0	35.0	20.0	20.0
Total Split (%)	9.4%	68.8%	68.8%	9.4%	68.8%	68.8%	9.4%	21.9%	12.5%	12.5%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	110 s	15 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	110 s	35 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future No-Build PM Peak - Improved
01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	2168	73	81	1157	14	67	30	157	28	11	20
Future Volume (veh/h)	60	2168	73	81	1157	14	67	30	157	28	11	20
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	72	2612	0	98	1394	17	81	36	189	34	13	24
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	3435	1070	137	3436	1070	209	44	232	87	45	83
Arrive On Green	0.02	0.68	0.00	0.06	1.00	1.00	0.05	0.17	0.17	0.08	0.08	0.08
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	260	1363	1151	587	1084
Grp Volume(v), veh/h	72	2612	0	98	1394	17	81	0	225	34	0	37
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1622	1151	0	1671
Q Serve(g_s), s	2.0	54.8	0.0	2.8	0.0	0.0	6.6	0.0	21.4	4.7	0.0	3.3
Cycle Q Clear(g_c), s	2.0	54.8	0.0	2.8	0.0	0.0	6.6	0.0	21.4	11.1	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.84	1.00		0.65
Lane Grp Cap(c), veh/h	345	3435	1070	137	3436	1070	209	0	276	87	0	127
V/C Ratio(X)	0.21	0.76	0.00	0.71	0.41	0.02	0.39	0.00	0.82	0.39	0.00	0.29
Avail Cap(c_a), veh/h	390	3435	1070	183	3436	1070	209	0	276	87	0	127
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	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.5	17.3	0.0	31.9	0.0	0.0	62.3	0.0	64.0	76.6	0.0	69.8
Incr Delay (d2), s/veh	0.1	1.6	0.0	3.8	0.3	0.0	0.4	0.0	16.6	2.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	34.3	0.0	5.4	0.2	0.0	5.8	0.0	16.3	2.8	0.0	2.9
LnGrp Delay(d),s/veh	7.6	19.0	0.0	35.7	0.3	0.0	62.7	0.0	80.6	78.7	0.0	70.7
LnGrp LOS	A	B		D	A	A	E		F	E		E
Approach Vol, veh/h	2684			1509			306			71		
Approach Delay, s/veh	18.6			2.6			75.9			74.5		
Approach LOS	B			A			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	10.9	114.1	15.0	20.0	10.9	114.1	35.0					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	104.0	8.0	12.2	8.9	104.0	27.2					
Max Q Clear Time (g_c+I1), s	4.0	2.0	8.6	13.1	4.8	56.8	23.4					
Green Ext Time (p_c), s	0.0	101.4	0.0	0.0	0.0	47.0	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay				18.0								
HCM 2010 LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 11: Sugarloaf Pkwy & Peachtree Industrial Blvd

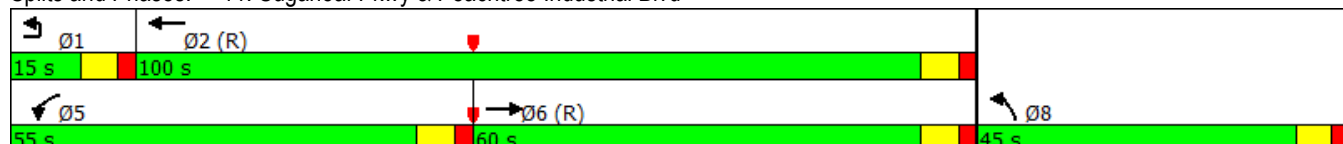
2023 Future No-Build PM Peak - Improved
01/07/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↘	↑↑↑	↘↘	↑	
Traffic Volume (vph)	1571	948	899	635	700	1266	
Future Volume (vph)	1571	948	899	635	700	1266	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	60.0		55.0	100.0	45.0		15.0
Total Split (%)	37.5%		34.4%	62.5%	28.1%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lag		Lead	Lag		Lead	
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		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: 150
Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future No-Build PM Peak - Improved

01/07/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		  		 	  	 	
Traffic Volume (vph)	0	1571	948	899	635	700	1266
Future Volume (vph)	0	1571	948	899	635	700	1266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1620	977	927	655	722	1305
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1620	977	927	655	722	1305
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		55.0	160.0	46.6	108.3	38.1	160.0
Effective Green, g (s)		55.0	160.0	46.6	108.3	38.1	160.0
Actuated g/C Ratio		0.34	1.00	0.29	0.68	0.24	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1747	1583	999	3441	817	1583
v/s Ratio Prot		c0.32		0.27	0.13	0.21	
v/s Ratio Perm			0.62				c0.82
v/c Ratio		0.93	0.62	0.93	0.19	0.88	0.82
Uniform Delay, d1		50.6	0.0	55.1	9.6	58.8	0.0
Progression Factor		0.94	1.00	1.00	1.00	1.19	1.00
Incremental Delay, d2		7.1	1.2	14.1	0.1	1.5	0.5
Delay (s)		54.5	1.2	69.2	9.7	71.5	0.5
Level of Service		D	A	E	A	E	A
Approach Delay (s)		34.4			44.6	25.8	
Approach LOS		C			D	C	
Intersection Summary							
HCM 2000 Control Delay			34.2		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.94				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			92.9%		ICU Level of Service		F
Analysis Period (min)			15				

c Critical Lane Group

Timings

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build PM Peak - Improved

01/07/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Future Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases			4	8		8	6		6	2	2	
Detector Phase	3	4	4	7	8	8	1	6	6	5	5	2
Switch Phase	8			4								
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0	20.0
Minimum Split (s)	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0	42.7
Total Split (s)	25.0	50.0	50.0	15.0	40.0	40.0	20.0	76.0	76.0	19.0	19.0	75.0
Total Split (%)	15.6%	31.3%	31.3%	9.4%	25.0%	25.0%	12.5%	47.5%	47.5%	11.9%	11.9%	46.9%
Yellow Time (s)	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6	4.7
All-Red Time (s)	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 107 (67%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	75 s	15 s	50 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
19 s	76 s	25 s	40 s



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	161
Future Volume (vph)	161
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Detector Phase	2
Switch Phase	
Minimum Initial (s)	20.0
Minimum Split (s)	42.7
Total Split (s)	75.0
Total Split (%)	46.9%
Yellow Time (s)	4.7
All-Red Time (s)	1.9
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.6
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	C-Min
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future No-Build PM Peak - Improved

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Future Volume (vph)	305	482	33	81	224	198	57	1604	93	2	180	1599
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.12	1.00	1.00	0.06	1.00	1.00		0.05	1.00
Satd. Flow (perm)	3433	1863	1583	224	1863	1583	107	3539	1583		98	3539
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	314	497	34	84	231	204	59	1654	96	2	186	1648
RTOR Reduction (vph)	0	0	25	0	0	130	0	0	54	0	0	0
Lane Group Flow (vph)	314	497	9	84	231	74	59	1654	42	0	188	1648
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases			4	8		8	6		6	2	2	
Actuated Green, G (s)	18.1	43.2	43.2	41.3	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Effective Green, g (s)	18.1	43.2	43.2	41.3	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Actuated g/C Ratio	0.11	0.27	0.27	0.26	0.21	0.21	0.47	0.43	0.43		0.55	0.47
Clearance Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Vehicle Extension (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0	6.0
Lane Grp Cap (vph)	388	503	427	136	386	328	113	1535	686		183	1674
v/s Ratio Prot	c0.09	c0.27		0.03	0.12		0.02	c0.47			c0.08	c0.47
v/s Ratio Perm			0.01	0.13		0.05	0.22		0.03		0.48	
v/c Ratio	0.81	0.99	0.02	0.62	0.60	0.23	0.52	1.08	0.06		1.03	0.98
Uniform Delay, d1	69.3	58.1	42.9	48.8	57.4	52.7	36.9	45.3	26.3		53.4	41.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.32	0.51
Incremental Delay, d2	11.1	37.1	0.1	5.8	4.6	1.0	2.0	47.0	0.2		62.2	14.9
Delay (s)	80.4	95.2	42.9	54.5	61.9	53.7	38.9	92.3	26.5		132.5	36.3
Level of Service	F	F	D	D	E	D	D	F	C		F	D
Approach Delay (s)		87.6			57.5			87.1				42.4
Approach LOS		F			E			F				D
Intersection Summary												
HCM 2000 Control Delay			66.9									HCM 2000 Level of Service E
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			160.0									Sum of lost time (s) 26.9
Intersection Capacity Utilization			106.7%									ICU Level of Service G
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	161
Future Volume (vph)	161
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.6
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	166
RTOR Reduction (vph)	87
Lane Group Flow (vph)	79
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	75.7
Effective Green, g (s)	75.7
Actuated g/C Ratio	0.47
Clearance Time (s)	6.6
Vehicle Extension (s)	6.0
Lane Grp Cap (vph)	748
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.11
Uniform Delay, d1	23.4
Progression Factor	0.04
Incremental Delay, d2	0.2
Delay (s)	1.2
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Future “Build” Intersection Analysis

Timings

2023 Future Build AM Peak

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Configurations	 	  		 	  		 	  	 	  	
Traffic Volume (vph)	346	1411	554	91	1237	104	405	1221	445	1758	
Future Volume (vph)	346	1411	554	91	1237	104	405	1221	445	1758	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	
Protected Phases	7	4		3	8		1	6	5	2	
Permitted Phases			4			8					
Detector Phase	7	4	4	3	8	8	1	6	5	2	
Switch Phase	4			8							
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	4.0	20.0	
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	15.0	38.4	
Total Split (s)	25.0	65.0	65.0	15.0	55.0	55.0	28.0	50.0	30.0	52.0	
Total Split (%)	15.6%	40.6%	40.6%	9.4%	34.4%	34.4%	17.5%	31.3%	18.8%	32.5%	
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	4.3	5.4	
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	2.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.8	6.9	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	None	C-Min	

Intersection Summary

Cycle Length: 160

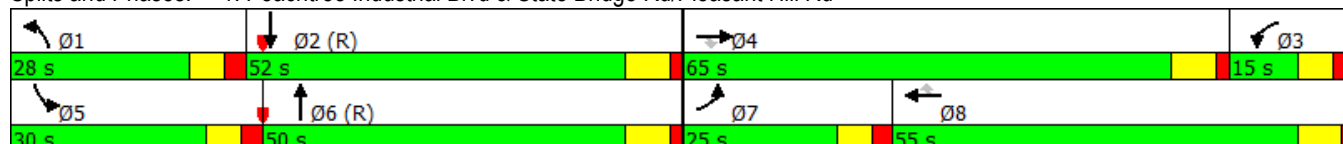
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



HCM 2010 Signalized Intersection Summary
1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

2023 Future Build AM Peak
01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	1411	554	91	1237	104	405	1221	65	445	1758	610
Future Volume (veh/h)	346	1411	554	91	1237	104	405	1221	65	445	1758	610
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	349	1425	0	92	1249	105	409	1233	0	449	1776	0
Adj No. of Lanes	2	3	1	2	3	1	2	3	0	2	3	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	1738	541	207	1473	459	449	1452	0	489	1511	0
Arrive On Green	0.11	0.34	0.00	0.06	0.29	0.29	0.13	0.29	0.00	0.14	0.30	0.00
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5253	0	3442	5253	0
Grp Volume(v), veh/h	349	1425	0	92	1249	105	409	1233	0	449	1776	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	0	1721	1695	0
Q Serve(g_s), s	16.0	41.0	0.0	4.1	37.0	8.1	18.8	36.6	0.0	20.6	47.5	0.0
Cycle Q Clear(g_c), s	16.0	41.0	0.0	4.1	37.0	8.1	18.8	36.6	0.0	20.6	47.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	389	1738	541	207	1473	459	449	1452	0	489	1511	0
V/C Ratio(X)	0.90	0.82	0.00	0.44	0.85	0.23	0.91	0.85	0.00	0.92	1.18	0.00
Avail Cap(c_a), veh/h	394	1850	576	207	1532	477	456	1452	0	499	1511	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	70.1	48.1	0.0	72.6	53.5	43.2	68.7	53.9	0.0	67.7	56.2	0.0
Incr Delay (d2), s/veh	22.5	4.0	0.0	1.5	5.8	0.9	22.3	6.4	0.0	21.9	86.2	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	13.7	27.2	0.0	3.6	25.1	6.6	15.6	24.9	0.0	16.8	61.7	0.0
LnGrp Delay(d),s/veh	92.6	52.2	0.0	74.1	59.3	44.2	91.0	60.3	0.0	89.6	142.4	0.0
LnGrp LOS	F	D		E	E	D	F	E		F	F	
Approach Vol, veh/h	1774			1446			1642			2225		
Approach Delay, s/veh	60.1			59.1			67.9			131.7		
Approach LOS	E			E			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.7	54.4	16.4	61.5	29.5	52.6	24.8	53.1				
Change Period (Y+Rc), s	6.8	6.9	6.8	* 6.8	6.8	6.9	6.7	6.8				
Max Green Setting (Gmax), s	21.2	45.1	8.3	* 58	23.2	43.1	18.3	48.2				
Max Q Clear Time (g_c+I1), s	20.8	49.5	6.1	43.0	22.6	38.6	18.0	39.0				
Green Ext Time (p_c), s	0.1	0.0	1.9	11.7	0.1	4.5	0.0	7.3				
Intersection Summary												
HCM 2010 Ctrl Delay				84.2								
HCM 2010 LOS				F								
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

2023 Future Build AM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	467	859	396	79	1839	559	318	371	262	365	726
Future Volume (vph)	467	859	396	79	1839	559	318	371	262	365	726
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	25.0	40.0	25.0	40.0	
Total Split (%)	9.4%	50.0%	50.0%	9.4%	50.0%	50.0%	15.6%	25.0%	15.6%	25.0%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 95 (59%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

							
Ø2 (R)	Ø1	Ø3	Ø4	Ø5	Ø6 (R)	Ø7	Ø8
80 s	15 s	25 s	40 s	15 s	80 s	25 s	40 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	467	859	396	79	1839	559	318	371	18	262	365	726
Future Volume (veh/h)	467	859	396	79	1839	559	318	371	18	262	365	726
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	477	877	0	81	1877	0	324	379	0	267	372	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	499	1951	873	92	1635	731	365	508	0	314	452	202
Arrive On Green	0.15	0.55	0.00	0.05	0.46	0.00	0.11	0.14	0.00	0.09	0.13	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583
Grp Volume(v), veh/h	477	877	0	81	1877	0	324	379	0	267	372	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583
Q Serve(g_s), s	22.0	23.6	0.0	7.3	73.9	0.0	14.9	16.4	0.0	12.2	16.4	0.0
Cycle Q Clear(g_c), s	22.0	23.6	0.0	7.3	73.9	0.0	14.9	16.4	0.0	12.2	16.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	499	1951	873	92	1635	731	365	508	0	314	452	202
V/C Ratio(X)	0.96	0.45	0.00	0.88	1.15	0.00	0.89	0.75	0.00	0.85	0.82	0.00
Avail Cap(c_a), veh/h	499	1951	873	92	1635	731	389	743	0	394	743	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.9	21.4	0.0	75.4	43.0	0.0	70.6	65.7	0.0	71.6	68.0	0.0
Incr Delay (d2), s/veh	29.2	0.8	0.0	55.3	74.4	0.0	19.4	1.0	0.0	13.4	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.3	17.4	0.0	8.6	95.4	0.0	12.7	12.8	0.0	10.6	13.0	0.0
LnGrp Delay(d),s/veh	97.1	22.2	0.0	130.6	117.4	0.0	90.0	66.7	0.0	85.0	71.9	0.0
LnGrp LOS	F	C		F	F		F	E		F	E	
Approach Vol, veh/h	1354				1958				703			
Approach Delay, s/veh	48.6				118.0				77.4			
Approach LOS	D				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.3	80.0	23.9	26.8	15.0	94.3	21.3	29.4				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	6.4				
Max Green Setting (Gmax), s	* 8.9	* 74	18.1	33.6	* 8.3	* 74	* 18	33.6				
Max Q Clear Time (g_c+I1), s	24.0	75.9	16.9	18.4	9.3	25.6	14.2	18.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.0	0.0	35.4	0.4	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			86.1									
HCM 2010 LOS			F									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future Build AM Peak

01/07/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	101	40	123	382	463	109		
Future Volume (vph)	101	40	123	382	463	109		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	21.0	29.5	75.5	75.5	75.5	75.5	23.5	15.0
Total Split (%)	17.5%	24.6%	62.9%	62.9%	62.9%	62.9%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 44.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
75.5 s	21 s	23.5 s
 Ø6	 Ø7	 Ø8
75.5 s	15 s	29.5 s

HCM 2010 Signalized Intersection Summary
3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future Build AM Peak

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	0	40	0	0	0	123	382	0	0	463	109
Future Volume (veh/h)	101	0	40	0	0	0	123	382	0	0	463	109
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	111	0	44	0	0	0	135	420	0	0	509	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	154	131	133	3	0	674	1338	1138	130	1338	1138
Arrive On Green	0.08	0.00	0.08	0.00	0.00	0.00	0.72	0.72	0.00	0.00	0.72	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	887	1863	1583	963	1863	1583
Grp Volume(v), veh/h	111	0	44	0	0	0	135	420	0	0	509	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	887	1863	1583	963	1863	1583
Q Serve(g_s), s	3.4	0.0	1.4	0.0	0.0	0.0	3.8	4.5	0.0	0.0	5.9	0.0
Cycle Q Clear(g_c), s	3.4	0.0	1.4	0.0	0.0	0.0	9.7	4.5	0.0	0.0	5.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	154	131	133	3	0	674	1338	1138	130	1338	1138
V/C Ratio(X)	0.40	0.00	0.34	0.00	0.00	0.00	0.20	0.31	0.00	0.00	0.38	0.00
Avail Cap(c_a), veh/h	628	809	687	435	607	0	1160	2359	2005	658	2359	2005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	24.7	0.0	23.9	0.0	0.0	0.0	4.9	2.8	0.0	0.0	3.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.5	0.0	0.0	0.0	0.1	0.1	0.0	0.0	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	3.1	0.0	1.2	0.0	0.0	0.0	1.7	4.1	0.0	0.0	5.5	0.0
LnGrp Delay(d),s/veh	25.7	0.0	25.4	0.0	0.0	0.0	5.0	3.0	0.0	0.0	3.2	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	155		0		555		509					
Approach Delay, s/veh	25.6		0.0		3.5		3.2					
Approach LOS	C				A		A					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	45.2		10.1		0.0		45.2		0.0		10.1	
Change Period (Y+Rc), s	5.5		5.5		5.5		5.5		5.5		5.5	
Max Green Setting (Gmax), s	70.0		15.5		18.0		70.0		9.5		24.0	
Max Q Clear Time (g_c+I1), s	11.7		5.4		0.0		7.9		0.0		3.4	
Green Ext Time (p_c), s	28.0		0.2		0.0		28.8		0.0		0.1	
Intersection Summary												
HCM 2010 Ctrl Delay			6.2									
HCM 2010 LOS			A									

Intersection												
Int Delay, s/veh	172.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	987	94	28	2329	43	68	4	19	76	12	162
Future Vol, veh/h	82	987	94	28	2329	43	68	4	19	76	12	162
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	1028	98	29	2426	45	71	4	20	79	13	169
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2471	0	0	1028	0	0	2476	3727	514	3170	3682	1213
Stage 1	-	-	-	-	-	-	1198	1198	-	2484	2484	-
Stage 2	-	-	-	-	-	-	1278	2529	-	686	1198	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	184	-	-	671	-	-	~ 15	~ 4	505	~ 4	~ 5	174
Stage 1	-	-	-	-	-	-	197	257	-	~ 30	58	-
Stage 2	-	-	-	-	-	-	176	55	-	404	257	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	184	-	-	671	-	-	0	~ 2	505	~ 3	~ 3	174
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ -22	~ -28	-	~ 15	46	-
Stage 1	-	-	-	-	-	-	106	138	-	~ 16	56	-
Stage 2	-	-	-	-	-	-	~ 4	53	-	203	138	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.9			0.1			6.5			\$ 2676.8		
HCM LOS							A			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	2419	184	-	-	671	-	-	40				
HCM Lane V/C Ratio	0.039	0.464	-	-	0.043	-	-	6.51				
HCM Control Delay (s)	6.5	40.5	-	-	10.6	-	-	\$ 2676.8				
HCM Lane LOS	A	E	-	-	B	-	-	F				
HCM 95th %tile Q(veh)	0.1	2.2	-	-	0.1	-	-	30.7				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined					*: All major volume in platoon			

Intersection

Int Delay, s/veh 775.2

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↕	↕	↕	↕	↕		↕			↕	
Traffic Vol, veh/h	15	52	1023	3	7	2294	27	1	0	0	37	0	90
Future Vol, veh/h	15	52	1023	3	7	2294	27	1	0	0	37	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	54	1055	3	7	2365	28	1	0	0	38	0	93

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	2365	2393	0	0	1055	0	0	2390	3600	528	3045	3572	1183
Stage 1	-	-	-	-	-	-	-	1193	1193	-	2379	2379	-
Stage 2	-	-	-	-	-	-	-	1197	2407	-	666	1193	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	43	198	-	-	656	-	-	18	5	495	~ 5	6	182
Stage 1	-	-	-	-	-	-	-	198	258	-	~ 35	66	-
Stage 2	-	-	-	-	-	-	-	197	64	-	415	258	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	71	71	-	-	656	-	-	~ 1	0	495	~ 1	0	182
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	5	-	-	~ 1	-	-
Stage 1	-	-	-	-	-	-	-	5	7	-	~ 1	65	-
Stage 2	-	-	-	-	-	-	-	96	63	-	~ 11	7	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	0	\$ 860.6	\$ 21552.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	5	71	-	-	656	-	-	3
HCM Lane V/C Ratio	0.206	0.973	-	-	0.011	-	-	-43.643
HCM Control Delay (s)	\$ 860.6	199	-	-	10.5	-	-	\$ 21552.4
HCM Lane LOS	F	F	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.4	5	-	-	0	-	-	18.6

Notes

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

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build AM Peak

01/07/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	7	20	1041	106	7	156	1834	34	21	52	49
Future Volume (vph)	7	20	1041	106	7	156	1834	34	21	52	49
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 10 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

 Ø2 (R)	 Ø1	 Ø4	 Ø3
95 s	15 s	20 s	30 s
 Ø5	 Ø6 (R)		
20 s	90 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build AM Peak

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	7	20	1041	106	7	156	1834	34	105	21	52	34
Future Volume (vph)	7	20	1041	106	7	156	1834	34	105	21	52	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1788	1583	
Flt Permitted		0.05	1.00	1.00		0.14	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		86	3539	1583		269	3539	1583		1788	1583	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	8	22	1170	119	8	175	2061	38	118	24	58	38
RTOR Reduction (vph)	0	0	0	43	0	0	0	15	0	0	52	0
Lane Group Flow (vph)	0	30	1170	76	0	183	2061	23	0	142	6	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2				3
Actuated Green, G (s)		93.9	93.9	93.9		98.4	98.4	98.4		17.6	17.6	
Effective Green, g (s)		93.9	93.9	93.9		98.4	98.4	98.4		17.6	17.6	
Actuated g/C Ratio		0.59	0.59	0.59		0.62	0.62	0.62		0.11	0.11	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		129	2076	929		274	2176	973		196	174	
v/s Ratio Prot		0.01	c0.33			0.05	c0.58			c0.08		
v/s Ratio Perm		0.12		0.05		0.36		0.01			0.00	
v/c Ratio		0.23	0.56	0.08		0.67	0.95	0.02		0.72	0.04	
Uniform Delay, d1		62.2	20.4	14.3		19.7	28.4	12.0		68.9	63.6	
Progression Factor		1.21	1.36	2.61		1.60	0.88	1.00		1.00	1.00	
Incremental Delay, d2		0.3	1.0	0.2		3.7	8.6	0.0		11.7	0.1	
Delay (s)		75.8	28.8	37.6		35.2	33.7	12.1		80.6	63.7	
Level of Service		E	C	D		D	C	B		F	E	
Approach Delay (s)			30.7				33.5			75.7		
Approach LOS			C				C			E		
Intersection Summary												
HCM 2000 Control Delay			37.0				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			81.9%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build AM Peak

01/07/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	49	31
Future Volume (vph)	49	31
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1768	
Flt Permitted	0.99	
Satd. Flow (perm)	1768	
Peak-hour factor, PHF	0.89	0.89
Adj. Flow (vph)	55	35
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	120	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.1	
Effective Green, g (s)	13.1	
Actuated g/C Ratio	0.08	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	144	
v/s Ratio Prot	c0.07	
v/s Ratio Perm		
v/c Ratio	0.83	
Uniform Delay, d1	72.4	
Progression Factor	1.00	
Incremental Delay, d2	31.2	
Delay (s)	103.6	
Level of Service	F	
Approach Delay (s)	103.6	
Approach LOS	F	
Intersection Summary		

Timings

2023 Future Build AM Peak

7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

01/07/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	79	29	224	66	62	206	213	7	297
Future Volume (vph)	79	29	224	66	62	206	213	7	297
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 94.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

HCM 2010 Signalized Intersection Summary
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2023 Future Build AM Peak
01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	29	224	66	62	9	206	213	20	7	297	76
Future Volume (veh/h)	79	29	224	66	62	9	206	213	20	7	297	76
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	81	30	0	67	63	9	210	217	20	7	303	78
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	59	184	172	101	13	662	1176	108	716	749	193
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.12	0.08	0.70	0.70	0.52	0.52	0.52
Sat Flow, veh/h	1122	506	1583	722	871	110	1774	1681	155	1139	1430	368
Grp Volume(v), veh/h	111	0	0	139	0	0	210	0	237	7	0	381
Grp Sat Flow(s),veh/h/ln	1629	0	1583	1704	0	0	1774	0	1835	1139	0	1798
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	2.9	0.0	2.7	0.2	0.0	7.7
Cycle Q Clear(g_c), s	3.6	0.0	0.0	4.5	0.0	0.0	2.9	0.0	2.7	0.2	0.0	7.7
Prop In Lane	0.73		1.00	0.48		0.06	1.00		0.08	1.00		0.20
Lane Grp Cap(c), veh/h	293	0	184	287	0	0	662	0	1284	716	0	942
V/C Ratio(X)	0.38	0.00	0.00	0.48	0.00	0.00	0.32	0.00	0.18	0.01	0.00	0.40
Avail Cap(c_a), veh/h	720	0	656	756	0	0	955	0	1673	1157	0	1638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	0.0	25.5	0.0	0.0	5.4	0.0	3.1	6.9	0.0	8.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.2	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.0	0.0	4.1	0.0	0.0	2.6	0.0	2.5	0.1	0.0	7.3
LnGrp Delay(d),s/veh	25.8	0.0	0.0	26.5	0.0	0.0	5.5	0.0	3.4	6.9	0.0	9.7
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	111			139			447			388		
Approach Delay, s/veh	25.8			26.5			4.4			9.6		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4	5	6	8					
Phs Duration (G+Y+Rc), s	48.0			12.3	10.6	37.4	12.3					
Change Period (Y+Rc), s	* 5.8			* 5.3	5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55			* 25	15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	4.7			6.5	4.9	9.7	5.6					
Green Ext Time (p_c), s	23.1			0.6	0.3	21.9	0.6					
Intersection Summary												
HCM 2010 Ctrl Delay				11.3								
HCM 2010 LOS	B											
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build AM Peak

01/07/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	15	29	30	407	21	587
Future Volume (vph)	15	29	30	407	21	587
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	24.0	24.2	71.8	71.8	71.8	71.8
Total Split (%)	20.0%	20.2%	59.8%	59.8%	59.8%	59.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
71.8 s	24.2 s	24 s
↑ Ø6 (R)		
71.8 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build AM Peak

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	15	28	35	29	26	30	407	22	21	587	28
Future Volume (vph)	26	15	28	35	29	26	30	407	22	21	587	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1728			1755		1770	1848		1770	1850	
Flt Permitted		0.98			0.98		0.32	1.00		0.44	1.00	
Satd. Flow (perm)		1728			1755		588	1848		818	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	30	17	32	40	33	30	34	462	25	24	667	32
RTOR Reduction (vph)	0	22	0	0	14	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	57	0	0	89	0	34	487	0	24	698	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Effective Green, g (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Actuated g/C Ratio		0.07			0.10		0.70	0.70		0.70	0.70	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		119			168		410	1288		570	1290	
v/s Ratio Prot		c0.03			c0.05			0.26			c0.38	
v/s Ratio Perm							0.06			0.03		
v/c Ratio		0.48			0.53		0.08	0.38		0.04	0.54	
Uniform Delay, d1		53.8			51.7		5.8	7.5		5.7	8.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			3.2		0.4	0.8		0.1	1.6	
Delay (s)		56.7			54.9		6.2	8.3		5.8	10.5	
Level of Service		E			D		A	A		A	B	
Approach Delay (s)		56.7			54.9			8.2			10.3	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			15.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.5		
Intersection Capacity Utilization			48.4%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future Build AM Peak

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	89	311	231	47	789	517	344	38	254	374
Future Volume (vph)	89	311	231	47	789	517	344	38	254	374
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 147.1

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	311	231	47	789	42	517	344	51	38	254	374
Future Volume (veh/h)	89	311	231	47	789	42	517	344	51	38	254	374
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	95	331	0	50	839	0	550	366	0	40	270	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	873	742	469	1596	0	625	593	0	255	304	259
Arrive On Green	0.04	0.47	0.00	0.03	0.45	0.00	0.18	0.32	0.00	0.03	0.16	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	95	331	0	50	839	0	550	366	0	40	270	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	3.8	15.3	0.0	2.0	22.7	0.0	20.7	22.2	0.0	2.5	18.9	0.0
Cycle Q Clear(g_c), s	3.8	15.3	0.0	2.0	22.7	0.0	20.7	22.2	0.0	2.5	18.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	873	742	469	1596	0	625	593	0	255	304	259
V/C Ratio(X)	0.30	0.38	0.00	0.11	0.53	0.00	0.88	0.62	0.00	0.16	0.89	0.00
Avail Cap(c_a), veh/h	437	873	742	624	1596	0	776	593	0	408	560	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.2	22.9	0.0	19.4	26.3	0.0	53.1	38.4	0.0	44.7	54.5	0.0
Incr Delay (d2), s/veh	0.5	1.3	0.0	0.1	1.2	0.0	9.8	1.9	0.0	0.3	8.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	12.8	0.0	1.8	16.9	0.0	16.1	17.3	0.0	2.2	15.8	0.0
LnGrp Delay(d),s/veh	20.8	24.1	0.0	19.5	27.5	0.0	62.8	40.4	0.0	45.0	63.0	0.0
LnGrp LOS	C	C		B	C		E	D		D	E	
Approach Vol, veh/h	426				889		916				310	
Approach Delay, s/veh	23.4				27.1		53.8				60.7	
Approach LOS	C				C		D				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	65.6	29.0	27.3	8.7	67.9	8.4	48.0				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+I1), s	5.8	24.7	22.7	20.9	4.0	17.3	4.5	24.2				
Green Ext Time (p_c), s	0.1	29.0	1.4	0.9	0.1	30.6	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			40.2									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build AM Peak
01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	15	1089	20	219	2075	17	44	9	43	23
Future Volume (vph)	15	1089	20	219	2075	17	44	9	43	23
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	95.0	95.0	25.0	105.0	105.0	15.0	40.0	25.0	25.0
Total Split (%)	9.4%	59.4%	59.4%	15.6%	65.6%	65.6%	9.4%	25.0%	15.6%	15.6%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 105 (66%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	105 s	15 s	25 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	95 s	40 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build AM Peak
01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1089	20	219	2075	17	44	9	45	43	23	60
Future Volume (veh/h)	15	1089	20	219	2075	17	44	9	45	43	23	60
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	1197	0	241	2280	19	48	10	49	47	25	66
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	3441	1071	409	3622	1128	122	40	196	137	31	82
Arrive On Green	0.01	0.68	0.00	0.04	0.48	0.48	0.03	0.15	0.15	0.07	0.07	0.07
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	275	1349	1338	454	1198
Grp Volume(v), veh/h	16	1197	0	241	2280	19	48	0	59	47	0	91
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1625	1338	0	1651
Q Serve(g_s), s	0.5	15.9	0.0	6.3	53.6	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Cycle Q Clear(g_c), s	0.5	15.9	0.0	6.3	53.6	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.73
Lane Grp Cap(c), veh/h	128	3441	1071	409	3622	1128	122	0	236	137	0	113
V/C Ratio(X)	0.13	0.35	0.00	0.59	0.63	0.02	0.39	0.00	0.25	0.34	0.00	0.80
Avail Cap(c_a), veh/h	194	3441	1071	523	3622	1128	152	0	327	189	0	178
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	0.49	0.49	0.49	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	10.9	0.0	8.4	26.1	12.3	64.9	0.0	60.7	71.9	0.0	73.5
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.2	0.4	0.0	0.8	0.0	0.4	1.1	0.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	12.0	0.0	5.1	31.1	0.8	3.5	0.0	4.2	3.7	0.0	7.7
LnGrp Delay(d),s/veh	15.9	11.2	0.0	8.6	26.5	12.3	65.7	0.0	61.1	73.0	0.0	84.0
LnGrp LOS	B	B		A	C	B	E		E	E		F
Approach Vol, veh/h	1213				2540				107		138	
Approach Delay, s/veh	11.3				24.7				63.2		80.3	
Approach LOS	B				C				E		F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	9.0	120.0	12.2	18.8	14.7	114.3	31.0					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	99.0	8.0	17.2	18.9	89.0	32.2					
Max Q Clear Time (g_c+I1), s	2.5	55.6	5.9	10.7	8.3	17.9	7.2					
Green Ext Time (p_c), s	0.0	43.3	0.0	0.3	0.3	70.8	0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	23.6											
HCM 2010 LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings
11: Sugarloaf Pkwy & Peachtree Industrial Blvd

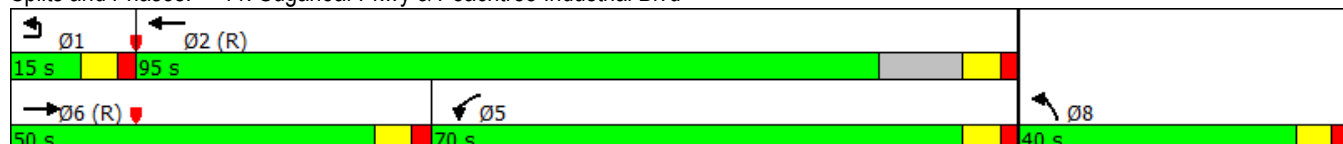
2023 Future Build AM Peak
01/07/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑	
Traffic Volume (vph)	470	761	1351	1275	970	635	
Future Volume (vph)	470	761	1351	1275	970	635	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	50.0		70.0	95.0	40.0		15.0
Total Split (%)	31.3%		43.8%	59.4%	25.0%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		None

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 35 (22%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future Build AM Peak

01/07/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		  		  	  	 	
Traffic Volume (vph)	0	470	761	1351	1275	970	635
Future Volume (vph)	0	470	761	1351	1275	970	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	480	777	1379	1301	990	648
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	480	777	1379	1301	990	648
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		35.1	160.0	71.5	113.3	33.1	160.0
Effective Green, g (s)		35.1	160.0	71.5	113.3	33.1	160.0
Actuated g/C Ratio		0.22	1.00	0.45	0.71	0.21	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1115	1583	1534	3600	710	1583
v/s Ratio Prot		0.09		c0.40	0.26	c0.29	
v/s Ratio Perm			c0.49				0.41
v/c Ratio		0.43	0.49	0.90	0.36	1.39	0.41
Uniform Delay, d1		53.8	0.0	40.9	9.2	63.5	0.0
Progression Factor		0.87	1.00	1.00	1.00	0.57	1.00
Incremental Delay, d2		1.2	1.0	7.4	0.3	178.3	0.1
Delay (s)		48.1	1.0	48.3	9.4	214.5	0.1
Level of Service		D	A	D	A	F	A
Approach Delay (s)		19.0			29.4	129.7	
Approach LOS		B			C	F	
Intersection Summary							
HCM 2000 Control Delay			56.5		HCM 2000 Level of Service		E
HCM 2000 Volume to Capacity ratio			0.94				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			99.8%		ICU Level of Service		F
Analysis Period (min)			15				

c Critical Lane Group

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak

01/07/2019

												
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	146	226	41	73	443	169	52	1310	96	1	160
Future Volume (vph)	1	146	226	41	73	443	169	52	1310	96	1	160
Turn Type	pm+pt	pm+pt	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	7	7	4		3	8		1	6		5	5
Permitted Phases	4	4		8	8		8	6		6	2	2
Detector Phase	3	3	4	8	7	8	8	1	6	6	5	5
Switch Phase	8	8			4							
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0
Minimum Split (s)	15.0	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0
Total Split (s)	27.0	27.0	52.0	48.0	23.0	48.0	48.0	15.0	65.0	65.0	20.0	20.0
Total Split (%)	16.9%	16.9%	32.5%	30.0%	14.4%	30.0%	30.0%	9.4%	40.6%	40.6%	12.5%	12.5%
Yellow Time (s)	3.9	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6
All-Red Time (s)	3.0	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	None	None	Max	Max	None	Max	Max	None	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 85 (53%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

			
Ø1	Ø2 (R)	Ø3	Ø4
15 s	70 s	23 s	52 s
			
Ø5	Ø6 (R)	Ø7	Ø8
20 s	65 s	27 s	48 s

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak

01/07/2019

	↓	↘
Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1616	397
Future Volume (vph)	1616	397
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Detector Phase	2	2
Switch Phase		
Minimum Initial (s)	20.0	20.0
Minimum Split (s)	42.7	42.7
Total Split (s)	70.0	70.0
Total Split (%)	43.8%	43.8%
Yellow Time (s)	4.7	4.7
All-Red Time (s)	1.9	1.9
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	6.6	6.6
Lead/Lag	Lag	Lag
Lead-Lag Optimize?		
Recall Mode	C-Min	C-Min
Intersection Summary		

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	146	226	41	73	443	169	52	1310	96	1	160
Future Volume (vph)	1	146	226	41	73	443	169	52	1310	96	1	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	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
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (prot)		1770	1863	1583	1770	1863	1583	1770	3539	1583		1770
Flt Permitted		0.09	1.00	1.00	0.52	1.00	1.00	0.07	1.00	1.00		0.06
Satd. Flow (perm)		165	1863	1583	962	1863	1583	126	3539	1583		114
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	152	235	43	76	461	176	54	1365	100	1	167
RTOR Reduction (vph)	0	0	0	32	0	0	87	0	0	63	0	0
Lane Group Flow (vph)	0	153	235	11	76	461	89	54	1365	37	0	168
Turn Type	pm+pt	pm+pt	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	7	7	4		3	8		1	6		5	5
Permitted Phases	4	4		8	8		8	6		6	2	2
Actuated Green, G (s)		65.3	45.2	41.2	57.3	41.2	41.2	64.9	59.0	59.0		78.4
Effective Green, g (s)		65.3	45.2	41.2	57.3	41.2	41.2	64.9	59.0	59.0		78.4
Actuated g/C Ratio		0.41	0.28	0.26	0.36	0.26	0.26	0.41	0.37	0.37		0.49
Clearance Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Vehicle Extension (s)		2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0
Lane Grp Cap (vph)		268	526	407	425	479	407	111	1305	583		188
v/s Ratio Prot		c0.07	0.13		0.02	c0.25		0.02	0.39			c0.07
v/s Ratio Perm		c0.16		0.01	0.05		0.06	0.18		0.02		0.37
v/c Ratio		0.57	0.45	0.03	0.18	0.96	0.22	0.49	1.05	0.06		0.89
Uniform Delay, d1		36.0	47.1	44.4	34.6	58.6	46.7	38.9	50.5	32.6		48.0
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.49
Incremental Delay, d2		1.8	2.7	0.1	0.1	32.8	1.2	1.2	37.8	0.2		27.9
Delay (s)		37.8	49.9	44.5	34.7	91.4	48.0	40.1	88.3	32.8		99.6
Level of Service		D	D	D	C	F	D	D	F	C		F
Approach Delay (s)			45.1			74.6			83.0			
Approach LOS			D			E			F			
Intersection Summary												
HCM 2000 Control Delay			81.2			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.9			
Intersection Capacity Utilization			101.9%			ICU Level of Service			G			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak
01/07/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1616	397
Future Volume (vph)	1616	397
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1683	414
RTOR Reduction (vph)	0	113
Lane Group Flow (vph)	1683	301
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	65.9	65.9
Effective Green, g (s)	65.9	65.9
Actuated g/C Ratio	0.41	0.41
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	6.0	6.0
Lane Grp Cap (vph)	1457	651
v/s Ratio Prot	c0.48	
v/s Ratio Perm		0.19
v/c Ratio	1.16	0.46
Uniform Delay, d1	47.0	34.2
Progression Factor	0.65	0.38
Incremental Delay, d2	75.6	1.6
Delay (s)	106.2	14.8
Level of Service	F	B
Approach Delay (s)	89.0	
Approach LOS	F	
Intersection Summary		

Timings

2023 Future Build PM Peak

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

02/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Configurations											
Traffic Volume (vph)	447	1749	367	71	1295	302	596	2404	381	950	
Future Volume (vph)	447	1749	367	71	1295	302	596	2404	381	950	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	
Protected Phases	7	4		3	8		1	6	5	2	
Permitted Phases			4			8					
Detector Phase	7	4	4	3	8	8	1	6	5	2	
Switch Phase	4			8							
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	4.0	20.0	
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	15.0	38.4	
Total Split (s)	25.0	55.0	55.0	15.0	45.0	45.0	40.0	70.0	20.0	50.0	
Total Split (%)	15.6%	34.4%	34.4%	9.4%	28.1%	28.1%	25.0%	43.8%	12.5%	31.3%	
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	4.3	5.4	
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	2.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.8	6.9	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?											
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	Min	C-Min	

Intersection Summary

Cycle Length: 160

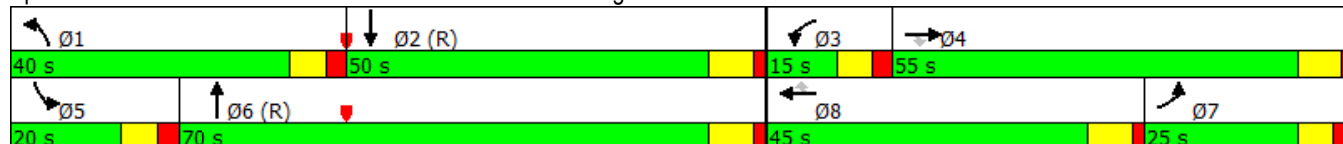
Actuated Cycle Length: 160

Offset: 140 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



HCM 2010 Signalized Intersection Summary
1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

2023 Future Build PM Peak
02/07/2019

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	447	1749	367	71	1295	302	596	2404	180	381	950	503				
Future Volume (veh/h)	447	1749	367	71	1295	302	596	2404	180	381	950	503				
Number	7	4	14	3	8	18	1	6	16	5	2	12				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	456	1785	0	72	1321	308	608	2453	0	389	969	0				
Adj No. of Lanes	2	3	1	2	3	1	2	3	0	2	3	0				
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	394	1636	509	110	1214	378	660	2110	0	284	1555	0				
Arrive On Green	0.11	0.32	0.00	0.03	0.24	0.24	0.19	0.42	0.00	0.08	0.31	0.00				
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5253	0	3442	5253	0				
Grp Volume(v), veh/h	456	1785	0	72	1321	308	608	2453	0	389	969	0				
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	0	1721	1695	0				
Q Serve(g_s), s	18.3	51.5	0.0	3.3	38.2	19.5	27.7	66.4	0.0	13.2	26.1	0.0				
Cycle Q Clear(g_c), s	18.3	51.5	0.0	3.3	38.2	19.5	27.7	66.4	0.0	13.2	26.1	0.0				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00				
Lane Grp Cap(c), veh/h	394	1636	509	110	1214	378	660	2110	0	284	1555	0				
V/C Ratio(X)	1.16	1.09	0.00	0.65	1.09	0.81	0.92	1.16	0.00	1.37	0.62	0.00				
Avail Cap(c_a), veh/h	394	1636	509	179	1214	378	714	2110	0	284	1555	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00				
Uniform Delay (d), s/veh	70.8	54.3	0.0	76.6	60.9	25.4	63.5	46.8	0.0	73.4	47.6	0.0				
Incr Delay (d2), s/veh	96.1	51.5	0.0	6.3	53.2	16.2	16.7	78.7	0.0	187.4	1.9	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(95%),veh/ln	25.1	57.4	0.0	3.0	42.9	15.5	21.0	83.6	0.0	24.6	18.4	0.0				
LnGrp Delay(d),s/veh	166.9	105.8	0.0	82.9	114.1	41.6	80.2	125.5	0.0	260.8	49.5	0.0				
LnGrp LOS	F	F		F	F	D	F	F		F	D					
Approach Vol, veh/h	2241				1701				3061							
Approach Delay, s/veh	118.2				99.7				116.5							
Approach LOS	F				F				F							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	37.5	55.9	11.8	58.3	20.0	73.4	25.1	45.0								
Change Period (Y+Rc), s	6.8	6.9	6.7	6.8	6.8	6.9	6.8	* 6.8								
Max Green Setting (Gmax), s	33.2	43.1	8.3	48.2	13.2	63.1	18.3	* 38								
Max Q Clear Time (g_c+l1), s	29.7	28.1	5.3	53.5	15.2	68.4	20.3	40.2								
Green Ext Time (p_c), s	0.9	14.9	0.0	0.0	0.0	0.0	0.0	0.0								
Intersection Summary																
HCM 2010 Ctrl Delay	112.5															
HCM 2010 LOS	F															
Notes																
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.																

Timings

2023 Future Build PM Peak

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

02/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	729	2212	288	87	1149	267	264	304	484	370	523
Future Volume (vph)	729	2212	288	87	1149	267	264	304	484	370	523
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6			2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	35.0	75.0	75.0	15.0	55.0	55.0	15.0	25.0	45.0	55.0	
Total Split (%)	21.9%	46.9%	46.9%	9.4%	34.4%	34.4%	9.4%	15.6%	28.1%	34.4%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

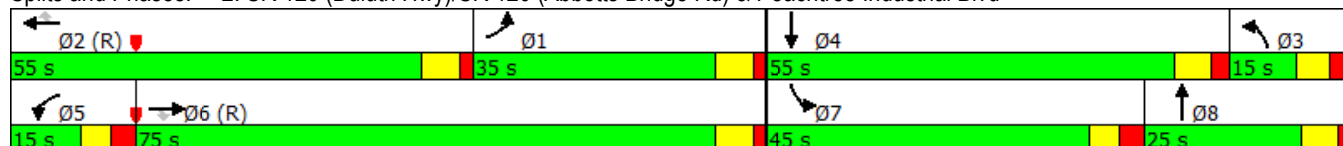
Actuated Cycle Length: 160

Offset: 80 (50%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	729	2212	288	87	1149	267	264	304	51	484	370	523
Future Volume (veh/h)	729	2212	288	87	1149	267	264	304	51	484	370	523
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	729	2212	0	87	1149	0	264	304	0	484	370	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	943	1854	829	92	1082	484	473	350	0	552	438	196
Arrive On Green	0.27	0.52	0.00	0.05	0.31	0.00	0.14	0.10	0.00	0.16	0.12	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583
Grp Volume(v), veh/h	729	2212	0	87	1149	0	264	304	0	484	370	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583
Q Serve(g_s), s	31.2	83.8	0.0	7.8	48.9	0.0	11.5	13.5	0.0	22.0	16.4	0.0
Cycle Q Clear(g_c), s	31.2	83.8	0.0	7.8	48.9	0.0	11.5	13.5	0.0	22.0	16.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	943	1854	829	92	1082	484	473	350	0	552	438	196
V/C Ratio(X)	0.77	1.19	0.00	0.95	1.06	0.00	0.56	0.87	0.00	0.88	0.85	0.00
Avail Cap(c_a), veh/h	943	1854	829	92	1082	484	473	411	0	824	1075	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.5	38.1	0.0	75.6	55.5	0.0	64.5	71.1	0.0	65.6	68.6	0.0
Incr Delay (d2), s/veh	4.0	92.5	0.0	75.1	45.5	0.0	0.9	14.3	0.0	7.2	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.9	116.1	0.0	9.7	55.3	0.0	9.4	11.8	0.0	16.5	13.0	0.0
LnGrp Delay(d),s/veh	57.6	130.6	0.0	150.7	101.0	0.0	65.4	85.4	0.0	72.8	73.2	0.0
LnGrp LOS	E	F		F	F		E	F		E	E	
Approach Vol, veh/h	2941				1236				568			
Approach Delay, s/veh	112.5				104.5				76.1			
Approach LOS	F				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	49.9	55.0	28.9	26.2	15.0	89.9	32.4	22.7				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	* 6.9				
Max Green Setting (Gmax), s	* 29	* 49	8.1	48.6	* 8.3	* 69	* 38	* 19				
Max Q Clear Time (g_c+l1), s	33.2	50.9	13.5	18.4	9.8	85.8	24.0	15.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	0.0	1.7	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			101.0									
HCM 2010 LOS			F									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future Build PM Peak

02/07/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	160	128	46	440	500	35		
Future Volume (vph)	160	128	46	440	500	35		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	23.0	32.0	73.0	73.0	73.0	73.0	24.0	15.0
Total Split (%)	19.2%	26.7%	60.8%	60.8%	60.8%	60.8%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 42.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
73 s	23 s	24 s
 Ø6	 Ø7	 Ø8
73 s	15 s	32 s

HCM 2010 Signalized Intersection Summary
3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

2023 Future Build PM Peak
02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	0	128	0	0	0	46	440	0	0	500	35
Future Volume (veh/h)	160	0	128	0	0	0	46	440	0	0	500	35
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	167	0	133	0	0	0	48	458	0	0	521	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	229	194	129	3	0	619	1275	1084	126	1275	1084
Arrive On Green	0.12	0.00	0.12	0.00	0.00	0.00	0.68	0.68	0.00	0.00	0.68	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	877	1863	1583	930	1863	1583
Grp Volume(v), veh/h	167	0	133	0	0	0	48	458	0	0	521	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	877	1863	1583	930	1863	1583
Q Serve(g_s), s	5.2	0.0	4.6	0.0	0.0	0.0	1.4	5.9	0.0	0.0	7.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	4.6	0.0	0.0	0.0	8.4	5.9	0.0	0.0	7.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	229	194	129	3	0	619	1275	1084	126	1275	1084
V/C Ratio(X)	0.49	0.00	0.68	0.00	0.00	0.00	0.08	0.36	0.00	0.00	0.41	0.00
Avail Cap(c_a), veh/h	670	865	735	422	604	0	1057	2204	1873	590	2204	1873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	0.0	24.0	0.0	0.0	0.0	5.8	3.8	0.0	0.0	3.9	0.0
Incr Delay (d2), s/veh	1.1	0.0	4.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	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	4.7	0.0	4.0	0.0	0.0	0.0	0.6	5.4	0.0	0.0	6.4	0.0
LnGrp Delay(d),s/veh	25.2	0.0	28.2	0.0	0.0	0.0	5.8	3.9	0.0	0.0	4.2	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	300				0		506				521	
Approach Delay, s/veh	26.5				0.0		4.1				4.2	
Approach LOS	C						A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	44.5		12.5	0.0	44.5		0.0	12.5				
Change Period (Y+Rc), s	5.5		5.5	5.5	5.5		5.5	5.5				
Max Green Setting (Gmax), s	67.5		17.5	18.5	67.5		9.5	26.5				
Max Q Clear Time (g_c+I1), s	10.4		7.2	0.0	9.0		0.0	6.6				
Green Ext Time (p_c), s	28.6		0.4	0.0	29.0		0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 169.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱↱	↰	↰	↱↱	↰		↱↱			↱↱	
Traffic Vol, veh/h	203	2394	127	77	1315	105	30	13	79	77	8	138
Future Vol, veh/h	203	2394	127	77	1315	105	30	13	79	77	8	138
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	385	-	270	335	-	120	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	214	2520	134	81	1384	111	32	14	83	81	8	145

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	1495	0	0	2520	0	0	3806	4605	1260	3241	4494	692
Stage 1	-	-	-	-	-	-	2948	2948	-	1546	1546	-
Stage 2	-	-	-	-	-	-	858	1657	-	1695	2948	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	445	-	-	176	-	-	~ 1	~ 1	162	~ 4	~ 1	386
Stage 1	-	-	-	-	-	-	~ 15	33	-	120	174	-
Stage 2	-	-	-	-	-	-	318	154	-	96	33	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	445	-	-	176	-	-	0	0	162	~ 1	0	386
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 8	16	-	~ 15	~ -25	-
Stage 1	-	-	-	-	-	-	~ 8	17	-	~ 62	94	-
Stage 2	-	-	-	-	-	-	97	83	-	~ 5	17	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	2.2	\$ 2282.7	\$ 2193
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	24	445	-	-	176	-	-	43
HCM Lane V/C Ratio	5.351	0.48	-	-	0.461	-	-	5.459
HCM Control Delay (s)	\$ 2282.7	20.3	-	-	41.8	-	-	\$ 2193
HCM Lane LOS	F	C	-	-	E	-	-	F
HCM 95th %tile Q(veh)	16.1	2.5	-	-	2.2	-	-	27.2

Notes

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

Intersection

Int Delay, s/veh 11.8

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	8	113	2433	3	7	8	1391	51	12	0	1	48	0	86
Future Vol, veh/h	8	113	2433	3	7	8	1391	51	12	0	1	48	0	86
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	-	None	-	-	None	-	-	None
Storage Length	-	230	-	220	-	215	-	165	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	119	2561	3	7	8	1464	54	13	0	1	51	0	91

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1464	1518	0	0	2561	2561	0	0	3577	4363	1281	3029
Stage 1	-	-	-	-	-	-	-	-	2815	2815	-	1494
Stage 2	-	-	-	-	-	-	-	-	762	1548	-	1535
Critical Hdwy	6.44	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54
Follow-up Hdwy	2.52	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	166	436	-	-	31	170	-	-	~2	2	156	~6
Stage 1	-	-	-	-	-	-	-	-	18	39	-	129
Stage 2	-	-	-	-	-	-	-	-	363	174	-	122
Platoon blocked, %			-	-			-	-				
Mov Cap-1 Maneuver	376	376	-	-	55	55	-	-	~1	1	156	~3
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	~11	~4	-	~47
Stage 1	-	-	-	-	-	-	-	-	~12	26	-	85
Stage 2	-	-	-	-	-	-	-	-	193	123	-	80

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1	\$ 730.2	268.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	12	376	-	-	55	-	-	107
HCM Lane V/C Ratio	1.14	0.339	-	-	0.287	-	-	1.318
HCM Control Delay (s)	\$ 730.2	19.4	-	-	95	-	-	268.6
HCM Lane LOS	F	C	-	-	F	-	-	F
HCM 95th %tile Q(veh)	2.4	1.5	-	-	1	-	-	9.7

Notes

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

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build PM Peak

02/07/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	2	57	2321	184	2	67	1362	44	50	96	40
Future Volume (vph)	2	57	2321	184	2	67	1362	44	50	96	40
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 50 (31%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

			
Ø2 (R)	Ø1	Ø3	Ø4
95 s	15 s	30 s	20 s
			
Ø5	Ø6 (R)		
20 s	90 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build PM Peak

02/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	57	2321	184	2	67	1362	44	141	50	96	38
Future Volume (vph)	2	57	2321	184	2	67	1362	44	141	50	96	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1797	1583	
Flt Permitted		0.13	1.00	1.00		0.05	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		246	3539	1583		84	3539	1583		1797	1583	
Peak-hour factor, PHF	0.95	0.95	0.96	0.95	0.95	0.95	0.96	0.95	0.96	0.95	0.95	0.95
Adj. Flow (vph)	2	60	2418	194	2	71	1419	46	147	53	101	40
RTOR Reduction (vph)	0	0	0	42	0	0	0	18	0	0	88	0
Lane Group Flow (vph)	0	62	2418	152	0	73	1419	28	0	200	13	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2				3
Actuated Green, G (s)		95.4	95.4	95.4		96.0	96.0	96.0		21.2	21.2	
Effective Green, g (s)		95.4	95.4	95.4		96.0	96.0	96.0		21.2	21.2	
Actuated g/C Ratio		0.60	0.60	0.60		0.60	0.60	0.60		0.13	0.13	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		218	2110	943		131	2123	949		238	209	
v/s Ratio Prot		0.01	c0.68			0.03	c0.40			c0.11		
v/s Ratio Perm		0.16		0.10		0.30		0.02			0.01	
v/c Ratio		0.28	1.15	0.16		0.56	0.67	0.03		0.84	0.06	
Uniform Delay, d1		31.4	32.3	14.4		36.5	21.4	13.0		67.7	60.7	
Progression Factor		0.39	0.54	0.14		2.33	0.55	1.00		1.00	1.00	
Incremental Delay, d2		0.0	66.3	0.0		2.7	1.6	0.1		22.2	0.1	
Delay (s)		12.3	83.7	2.0		87.5	13.3	13.1		90.0	60.8	
Level of Service		B	F	A		F	B	B		F	E	
Approach Delay (s)			76.1				16.8			80.2		
Approach LOS			E				B			F		
Intersection Summary												
HCM 2000 Control Delay			56.8				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			90.9%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build PM Peak
02/07/2019

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	40	14
Future Volume (vph)	40	14
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.98	
Satd. Flow (prot)	1787	
Flt Permitted	0.98	
Satd. Flow (perm)	1787	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	42	15
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	92	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	11.9	
Effective Green, g (s)	11.9	
Actuated g/C Ratio	0.07	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	132	
v/s Ratio Prot	c0.05	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	72.3	
Progression Factor	1.00	
Incremental Delay, d2	13.9	
Delay (s)	86.2	
Level of Service	F	
Approach Delay (s)	86.2	
Approach LOS	F	
Intersection Summary		

Timings
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2023 Future Build PM Peak

02/07/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	68	41	265	33	12	239	317	30	230
Future Volume (vph)	68	41	265	33	12	239	317	30	230
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 55.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

HCM 2010 Signalized Intersection Summary
7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

2023 Future Build PM Peak
02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	41	265	33	12	19	239	317	59	30	230	25
Future Volume (veh/h)	68	41	265	33	12	19	239	317	59	30	230	25
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	70	42	0	34	12	20	246	327	61	31	237	26
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	65	157	160	50	51	783	1089	203	642	867	95
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.10	0.09	0.71	0.71	0.53	0.53	0.53
Sat Flow, veh/h	971	652	1583	681	500	513	1774	1528	285	992	1650	181
Grp Volume(v), veh/h	112	0	0	66	0	0	246	0	388	31	0	263
Grp Sat Flow(s),veh/h/ln	1623	0	1583	1694	0	0	1774	0	1812	992	0	1831
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	3.3	0.0	4.6	0.9	0.0	4.7
Cycle Q Clear(g_c), s	3.8	0.0	0.0	2.0	0.0	0.0	3.3	0.0	4.6	0.9	0.0	4.7
Prop In Lane	0.62		1.00	0.52		0.30	1.00		0.16	1.00		0.10
Lane Grp Cap(c), veh/h	260	0	157	260	0	0	783	0	1293	642	0	962
V/C Ratio(X)	0.43	0.00	0.00	0.25	0.00	0.00	0.31	0.00	0.30	0.05	0.00	0.27
Avail Cap(c_a), veh/h	752	0	669	744	0	0	1067	0	1684	1043	0	1701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	0.0	24.9	0.0	0.0	4.6	0.0	3.1	6.9	0.0	7.8
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.5	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	0.0	0.0	1.9	0.0	0.0	2.7	0.0	4.4	0.5	0.0	4.5
LnGrp Delay(d),s/veh	26.5	0.0	0.0	25.3	0.0	0.0	4.7	0.0	3.6	7.0	0.0	8.3
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	112		66				634		294			
Approach Delay, s/veh	26.5		25.3				4.0		8.2			
Approach LOS	C		C				A		A			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	48.0		11.2		11.1	36.9	11.2					
Change Period (Y+Rc), s	* 5.8		* 5.3		5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55		* 25		15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	6.6		4.0		5.3	6.7	5.8					
Green Ext Time (p_c), s	24.4		0.4		0.3	24.4	0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build PM Peak

02/07/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	32	31	32	538	33	512
Future Volume (vph)	32	31	32	538	33	512
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	25.0	26.0	69.0	69.0	69.0	69.0
Total Split (%)	20.8%	21.7%	57.5%	57.5%	57.5%	57.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
69 s	26 s	25 s
↑ Ø6 (R)		
69 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build PM Peak

02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	32	34	40	31	34	32	538	57	33	512	29
Future Volume (vph)	29	32	34	40	31	34	32	538	57	33	512	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1748		1770	1836		1770	1848	
Flt Permitted		0.98			0.98		0.38	1.00		0.34	1.00	
Satd. Flow (perm)		1746			1748		705	1836		642	1848	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	34	36	42	33	36	34	566	60	35	539	31
RTOR Reduction (vph)	0	18	0	0	15	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	83	0	0	96	0	34	624	0	35	569	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Effective Green, g (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Actuated g/C Ratio		0.09			0.10		0.67	0.67		0.67	0.67	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		161			173		472	1231		430	1239	
v/s Ratio Prot		c0.05			c0.05			c0.34			0.31	
v/s Ratio Perm							0.05			0.05		
v/c Ratio		0.51			0.55		0.07	0.51		0.08	0.46	
Uniform Delay, d1		51.9			51.5		6.8	9.8		6.9	9.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8			3.8		0.3	1.5		0.4	1.2	
Delay (s)		54.6			55.3		7.1	11.3		7.2	10.6	
Level of Service		D			E		A	B		A	B	
Approach Delay (s)		54.6			55.3			11.1			10.4	
Approach LOS		D			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.5		
Intersection Capacity Utilization			49.5%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future Build PM Peak

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

02/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	287	384	558	83	343	222	303	75	417	123
Future Volume (vph)	287	384	558	83	343	222	303	75	417	123
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 151.5

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	287	384	558	83	343	38	222	303	55	75	417	123				
Future Volume (veh/h)	287	384	558	83	343	38	222	303	55	75	417	123				
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	1900	1863	1863	1900	1863	1863	1863				
Adj Flow Rate, veh/h	302	404	0	87	361	0	234	319	0	79	439	0				
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	585	885	752	445	1463	0	296	542	0	282	466	396				
Arrive On Green	0.10	0.48	0.00	0.04	0.41	0.00	0.09	0.29	0.00	0.05	0.25	0.00				
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583				
Grp Volume(v), veh/h	302	404	0	87	361	0	234	319	0	79	439	0				
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583				
Q Serve(g_s), s	14.0	21.1	0.0	4.1	9.7	0.0	9.7	21.3	0.0	4.8	33.6	0.0				
Cycle Q Clear(g_c), s	14.0	21.1	0.0	4.1	9.7	0.0	9.7	21.3	0.0	4.8	33.6	0.0				
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00				
Lane Grp Cap(c), veh/h	585	885	752	445	1463	0	296	542	0	282	466	396				
V/C Ratio(X)	0.52	0.46	0.00	0.20	0.25	0.00	0.79	0.59	0.00	0.28	0.94	0.00				
Avail Cap(c_a), veh/h	585	885	752	555	1463	0	711	542	0	385	513	436				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00				
Uniform Delay (d), s/veh	20.0	25.5	0.0	23.3	27.8	0.0	65.1	44.1	0.0	38.6	53.4	0.0				
Incr Delay (d2), s/veh	0.8	1.7	0.0	0.2	0.4	0.0	4.7	1.7	0.0	0.5	24.9	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(95%),veh/ln	11.1	16.8	0.0	3.6	8.4	0.0	8.4	16.7	0.0	4.3	28.0	0.0				
LnGrp Delay(d),s/veh	20.8	27.2	0.0	23.5	28.2	0.0	69.8	45.7	0.0	39.1	78.4	0.0				
LnGrp LOS	C	C		C	C		E	D		D	E					
Approach Vol, veh/h	706				448				553							
Approach Delay, s/veh	24.5				27.3				55.9							
Approach LOS	C				C				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	20.3	65.6	17.4	41.9	11.3	74.6	11.5	47.8								
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6								
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40								
Max Q Clear Time (g_c+l1), s	16.0	11.7	11.7	35.6	6.1	23.1	6.8	23.3								
Green Ext Time (p_c), s	0.0	25.2	0.8	0.7	0.1	19.5	0.1	2.5								
Intersection Summary																
HCM 2010 Ctrl Delay	44.0															
HCM 2010 LOS	D															
Notes																
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.																

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build PM Peak

02/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	60	2229	73	81	1255	14	67	30	28	11
Future Volume (vph)	60	2229	73	81	1255	14	67	30	28	11
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	110.0	110.0	15.0	110.0	110.0	15.0	35.0	20.0	20.0
Total Split (%)	9.4%	68.8%	68.8%	9.4%	68.8%	68.8%	9.4%	21.9%	12.5%	12.5%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	110 s	15 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	110 s	35 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build PM Peak
02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	2229	73	81	1255	14	67	30	157	28	11	20
Future Volume (veh/h)	60	2229	73	81	1255	14	67	30	157	28	11	20
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	72	2686	0	98	1512	17	81	36	189	34	13	24
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	3435	1070	132	3436	1070	209	44	232	87	45	83
Arrive On Green	0.02	0.68	0.00	0.06	1.00	1.00	0.05	0.17	0.17	0.08	0.08	0.08
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	260	1363	1151	587	1084
Grp Volume(v), veh/h	72	2686	0	98	1512	17	81	0	225	34	0	37
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1622	1151	0	1671
Q Serve(g_s), s	2.0	58.1	0.0	2.8	0.0	0.0	6.6	0.0	21.4	4.7	0.0	3.3
Cycle Q Clear(g_c), s	2.0	58.1	0.0	2.8	0.0	0.0	6.6	0.0	21.4	11.1	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.84	1.00		0.65
Lane Grp Cap(c), veh/h	317	3435	1070	132	3436	1070	209	0	276	87	0	127
V/C Ratio(X)	0.23	0.78	0.00	0.74	0.44	0.02	0.39	0.00	0.82	0.39	0.00	0.29
Avail Cap(c_a), veh/h	363	3435	1070	178	3436	1070	209	0	276	87	0	127
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	0.80	0.80	0.80	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.5	17.9	0.0	33.9	0.0	0.0	62.3	0.0	64.0	76.6	0.0	69.8
Incr Delay (d2), s/veh	0.1	1.8	0.0	5.2	0.3	0.0	0.4	0.0	16.6	2.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	36.3	0.0	5.5	0.2	0.0	5.8	0.0	16.3	2.8	0.0	2.9
LnGrp Delay(d),s/veh	7.6	19.7	0.0	39.1	0.3	0.0	62.7	0.0	80.6	78.7	0.0	70.7
LnGrp LOS	A	B		D	A	A	E		F	E		E
Approach Vol, veh/h	2758			1627			306			71		
Approach Delay, s/veh	19.4			2.7			75.9			74.5		
Approach LOS	B			A			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	10.9	114.1	15.0	20.0	10.9	114.1	35.0					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	104.0	8.0	12.2	8.9	104.0	27.2					
Max Q Clear Time (g_c+I1), s	4.0	2.0	8.6	13.1	4.8	60.1	23.4					
Green Ext Time (p_c), s	0.0	101.4	0.0	0.0	0.0	43.8	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings
11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future Build PM Peak

02/07/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑	
Traffic Volume (vph)	1583	997	899	655	779	1266	
Future Volume (vph)	1583	997	899	655	779	1266	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	60.0		50.0	95.0	50.0		15.0
Total Split (%)	37.5%		31.3%	59.4%	31.3%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		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: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future Build PM Peak

02/07/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		  		 	  	 	
Traffic Volume (vph)	0	1583	997	899	655	779	1266
Future Volume (vph)	0	1583	997	899	655	779	1266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1649	1039	936	682	811	1319
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1649	1039	936	682	811	1319
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		53.3	160.0	43.3	103.3	43.1	160.0
Effective Green, g (s)		53.3	160.0	43.3	103.3	43.1	160.0
Actuated g/C Ratio		0.33	1.00	0.27	0.65	0.27	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1693	1583	929	3283	924	1583
v/s Ratio Prot		c0.32		c0.27	0.13	0.24	
v/s Ratio Perm			0.66				c0.83
v/c Ratio		0.97	0.66	1.01	0.21	0.88	0.83
Uniform Delay, d1		52.7	0.0	58.4	11.6	55.9	0.0
Progression Factor		1.18	1.00	1.00	1.00	0.72	1.00
Incremental Delay, d2		12.3	1.4	31.4	0.1	1.2	0.5
Delay (s)		74.4	1.4	89.7	11.7	41.4	0.5
Level of Service		E	A	F	B	D	A
Approach Delay (s)		46.2			56.9	16.1	
Approach LOS		D			E	B	
Intersection Summary							
HCM 2000 Control Delay			38.9		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.98				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			95.4%		ICU Level of Service		F
Analysis Period (min)			15				
c Critical Lane Group							

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build PM Peak

02/07/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Future Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases	4		4	8		8	6		6	2	2	
Detector Phase	3	4	4	7	8	8	1	6	6	5	5	2
Switch Phase	8			4								
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0	20.0
Minimum Split (s)	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0	42.7
Total Split (s)	25.0	50.0	50.0	15.0	40.0	40.0	20.0	76.0	76.0	19.0	19.0	75.0
Total Split (%)	15.6%	31.3%	31.3%	9.4%	25.0%	25.0%	12.5%	47.5%	47.5%	11.9%	11.9%	46.9%
Yellow Time (s)	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6	4.7
All-Red Time (s)	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 70 (44%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	75 s	15 s	50 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
19 s	76 s	25 s	40 s

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build PM Peak
02/07/2019



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	161
Future Volume (vph)	161
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Detector Phase	2
Switch Phase	
Minimum Initial (s)	20.0
Minimum Split (s)	42.7
Total Split (s)	75.0
Total Split (%)	46.9%
Yellow Time (s)	4.7
All-Red Time (s)	1.9
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.6
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	C-Min
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build PM Peak

02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Future Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583		1770	3539
Flt Permitted	0.32	1.00	1.00	0.12	1.00	1.00	0.06	1.00	1.00		0.05	1.00
Satd. Flow (perm)	603	1863	1583	224	1863	1583	107	3539	1583		98	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	502	34	84	233	227	59	1732	97	2	200	1704
RTOR Reduction (vph)	0	0	25	0	0	130	0	0	55	0	0	0
Lane Group Flow (vph)	318	502	9	84	233	97	59	1732	42	0	202	1704
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases	4		4	8		8	6		6	2	2	
Actuated Green, G (s)	58.2	43.2	43.2	41.3	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Effective Green, g (s)	58.2	43.2	43.2	41.3	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Actuated g/C Ratio	0.36	0.27	0.27	0.26	0.21	0.21	0.47	0.43	0.43		0.55	0.47
Clearance Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Vehicle Extension (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0	6.0
Lane Grp Cap (vph)	351	503	427	136	386	328	113	1535	686		183	1674
v/s Ratio Prot	c0.10	c0.27		0.03	0.13		0.02	0.49			c0.09	c0.48
v/s Ratio Perm	0.23		0.01	0.13		0.06	0.22		0.03		c0.52	
v/c Ratio	0.91	1.00	0.02	0.62	0.60	0.30	0.52	1.13	0.06		1.10	1.02
Uniform Delay, d1	44.4	58.4	42.9	48.9	57.4	53.5	36.9	45.3	26.4		53.4	42.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.70	0.50
Incremental Delay, d2	25.3	39.5	0.1	5.8	4.7	1.4	2.0	66.7	0.2		82.2	21.6
Delay (s)	69.7	97.9	42.9	54.6	62.1	55.0	38.9	112.0	26.5		173.2	42.8
Level of Service	E	F	D	D	E	D	D	F	C		F	D
Approach Delay (s)		85.2			58.0			105.3				52.1
Approach LOS		F			E			F				D

Intersection Summary

HCM 2000 Control Delay	76.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.9
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	161
Future Volume (vph)	161
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.6
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	168
RTOR Reduction (vph)	87
Lane Group Flow (vph)	81
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	75.7
Effective Green, g (s)	75.7
Actuated g/C Ratio	0.47
Clearance Time (s)	6.6
Vehicle Extension (s)	6.0
Lane Grp Cap (vph)	748
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.11
Uniform Delay, d1	23.4
Progression Factor	0.01
Incremental Delay, d2	0.2
Delay (s)	0.3
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Future “Build” Improved Intersection Analysis

Timings

2023 Future Build AM Peak - Improved

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 	  		 	  		  	  		  	  
Traffic Volume (vph)	346	1411	554	91	1237	104	405	1221	65	445	1758
Future Volume (vph)	346	1411	554	91	1237	104	405	1221	65	445	1758
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		1	6		5	2
Permitted Phases			4			8			6		
Detector Phase	7	4	4	3	8	8	1	6	6	5	2
Switch Phase	4			8							
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	20.0	4.0	20.0
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	38.9	15.0	38.4
Total Split (s)	25.0	65.0	65.0	15.0	55.0	55.0	28.0	50.0	50.0	30.0	52.0
Total Split (%)	15.6%	40.6%	40.6%	9.4%	34.4%	34.4%	17.5%	31.3%	31.3%	18.8%	32.5%
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	5.4	4.3	5.4
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.9	6.8	6.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 160

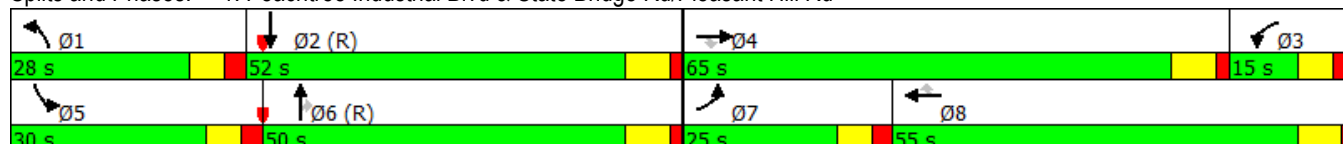
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	1411	554	91	1237	104	405	1221	65	445	1758	610
Future Volume (veh/h)	346	1411	554	91	1237	104	405	1221	65	445	1758	610
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	349	1425	0	92	1249	105	409	1233	0	449	1776	0
Adj No. of Lanes	2	3	1	2	3	1	3	3	1	3	3	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	1850	524	233	1470	458	501	1805	511	538	1710	0
Arrive On Green	0.11	0.33	0.00	0.07	0.29	0.29	0.09	0.32	0.00	0.11	0.34	0.00
Sat Flow, veh/h	3548	5588	1583	3442	5085	1583	5322	5588	1583	5003	5253	0
Grp Volume(v), veh/h	349	1425	0	92	1249	105	409	1233	0	449	1776	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1695	1583	1774	1863	1583	1668	1695	0
Q Serve(g_s), s	15.5	36.6	0.0	4.1	37.0	8.1	12.1	30.7	0.0	14.1	53.8	0.0
Cycle Q Clear(g_c), s	15.5	36.6	0.0	4.1	37.0	8.1	12.1	30.7	0.0	14.1	53.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	391	1850	524	233	1470	458	501	1805	511	538	1710	0
V/C Ratio(X)	0.89	0.77	0.00	0.39	0.85	0.23	0.82	0.68	0.00	0.83	1.04	0.00
Avail Cap(c_a), veh/h	406	2033	576	233	1532	477	705	1805	511	725	1710	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	70.2	48.0	0.0	71.4	53.6	43.3	71.1	47.0	0.0	70.0	53.1	0.0
Incr Delay (d2), s/veh	20.7	2.8	0.0	1.1	5.9	0.9	5.1	2.1	0.0	6.3	32.4	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	13.6	26.6	0.0	3.6	25.1	6.6	10.2	22.7	0.0	11.1	54.6	0.0
LnGrp Delay(d),s/veh	91.0	50.8	0.0	72.5	59.4	44.2	76.2	49.2	0.0	76.3	85.5	0.0
LnGrp LOS	F	D		E	E	D	E	D		E	F	
Approach Vol, veh/h	1774			1446			1642			2225		
Approach Delay, s/veh	58.7			59.2			55.9			83.7		
Approach LOS	E			E			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.9	60.7	17.6	59.8	24.0	58.6	24.4	53.1				
Change Period (Y+Rc), s	6.8	6.9	6.8	* 6.8	6.8	6.9	6.7	6.8				
Max Green Setting (Gmax), s	21.2	45.1	8.3	* 58	23.2	43.1	18.3	48.2				
Max Q Clear Time (g_c+l1), s	14.1	55.8	6.1	38.6	16.1	32.7	17.5	39.0				
Green Ext Time (p_c), s	1.0	0.0	1.9	14.3	1.1	10.4	0.1	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay				66.0								
HCM 2010 LOS				E								
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings

2023 Future Build AM Peak - Improved

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

01/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	467	859	396	79	1839	559	318	371	262	365	726
Future Volume (vph)	467	859	396	79	1839	559	318	371	262	365	726
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6	2		2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	14.0	81.0	81.0	14.0	81.0	81.0	25.0	35.0	30.0	40.0	
Total Split (%)	8.8%	50.6%	50.6%	8.8%	50.6%	50.6%	15.6%	21.9%	18.8%	25.0%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

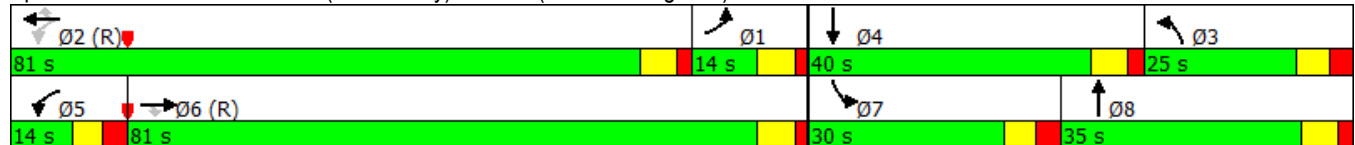
Actuated Cycle Length: 160

Offset: 110 (69%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	467	859	396	79	1839	559	318	371	18	262	365	726
Future Volume (veh/h)	467	859	396	79	1839	559	318	371	18	262	365	726
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	472	868	0	80	1858	0	321	375	0	265	369	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	495	2018	903	270	1657	741	366	476	0	318	433	194
Arrive On Green	0.14	0.57	0.00	0.04	0.47	0.00	0.11	0.13	0.00	0.09	0.12	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583
Grp Volume(v), veh/h	472	868	0	80	1858	0	321	375	0	265	369	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583
Q Serve(g_s), s	21.8	22.3	0.0	4.2	74.9	0.0	14.7	16.4	0.0	12.1	16.3	0.0
Cycle Q Clear(g_c), s	21.8	22.3	0.0	4.2	74.9	0.0	14.7	16.4	0.0	12.1	16.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	495	2018	903	270	1657	741	366	476	0	318	433	194
V/C Ratio(X)	0.95	0.43	0.00	0.30	1.12	0.00	0.88	0.79	0.00	0.83	0.85	0.00
Avail Cap(c_a), veh/h	495	2018	903	284	1657	741	389	633	0	501	743	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.0	19.6	0.0	28.5	42.6	0.0	70.5	67.0	0.0	71.4	68.8	0.0
Incr Delay (d2), s/veh	28.9	0.7	0.0	0.2	63.3	0.0	17.9	3.4	0.0	6.8	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.1	16.5	0.0	3.8	92.1	0.0	12.5	13.0	0.0	10.1	13.0	0.0
LnGrp Delay(d),s/veh	96.9	20.2	0.0	28.7	105.9	0.0	88.3	70.5	0.0	78.2	73.7	0.0
LnGrp LOS	F	C		C	F		F	E		E	E	
Approach Vol, veh/h	1340				1938				696			
Approach Delay, s/veh	47.2				102.7				78.7			
Approach LOS	D				F				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.1	81.0	23.9	26.0	12.8	97.3	21.5	28.4				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	6.4	* 6.7	* 6.1	* 6.7	* 6.9				
Max Green Setting (Gmax), s	* 7.9	* 75	18.1	33.6	* 7.3	* 75	* 23	* 29				
Max Q Clear Time (g_c+I1), s	23.8	76.9	16.7	18.3	6.2	24.3	14.1	18.4				
Green Ext Time (p_c), s	0.0	0.0	0.3	1.2	0.0	36.3	0.7	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			79.2									
HCM 2010 LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

2023 Future Build AM Peak - Improved

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

01/07/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	101	40	123	382	463	109		
Future Volume (vph)	101	40	123	382	463	109		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	21.0	29.5	75.5	75.5	75.5	75.5	23.5	15.0
Total Split (%)	17.5%	24.6%	62.9%	62.9%	62.9%	62.9%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 44.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
75.5 s	21 s	23.5 s
 Ø6	 Ø7	 Ø8
75.5 s	15 s	29.5 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	0	40	0	0	0	123	382	0	0	463	109
Future Volume (veh/h)	101	0	40	0	0	0	123	382	0	0	463	109
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	111	0	44	0	0	0	135	420	0	0	509	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	154	131	133	3	0	674	1338	1138	130	1338	1138
Arrive On Green	0.08	0.00	0.08	0.00	0.00	0.00	0.72	0.72	0.00	0.00	0.72	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	887	1863	1583	963	1863	1583
Grp Volume(v), veh/h	111	0	44	0	0	0	135	420	0	0	509	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	887	1863	1583	963	1863	1583
Q Serve(g_s), s	3.4	0.0	1.4	0.0	0.0	0.0	3.8	4.5	0.0	0.0	5.9	0.0
Cycle Q Clear(g_c), s	3.4	0.0	1.4	0.0	0.0	0.0	9.7	4.5	0.0	0.0	5.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	154	131	133	3	0	674	1338	1138	130	1338	1138
V/C Ratio(X)	0.40	0.00	0.34	0.00	0.00	0.00	0.20	0.31	0.00	0.00	0.38	0.00
Avail Cap(c_a), veh/h	628	809	687	435	607	0	1160	2359	2005	658	2359	2005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	24.7	0.0	23.9	0.0	0.0	0.0	4.9	2.8	0.0	0.0	3.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.5	0.0	0.0	0.0	0.1	0.1	0.0	0.0	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	3.1	0.0	1.2	0.0	0.0	0.0	1.7	4.1	0.0	0.0	5.5	0.0
LnGrp Delay(d),s/veh	25.7	0.0	25.4	0.0	0.0	0.0	5.0	3.0	0.0	0.0	3.2	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	155		0		555		509					
Approach Delay, s/veh	25.6		0.0		3.5		3.2					
Approach LOS	C				A		A					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	45.2		10.1	0.0	45.2		0.0	10.1				
Change Period (Y+Rc), s	5.5		5.5	5.5	5.5		5.5	5.5				
Max Green Setting (Gmax), s	70.0		15.5	18.0	70.0		9.5	24.0				
Max Q Clear Time (g_c+l1), s	11.7		5.4	0.0	7.9		0.0	3.4				
Green Ext Time (p_c), s	28.0		0.2	0.0	28.8		0.0	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			6.2									
HCM 2010 LOS			A									

Timings

2023 Future Build AM Peak - Improved

4: Chattahoochee Trce/Hooch Drwy (W) & Peachtree Industrial Blvd

01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	82	987	94	28	2329	43	68	4	76	12
Future Volume (vph)	82	987	94	28	2329	43	68	4	76	12
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	26.0	26.0	15.0	26.0	26.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	116.0	116.0	15.0	116.0	116.0	29.0	29.0	29.0	29.0
Total Split (%)	9.4%	72.5%	72.5%	9.4%	72.5%	72.5%	18.1%	18.1%	18.1%	18.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0		6.0
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

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 9 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Splits and Phases: 4: Chattahoochee Trce/Hooch Drwy (W) & Peachtree Industrial Blvd

	Ø1		Ø2 (R)			Ø4
15 s		116 s			29 s	
	Ø5		Ø6 (R)			Ø8
15 s		116 s			29 s	

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	987	94	28	2329	43	68	4	19	76	12	162
Future Volume (veh/h)	82	987	94	28	2329	43	68	4	19	76	12	162
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	1900	1863	1900
Adj Flow Rate, veh/h	85	1028	0	29	2426	45	71	4	0	79	12	169
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	2568	1149	412	2543	1138	132	6	0	101	16	164
Arrive On Green	0.03	0.73	0.00	0.04	1.00	1.00	0.14	0.14	0.00	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	614	44	0	500	113	1138
Grp Volume(v), veh/h	85	1028	0	29	2426	45	75	0	0	260	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	658	0	0	1751	0	0
Q Serve(g_s), s	2.1	18.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0
Cycle Q Clear(g_c), s	2.1	18.0	0.0	0.7	0.0	0.0	17.6	0.0	0.0	23.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.95		0.00	0.30		0.65
Lane Grp Cap(c), veh/h	186	2568	1149	412	2543	1138	138	0	0	281	0	0
V/C Ratio(X)	0.46	0.40	0.00	0.07	0.95	0.04	0.54	0.00	0.00	0.92	0.00	0.00
Avail Cap(c_a), veh/h	241	2568	1149	480	2543	1138	138	0	0	281	0	0
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	0.36	0.36	0.36	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.5	8.5	0.0	6.5	0.0	0.0	66.1	0.0	0.0	68.6	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.5	0.0	0.0	4.4	0.0	4.3	0.0	0.0	34.5	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	1.9	13.8	0.0	0.6	2.8	0.0	6.1	0.0	0.0	20.3	0.0	0.0
LnGrp Delay(d),s/veh	7.3	9.0	0.0	6.5	4.4	0.0	70.3	0.0	0.0	103.0	0.0	0.0
LnGrp LOS	A	A		A	A	A	E			F		
Approach Vol, veh/h	1113			2500			75			260		
Approach Delay, s/veh	8.8			4.3			70.3			103.0		
Approach LOS	A			A			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	121.0		29.0	8.9	122.1		29.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	110.0		23.0	9.0	110.0		23.0				
Max Q Clear Time (g_c+l1), s	4.1	2.0		25.0	2.7	20.0		19.6				
Green Ext Time (p_c), s	0.1	107.4		0.0	0.0	89.6		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				13.3								
HCM 2010 LOS				B								

Timings

2023 Future Build AM Peak - Improved

5: Private Drwy/Hooch Drwy (E) & Peachtree Industrial Blvd

01/07/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	15	52	1023	3	7	2294	27	1	0	37	0
Future Volume (vph)	15	52	1023	3	7	2294	27	1	0	37	0
Turn Type	pm+pt	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	1	6			2			8		4
Permitted Phases	6	6		6	2		2	8		4	
Detector Phase	1	1	6	6	2	2	2	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	20.0	20.0	20.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	26.0	26.0	26.0	26.0	26.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	15.0	136.0	136.0	121.0	121.0	121.0	24.0	24.0	24.0	24.0
Total Split (%)	9.4%	9.4%	85.0%	85.0%	75.6%	75.6%	75.6%	15.0%	15.0%	15.0%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag	Lead	Lead			Lag	Lag	Lag				
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 16 (10%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Splits and Phases: 5: Private Drwy/Hooch Drwy (E) & Peachtree Industrial Blvd

	Ø1		Ø2 (R)		Ø4
15 s		121 s		24 s	
	Ø6 (R)				Ø8
136 s				24 s	

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	15	52	1023	3	7	2294	27	1	0	0	37	0
Future Volume (veh/h)	15	52	1023	3	7	2294	27	1	0	0	37	0
Number		1	6	16	5	2	12	3	8	18	7	4
Initial Q (Qb), veh		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	
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
Adj Sat Flow, veh/h/ln		1863	1863	1863	1863	1863	1863	1900	1863	1900	1900	1863
Adj Flow Rate, veh/h		54	1055	0	7	2365	28	1	0	0	38	0
Adj No. of Lanes		1	2	1	1	2	1	0	1	0	0	1
Peak Hour Factor		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		197	2934	1313	454	2721	1217	124	0	0	64	8
Arrive On Green		0.05	1.00	0.00	1.00	1.00	1.00	0.10	0.00	0.00	0.10	0.00
Sat Flow, veh/h		1774	3539	1583	533	3539	1583	825	0	0	367	83
Grp Volume(v), veh/h		54	1055	0	7	2365	28	1	0	0	131	0
Grp Sat Flow(s),veh/h/ln		1774	1770	1583	533	1770	1583	825	0	0	1551	0
Q Serve(g_s), s		1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.0
Cycle Q Clear(g_c), s		1.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	13.3	0.0
Prop In Lane		1.00		1.00	1.00		1.00	1.00		0.00	0.29	
Lane Grp Cap(c), veh/h		197	2934	1313	454	2721	1217	124	0	0	178	0
V/C Ratio(X)		0.27	0.36	0.00	0.02	0.87	0.02	0.01	0.00	0.00	0.74	0.00
Avail Cap(c_a), veh/h		257	2934	1313	454	2721	1217	146	0	0	203	0
HCM Platoon Ratio		2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.92	0.92	0.00	0.24	0.24	0.24	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh		3.1	0.0	0.0	0.0	0.0	0.0	65.5	0.0	0.0	71.3	0.0
Incr Delay (d2), s/veh		0.7	0.3	0.0	0.0	1.0	0.0	0.0	0.0	0.0	11.4	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
%ile BackOfQ(95%),veh/ln		0.9	0.2	0.0	0.0	0.7	0.0	0.1	0.0	0.0	10.4	0.0
LnGrp Delay(d),s/veh		3.8	0.3	0.0	0.0	1.0	0.0	65.5	0.0	0.0	82.7	0.0
LnGrp LOS		A	A		A	A	A	E			F	
Approach Vol, veh/h			1109			2400			1			131
Approach Delay, s/veh			0.5			1.0			65.5			82.7
Approach LOS			A			A			E			F
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.6	129.0		21.4		138.6		21.4				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	115.0		18.0		130.0		18.0				
Max Q Clear Time (g_c+I1), s	3.0	2.0		15.3		2.0		2.2				
Green Ext Time (p_c), s	0.0	112.4		0.1		127.2		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			3.8									
HCM 2010 LOS			A									
Notes												
User approved ignoring U-Turning movement.												

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	90
Future Volume (veh/h)	90
Number	14
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	93
Adj No. of Lanes	0
Peak Hour Factor	0.97
Percent Heavy Veh, %	2
Cap, veh/h	106
Arrive On Green	0.10
Sat Flow, veh/h	1101
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.71
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(l)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	0.0
LnGrp Delay(d),s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build AM Peak - Improved

01/07/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	7	20	1041	106	7	156	1834	34	21	52	49
Future Volume (vph)	7	20	1041	106	7	156	1834	34	21	52	49
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	15.0	15.0	90.0	90.0	20.0	20.0	95.0	95.0	30.0	30.0	20.0
Total Split (%)	9.4%	9.4%	56.3%	56.3%	12.5%	12.5%	59.4%	59.4%	18.8%	18.8%	12.5%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 10 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

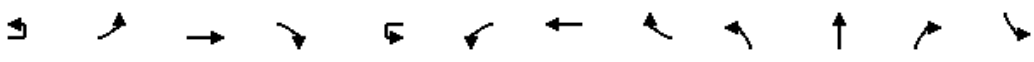
 Ø2 (R)	 Ø1	 Ø4	 Ø3
95 s	15 s	20 s	30 s
 Ø5	 Ø6 (R)		
20 s	90 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build AM Peak - Improved

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	7	20	1041	106	7	156	1834	34	105	21	52	34
Future Volume (vph)	7	20	1041	106	7	156	1834	34	105	21	52	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1788	1583	
Flt Permitted		0.05	1.00	1.00		0.14	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		86	3539	1583		269	3539	1583		1788	1583	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	8	22	1170	119	8	175	2061	38	118	24	58	38
RTOR Reduction (vph)	0	0	0	43	0	0	0	15	0	0	52	0
Lane Group Flow (vph)	0	30	1170	76	0	183	2061	23	0	142	6	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2				3
Actuated Green, G (s)		93.9	93.9	93.9		98.4	98.4	98.4		17.6	17.6	
Effective Green, g (s)		93.9	93.9	93.9		98.4	98.4	98.4		17.6	17.6	
Actuated g/C Ratio		0.59	0.59	0.59		0.62	0.62	0.62		0.11	0.11	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		129	2076	929		274	2176	973		196	174	
v/s Ratio Prot		0.01	c0.33			0.05	c0.58			c0.08		
v/s Ratio Perm		0.12		0.05		0.36		0.01			0.00	
v/c Ratio		0.23	0.56	0.08		0.67	0.95	0.02		0.72	0.04	
Uniform Delay, d1		62.2	20.4	14.3		19.7	28.4	12.0		68.9	63.6	
Progression Factor		1.34	1.45	2.86		1.56	0.78	1.00		1.00	1.00	
Incremental Delay, d2		0.3	1.1	0.2		3.7	8.6	0.0		11.7	0.1	
Delay (s)		83.7	30.7	41.2		34.3	30.9	12.1		80.6	63.7	
Level of Service		F	C	D		C	C	B		F	E	
Approach Delay (s)			32.8				30.8			75.7		
Approach LOS			C				C			E		
Intersection Summary												
HCM 2000 Control Delay			36.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			81.9%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	49	31
Future Volume (vph)	49	31
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	0.99	
Satd. Flow (prot)	1768	
Flt Permitted	0.99	
Satd. Flow (perm)	1768	
Peak-hour factor, PHF	0.89	0.89
Adj. Flow (vph)	55	35
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	120	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.1	
Effective Green, g (s)	13.1	
Actuated g/C Ratio	0.08	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	144	
v/s Ratio Prot	c0.07	
v/s Ratio Perm		
v/c Ratio	0.83	
Uniform Delay, d1	72.4	
Progression Factor	1.00	
Incremental Delay, d2	31.2	
Delay (s)	103.6	
Level of Service	F	
Approach Delay (s)	103.6	
Approach LOS	F	
Intersection Summary		

Timings

2023 Future Build AM Peak - Improved

7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

01/07/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	79	29	224	66	62	206	213	7	297
Future Volume (vph)	79	29	224	66	62	206	213	7	297
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 94.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	29	224	66	62	9	206	213	20	7	297	76
Future Volume (veh/h)	79	29	224	66	62	9	206	213	20	7	297	76
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	81	30	0	67	63	9	210	217	20	7	303	78
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	59	184	172	101	13	662	1176	108	716	749	193
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.12	0.08	0.70	0.70	0.52	0.52	0.52
Sat Flow, veh/h	1122	506	1583	722	871	110	1774	1681	155	1139	1430	368
Grp Volume(v), veh/h	111	0	0	139	0	0	210	0	237	7	0	381
Grp Sat Flow(s),veh/h/ln	1629	0	1583	1704	0	0	1774	0	1835	1139	0	1798
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	2.9	0.0	2.7	0.2	0.0	7.7
Cycle Q Clear(g_c), s	3.6	0.0	0.0	4.5	0.0	0.0	2.9	0.0	2.7	0.2	0.0	7.7
Prop In Lane	0.73		1.00	0.48		0.06	1.00		0.08	1.00		0.20
Lane Grp Cap(c), veh/h	293	0	184	287	0	0	662	0	1284	716	0	942
V/C Ratio(X)	0.38	0.00	0.00	0.48	0.00	0.00	0.32	0.00	0.18	0.01	0.00	0.40
Avail Cap(c_a), veh/h	720	0	656	756	0	0	955	0	1673	1157	0	1638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	0.0	25.5	0.0	0.0	5.4	0.0	3.1	6.9	0.0	8.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.2	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.0	0.0	4.1	0.0	0.0	2.6	0.0	2.5	0.1	0.0	7.3
LnGrp Delay(d),s/veh	25.8	0.0	0.0	26.5	0.0	0.0	5.5	0.0	3.4	6.9	0.0	9.7
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	111			139			447			388		
Approach Delay, s/veh	25.8			26.5			4.4			9.6		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	48.0			12.3			37.4			12.3		
Change Period (Y+Rc), s	* 5.8			* 5.3			* 5.8			* 5.3		
Max Green Setting (Gmax), s	* 55			* 25			* 55			* 25		
Max Q Clear Time (g_c+l1), s	4.7			6.5			9.7			5.6		
Green Ext Time (p_c), s	23.1			0.6			0.3			21.9		
Intersection Summary												
HCM 2010 Ctrl Delay				11.3								
HCM 2010 LOS				B								
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build AM Peak - Improved

01/07/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	15	29	30	407	21	587
Future Volume (vph)	15	29	30	407	21	587
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	24.0	24.2	71.8	71.8	71.8	71.8
Total Split (%)	20.0%	20.2%	59.8%	59.8%	59.8%	59.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
71.8 s	24.2 s	24 s
↑ Ø6 (R)		
71.8 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build AM Peak - Improved

01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	15	28	35	29	26	30	407	22	21	587	28
Future Volume (vph)	26	15	28	35	29	26	30	407	22	21	587	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1728			1755		1770	1848		1770	1850	
Flt Permitted		0.98			0.98		0.32	1.00		0.44	1.00	
Satd. Flow (perm)		1728			1755		588	1848		818	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	30	17	32	40	33	30	34	462	25	24	667	32
RTOR Reduction (vph)	0	22	0	0	14	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	57	0	0	89	0	34	487	0	24	698	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Effective Green, g (s)		8.3			11.5		83.7	83.7		83.7	83.7	
Actuated g/C Ratio		0.07			0.10		0.70	0.70		0.70	0.70	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		119			168		410	1288		570	1290	
v/s Ratio Prot		c0.03			c0.05			0.26			c0.38	
v/s Ratio Perm							0.06			0.03		
v/c Ratio		0.48			0.53		0.08	0.38		0.04	0.54	
Uniform Delay, d1		53.8			51.7		5.8	7.5		5.7	8.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			3.2		0.4	0.8		0.1	1.6	
Delay (s)		56.7			54.9		6.2	8.3		5.8	10.5	
Level of Service		E			D		A	A		A	B	
Approach Delay (s)		56.7			54.9			8.2			10.3	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			15.3			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.5			
Intersection Capacity Utilization			48.4%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future Build AM Peak - Improved

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	89	311	231	47	789	517	344	38	254	374
Future Volume (vph)	89	311	231	47	789	517	344	38	254	374
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 147.1

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	311	231	47	789	42	517	344	51	38	254	374
Future Volume (veh/h)	89	311	231	47	789	42	517	344	51	38	254	374
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	95	331	0	50	839	0	550	366	0	40	270	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	873	742	469	1596	0	625	593	0	255	304	259
Arrive On Green	0.04	0.47	0.00	0.03	0.45	0.00	0.18	0.32	0.00	0.03	0.16	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	95	331	0	50	839	0	550	366	0	40	270	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	3.8	15.3	0.0	2.0	22.7	0.0	20.7	22.2	0.0	2.5	18.9	0.0
Cycle Q Clear(g_c), s	3.8	15.3	0.0	2.0	22.7	0.0	20.7	22.2	0.0	2.5	18.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	873	742	469	1596	0	625	593	0	255	304	259
V/C Ratio(X)	0.30	0.38	0.00	0.11	0.53	0.00	0.88	0.62	0.00	0.16	0.89	0.00
Avail Cap(c_a), veh/h	437	873	742	624	1596	0	776	593	0	408	560	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.2	22.9	0.0	19.4	26.3	0.0	53.1	38.4	0.0	44.7	54.5	0.0
Incr Delay (d2), s/veh	0.5	1.3	0.0	0.1	1.2	0.0	9.8	1.9	0.0	0.3	8.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	12.8	0.0	1.8	16.9	0.0	16.1	17.3	0.0	2.2	15.8	0.0
LnGrp Delay(d),s/veh	20.8	24.1	0.0	19.5	27.5	0.0	62.8	40.4	0.0	45.0	63.0	0.0
LnGrp LOS	C	C		B	C		E	D		D	E	
Approach Vol, veh/h	426				889		916				310	
Approach Delay, s/veh	23.4				27.1		53.8				60.7	
Approach LOS	C				C		D				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	65.6	29.0	27.3	8.7	67.9	8.4	48.0				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+I1), s	5.8	24.7	22.7	20.9	4.0	17.3	4.5	24.2				
Green Ext Time (p_c), s	0.1	29.0	1.4	0.9	0.1	30.6	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			40.2									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build AM Peak - Improved
01/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	15	1089	20	219	2075	17	44	9	43	23
Future Volume (vph)	15	1089	20	219	2075	17	44	9	43	23
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	95.0	95.0	25.0	105.0	105.0	15.0	40.0	25.0	25.0
Total Split (%)	9.4%	59.4%	59.4%	15.6%	65.6%	65.6%	9.4%	25.0%	15.6%	15.6%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)		 Ø3	 Ø4
15 s	105 s		15 s	25 s
 Ø5	 Ø6 (R)		 Ø8	
25 s	95 s		40 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build AM Peak - Improved
01/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1089	20	219	2075	17	44	9	45	43	23	60
Future Volume (veh/h)	15	1089	20	219	2075	17	44	9	45	43	23	60
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	1197	0	241	2280	19	48	10	49	47	25	66
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	3441	1071	409	3622	1128	122	40	196	137	31	82
Arrive On Green	0.01	0.68	0.00	0.04	0.48	0.48	0.03	0.15	0.15	0.07	0.07	0.07
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	275	1349	1338	454	1198
Grp Volume(v), veh/h	16	1197	0	241	2280	19	48	0	59	47	0	91
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1625	1338	0	1651
Q Serve(g_s), s	0.5	15.9	0.0	6.3	53.6	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Cycle Q Clear(g_c), s	0.5	15.9	0.0	6.3	53.6	1.0	3.9	0.0	5.2	5.4	0.0	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.73
Lane Grp Cap(c), veh/h	128	3441	1071	409	3622	1128	122	0	236	137	0	113
V/C Ratio(X)	0.13	0.35	0.00	0.59	0.63	0.02	0.39	0.00	0.25	0.34	0.00	0.80
Avail Cap(c_a), veh/h	194	3441	1071	523	3622	1128	152	0	327	189	0	178
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	0.67	0.67	0.67	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	10.9	0.0	8.4	26.1	12.3	64.9	0.0	60.7	71.9	0.0	73.5
Incr Delay (d2), s/veh	0.2	0.3	0.0	0.3	0.6	0.0	0.8	0.0	0.4	1.1	0.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	12.0	0.0	5.5	32.1	0.8	3.5	0.0	4.2	3.7	0.0	7.7
LnGrp Delay(d),s/veh	15.9	11.2	0.0	8.7	26.6	12.3	65.7	0.0	61.1	73.0	0.0	84.0
LnGrp LOS	B	B		A	C	B	E		E	E		F
Approach Vol, veh/h	1213				2540				107		138	
Approach Delay, s/veh	11.3				24.8				63.2		80.3	
Approach LOS	B				C				E		F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	9.0	120.0	12.2	18.8	14.7	114.3	31.0					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	99.0	8.0	17.2	18.9	89.0	32.2					
Max Q Clear Time (g_c+I1), s	2.5	55.6	5.9	10.7	8.3	17.9	7.2					
Green Ext Time (p_c), s	0.0	43.3	0.0	0.3	0.3	70.8	0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	23.6											
HCM 2010 LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings
11: Sugarloaf Pkwy & Peachtree Industrial Blvd

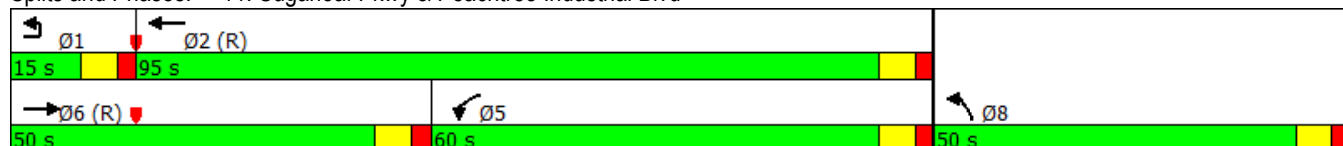
2023 Future Build AM Peak - Improved
01/07/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑	
Traffic Volume (vph)	470	761	1351	1275	970	635	
Future Volume (vph)	470	761	1351	1275	970	635	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	50.0		60.0	95.0	50.0		15.0
Total Split (%)	31.3%		37.5%	59.4%	31.3%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lead		Lag	Lag			Lead
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		None

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future Build AM Peak - Improved

01/07/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		  		 	  	 	
Traffic Volume (vph)	0	470	761	1351	1275	970	635
Future Volume (vph)	0	470	761	1351	1275	970	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	480	777	1379	1301	990	648
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	480	777	1379	1301	990	648
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		31.2	160.0	65.4	103.3	43.1	160.0
Effective Green, g (s)		31.2	160.0	65.4	103.3	43.1	160.0
Actuated g/C Ratio		0.19	1.00	0.41	0.65	0.27	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		991	1583	1403	3283	924	1583
v/s Ratio Prot		0.09		c0.40	0.26	c0.29	
v/s Ratio Perm			c0.49				0.41
v/c Ratio		0.48	0.49	0.98	0.40	1.07	0.41
Uniform Delay, d1		57.2	0.0	46.7	13.5	58.5	0.0
Progression Factor		0.84	1.00	1.00	1.00	0.52	1.00
Incremental Delay, d2		1.6	1.0	19.9	0.4	43.0	0.4
Delay (s)		49.6	1.0	66.6	13.9	73.5	0.4
Level of Service		D	A	E	B	E	A
Approach Delay (s)		19.6			41.0	44.6	
Approach LOS		B			D	D	
Intersection Summary							
HCM 2000 Control Delay			37.2		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.92				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			99.8%		ICU Level of Service		F
Analysis Period (min)			15				

c Critical Lane Group

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak - Improved

01/07/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	146	226	41	73	443	169	52	1310	96	1	160	1616
Future Volume (vph)	146	226	41	73	443	169	52	1310	96	1	160	1616
Turn Type	Prot	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases			8	8		8	6		6	2	2	
Detector Phase	3	4	8	7	8	8	1	6	6	5	5	2
Switch Phase	8			4								
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0	20.0
Minimum Split (s)	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0	42.7
Total Split (s)	15.0	52.0	52.0	15.0	52.0	52.0	15.0	77.0	77.0	16.0	16.0	78.0
Total Split (%)	9.4%	32.5%	32.5%	9.4%	32.5%	32.5%	9.4%	48.1%	48.1%	10.0%	10.0%	48.8%
Yellow Time (s)	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6	4.7
All-Red Time (s)	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	Max	Max	None	Max	Max	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 74 (46%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	78 s	15 s	52 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
16 s	77 s	15 s	52 s

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak - Improved
01/07/2019



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	397
Future Volume (vph)	397
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Detector Phase	2
Switch Phase	
Minimum Initial (s)	20.0
Minimum Split (s)	42.7
Total Split (s)	78.0
Total Split (%)	48.8%
Yellow Time (s)	4.7
All-Red Time (s)	1.9
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.6
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	C-Min
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak - Improved

01/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	146	226	41	73	443	169	52	1310	96	1	160
Future Volume (vph)	1	146	226	41	73	443	169	52	1310	96	1	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Lane Util. Factor		0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	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
Flt Protected		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95
Satd. Flow (prot)		3433	1863	1583	1770	1863	1583	1770	3539	1583		1770
Flt Permitted		0.95	1.00	1.00	0.47	1.00	1.00	0.06	1.00	1.00		0.05
Satd. Flow (perm)		3433	1863	1583	877	1863	1583	106	3539	1583		101
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	152	235	43	76	461	176	54	1365	100	1	167
RTOR Reduction (vph)	0	0	0	31	0	0	84	0	0	56	0	0
Lane Group Flow (vph)	0	153	235	12	76	461	92	54	1365	44	0	168
Turn Type	Prot	Prot	NA	custom	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	7	7	4		3	8		1	6		5	5
Permitted Phases				8	8		8	6		6	2	2
Actuated Green, G (s)		8.1	45.2	45.2	53.3	45.2	45.2	76.2	70.4	70.4		83.4
Effective Green, g (s)		8.1	45.2	45.2	53.3	45.2	45.2	76.2	70.4	70.4		83.4
Actuated g/C Ratio		0.05	0.28	0.28	0.33	0.28	0.28	0.48	0.44	0.44		0.52
Clearance Time (s)		6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6
Vehicle Extension (s)		2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0
Lane Grp Cap (vph)		173	526	447	337	526	447	110	1557	696		150
v/s Ratio Prot		c0.04	0.13		0.01	c0.25		0.02	0.39			c0.07
v/s Ratio Perm				0.01	0.06		0.06	0.21		0.03		c0.52
v/c Ratio		0.88	0.45	0.03	0.23	0.88	0.21	0.49	0.88	0.06		1.12
Uniform Delay, d1		75.5	47.1	41.5	37.5	54.7	43.7	36.8	40.8	25.8		47.3
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.57
Incremental Delay, d2		36.6	2.7	0.1	0.1	18.3	1.0	1.3	7.3	0.2		93.9
Delay (s)		112.1	49.9	41.6	37.7	73.0	44.8	38.1	48.1	26.0		168.1
Level of Service		F	D	D	D	E	D	D	D	C		F
Approach Delay (s)			71.1			62.3			46.3			
Approach LOS			E			E			D			
Intersection Summary												
HCM 2000 Control Delay			53.2			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			26.9			
Intersection Capacity Utilization			97.9%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build AM Peak - Improved
01/07/2019

Movement	SBT	SBR
Land Configurations	↑↑	↑
Traffic Volume (vph)	1616	397
Future Volume (vph)	1616	397
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1683	414
RTOR Reduction (vph)	0	112
Lane Group Flow (vph)	1683	302
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	74.0	74.0
Effective Green, g (s)	74.0	74.0
Actuated g/C Ratio	0.46	0.46
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	6.0	6.0
Lane Grp Cap (vph)	1636	732
v/s Ratio Prot	0.48	
v/s Ratio Perm		0.19
v/c Ratio	1.03	0.41
Uniform Delay, d1	43.0	28.6
Progression Factor	0.58	0.27
Incremental Delay, d2	25.4	1.1
Delay (s)	50.4	8.9
Level of Service	D	A
Approach Delay (s)	51.6	
Approach LOS	D	
Intersection Summary		

Timings

2023 Future Build PM Peak - Improved

1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd

02/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	447	1749	367	71	1295	302	596	2404	180	381	950
Future Volume (vph)	447	1749	367	71	1295	302	596	2404	180	381	950
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		1	6		5	2
Permitted Phases			4			8			6		
Detector Phase	7	4	4	3	8	8	1	6	6	5	2
Switch Phase	4			8							
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	12.0	4.0	20.0	20.0	4.0	20.0
Minimum Split (s)	15.0	43.3	43.3	15.0	48.3	48.3	15.0	38.9	38.9	15.0	38.4
Total Split (s)	24.0	55.0	55.0	16.0	47.0	47.0	39.0	72.0	72.0	17.0	50.0
Total Split (%)	15.0%	34.4%	34.4%	10.0%	29.4%	29.4%	24.4%	45.0%	45.0%	10.6%	31.3%
Yellow Time (s)	4.2	5.3	5.3	4.2	5.3	5.3	4.3	5.4	5.4	4.3	5.4
All-Red Time (s)	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5	1.5	2.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.9	6.9	6.8	6.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	Min	Min	None	Min	Min	None	C-Min	C-Min	Min	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 140 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 1: Peachtree Industrial Blvd & State Bridge Rd/Pleasant Hill Rd



																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	447	1749	367	71	1295	302	596	2404	180	381	950	503				
Future Volume (veh/h)	447	1749	367	71	1295	302	596	2404	180	381	950	503				
Number	7	4	14	3	8	18	1	6	16	5	2	12				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900				
Adj Flow Rate, veh/h	452	1767	0	72	1308	305	602	2428	0	385	960	0				
Adj No. of Lanes	2	3	1	2	3	1	3	3	1	3	3	0				
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	384	1832	519	111	1278	398	724	2389	677	319	1806	0				
Arrive On Green	0.11	0.33	0.00	0.03	0.25	0.25	0.14	0.43	0.00	0.06	0.36	0.00				
Sat Flow, veh/h	3548	5588	1583	3442	5085	1583	5322	5588	1583	5003	5253	0				
Grp Volume(v), veh/h	452	1767	0	72	1308	305	602	2428	0	385	960	0				
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1695	1583	1774	1863	1583	1668	1695	0				
Q Serve(g_s), s	17.3	49.7	0.0	3.3	40.2	21.0	17.6	68.4	0.0	10.2	24.0	0.0				
Cycle Q Clear(g_c), s	17.3	49.7	0.0	3.3	40.2	21.0	17.6	68.4	0.0	10.2	24.0	0.0				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00				
Lane Grp Cap(c), veh/h	384	1832	519	111	1278	398	724	2389	677	319	1806	0				
V/C Ratio(X)	1.18	0.96	0.00	0.65	1.02	0.77	0.83	1.02	0.00	1.21	0.53	0.00				
Avail Cap(c_a), veh/h	384	1832	519	200	1278	398	1071	2389	677	319	1806	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00				
Uniform Delay (d), s/veh	71.3	52.9	0.0	76.5	59.9	29.9	67.3	45.8	0.0	74.9	41.0	0.0				
Incr Delay (d2), s/veh	104.1	14.0	0.0	6.3	31.4	12.0	3.7	22.6	0.0	119.0	1.1	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	25.2	36.6	0.0	3.0	40.5	15.8	13.8	72.3	0.0	14.8	16.9	0.0				
LnGrp Delay(d),s/veh	175.4	66.9	0.0	82.8	91.3	41.9	71.0	68.4	0.0	193.9	42.1	0.0				
LnGrp LOS	F	E		F	F	D	E	F		F	D					
Approach Vol, veh/h	2219				1685				3030							
Approach Delay, s/veh	89.0				82.0				68.9							
Approach LOS	F				F				E							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	28.6	63.8	11.8	59.3	17.0	75.4	24.1	47.0								
Change Period (Y+Rc), s	6.8	6.9	6.7	6.8	6.8	6.9	6.8	* 6.8								
Max Green Setting (Gmax), s	32.2	43.1	9.3	48.2	10.2	65.1	17.3	* 40								
Max Q Clear Time (g_c+l1), s	19.6	26.0	5.3	51.7	12.2	70.4	19.3	42.2								
Green Ext Time (p_c), s	2.1	17.1	0.1	0.0	0.0	0.0	0.0	0.0								
Intersection Summary																
HCM 2010 Ctrl Delay	79.7															
HCM 2010 LOS	E															
Notes																
User approved volume balancing among the lanes for turning movement.																

Timings

2023 Future Build PM Peak - Improved

2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd

02/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	729	2212	288	87	1149	267	264	304	484	370	523
Future Volume (vph)	729	2212	288	87	1149	267	264	304	484	370	523
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	Free
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases			6	2		2					Free
Detector Phase	1	6	6	5	2	2	3	8	7	4	
Switch Phase							4				
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	4.0	6.0	
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	15.0	40.4	15.0	40.4	
Total Split (s)	30.0	82.0	82.0	13.0	65.0	65.0	30.0	40.0	25.0	35.0	
Total Split (%)	18.8%	51.3%	51.3%	8.1%	40.6%	40.6%	18.8%	25.0%	15.6%	21.9%	
Yellow Time (s)	4.5	4.5	4.5	3.7	4.5	4.5	3.9	4.4	3.7	4.4	
All-Red Time (s)	1.6	1.6	1.6	3.0	1.6	1.6	3.0	2.0	3.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.7	6.1	6.1	6.9	6.4	6.7	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	

Intersection Summary

Cycle Length: 160

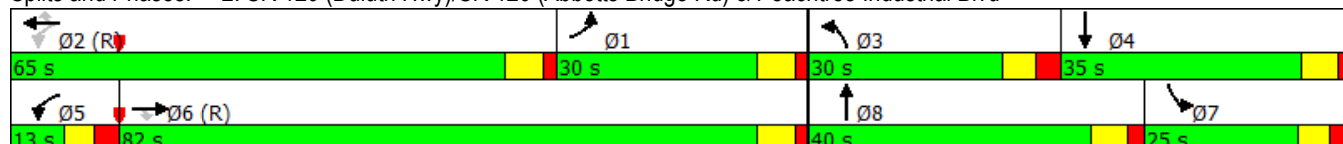
Actuated Cycle Length: 160

Offset: 49 (31%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 120 (Duluth Hwy)/SR 120 (Abbotts Bridge Rd) & Peachtree Industrial Blvd



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	729	2212	288	87	1149	267	264	304	51	484	370	523
Future Volume (veh/h)	729	2212	288	87	1149	267	264	304	51	484	370	523
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	1900	1863	1863	1863
Adj Flow Rate, veh/h	729	2212	0	87	1149	0	264	304	0	484	370	0
Adj No. of Lanes	2	2	1	1	2	1	2	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	885	2051	918	115	1294	579	311	356	0	408	444	199
Arrive On Green	0.26	0.58	0.00	0.04	0.37	0.00	0.09	0.10	0.00	0.12	0.13	0.00
Sat Flow, veh/h	3442	3539	1583	1774	3539	1583	3442	3632	0	3442	3539	1583
Grp Volume(v), veh/h	729	2212	0	87	1149	0	264	304	0	484	370	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1770	1583	1721	1770	0	1721	1770	1583
Q Serve(g_s), s	31.9	92.7	0.0	5.5	48.8	0.0	12.1	13.5	0.0	19.0	16.3	0.0
Cycle Q Clear(g_c), s	31.9	92.7	0.0	5.5	48.8	0.0	12.1	13.5	0.0	19.0	16.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	885	2051	918	115	1294	579	311	356	0	408	444	199
V/C Ratio(X)	0.82	1.08	0.00	0.76	0.89	0.00	0.85	0.85	0.00	1.19	0.83	0.00
Avail Cap(c_a), veh/h	885	2051	918	115	1303	583	497	743	0	408	633	283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.0	33.6	0.0	44.1	47.7	0.0	71.7	70.8	0.0	70.5	68.3	0.0
Incr Delay (d2), s/veh	6.4	44.8	0.0	22.5	9.3	0.0	4.2	2.3	0.0	105.8	6.5	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	22.5	104.0	0.0	6.1	33.7	0.0	9.9	11.0	0.0	27.0	13.2	0.0
LnGrp Delay(d),s/veh	62.4	78.4	0.0	66.6	57.0	0.0	75.9	73.1	0.0	176.3	74.8	0.0
LnGrp LOS	E	F		E	E		E	E		F	E	
Approach Vol, veh/h	2941				1236				568			
Approach Delay, s/veh	74.4				57.7				74.4			
Approach LOS	E				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	47.2	64.6	21.4	26.8	13.0	98.8	25.7	22.5				
Change Period (Y+Rc), s	* 6.1	* 6.1	6.9	* 6.7	* 6.7	* 6.1	6.7	* 6.4				
Max Green Setting (Gmax), s	* 24	* 59	23.1	* 29	* 6.3	* 76	18.3	* 34				
Max Q Clear Time (g_c+I1), s	33.9	50.8	14.1	18.3	7.5	94.7	21.0	15.5				
Green Ext Time (p_c), s	0.0	7.7	0.4	1.8	0.0	0.0	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			79.6									
HCM 2010 LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

2023 Future Build PM Peak - Improved

3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

02/07/2019

								
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4	Ø7
Lane Configurations								
Traffic Volume (vph)	160	128	46	440	500	35		
Future Volume (vph)	160	128	46	440	500	35		
Turn Type	pm+pt	Perm	Perm	NA	NA	Perm		
Protected Phases	3			2	6		4	7
Permitted Phases	8	8	2			6		
Detector Phase	3	8	2	2	6	6		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	15.0
Total Split (s)	23.0	32.0	73.0	73.0	73.0	73.0	24.0	15.0
Total Split (%)	19.2%	26.7%	60.8%	60.8%	60.8%	60.8%	20%	13%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		
Lead/Lag	Lead	Lag					Lag	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	Min	Min	Min	Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 42.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: SR 120 (Duluth Hwy) & George Rogers Ave/Duluth HS Drwy

 Ø2	 Ø3	 Ø4
73 s	23 s	24 s
 Ø6	 Ø7	 Ø8
73 s	15 s	32 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	0	128	0	0	0	46	440	0	0	500	35
Future Volume (veh/h)	160	0	128	0	0	0	46	440	0	0	500	35
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	167	0	133	0	0	0	48	458	0	0	521	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	229	194	129	3	0	619	1275	1084	126	1275	1084
Arrive On Green	0.12	0.00	0.12	0.00	0.00	0.00	0.68	0.68	0.00	0.00	0.68	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	877	1863	1583	930	1863	1583
Grp Volume(v), veh/h	167	0	133	0	0	0	48	458	0	0	521	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	877	1863	1583	930	1863	1583
Q Serve(g_s), s	5.2	0.0	4.6	0.0	0.0	0.0	1.4	5.9	0.0	0.0	7.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	4.6	0.0	0.0	0.0	8.4	5.9	0.0	0.0	7.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	229	194	129	3	0	619	1275	1084	126	1275	1084
V/C Ratio(X)	0.49	0.00	0.68	0.00	0.00	0.00	0.08	0.36	0.00	0.00	0.41	0.00
Avail Cap(c_a), veh/h	670	865	735	422	604	0	1057	2204	1873	590	2204	1873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	0.0	24.0	0.0	0.0	0.0	5.8	3.8	0.0	0.0	3.9	0.0
Incr Delay (d2), s/veh	1.1	0.0	4.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	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	4.7	0.0	4.0	0.0	0.0	0.0	0.6	5.4	0.0	0.0	6.4	0.0
LnGrp Delay(d),s/veh	25.2	0.0	28.2	0.0	0.0	0.0	5.8	3.9	0.0	0.0	4.2	0.0
LnGrp LOS	C		C				A	A			A	
Approach Vol, veh/h	300				0		506				521	
Approach Delay, s/veh	26.5				0.0		4.1				4.2	
Approach LOS	C						A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	44.5		12.5	0.0	44.5		0.0	12.5				
Change Period (Y+Rc), s	5.5		5.5	5.5	5.5		5.5	5.5				
Max Green Setting (Gmax), s	67.5		17.5	18.5	67.5		9.5	26.5				
Max Q Clear Time (g_c+I1), s	10.4		7.2	0.0	9.0		0.0	6.6				
Green Ext Time (p_c), s	28.6		0.4	0.0	29.0		0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									

Timings

2023 Future Build PM Peak - Improved

4: Chattahoochee Trce/Hooch Drwy (W) & Peachtree Industrial Blvd

02/07/2019

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	
Lane Configurations											
Traffic Volume (vph)	203	2394	127	77	1315	105	30	13	77	8	
Future Volume (vph)	203	2394	127	77	1315	105	30	13	77	8	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA	
Protected Phases	1	6		5	2			8		4	
Permitted Phases	6		6	2		2	8		4		
Detector Phase	1	6	6	5	2	2	8	8	4	4	
Switch Phase											
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	15.0	26.0	26.0	15.0	26.0	26.0	24.0	24.0	24.0	24.0	
Total Split (s)	23.0	116.0	116.0	15.0	108.0	108.0	29.0	29.0	29.0	29.0	
Total Split (%)	14.4%	72.5%	72.5%	9.4%	67.5%	67.5%	18.1%	18.1%	18.1%	18.1%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0		6.0	
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	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 128 (80%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Splits and Phases: 4: Chattahoochee Trce/Hooch Drwy (W) & Peachtree Industrial Blvd

		
Ø1	Ø2 (R)	Ø4
23 s	108 s	29 s
		
Ø5	Ø6 (R)	Ø8
15 s	116 s	29 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	2394	127	77	1315	105	30	13	79	77	8	138
Future Volume (veh/h)	203	2394	127	77	1315	105	30	13	79	77	8	138
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	1900	1863	1900
Adj Flow Rate, veh/h	214	2520	0	81	1384	111	32	14	0	81	8	145
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	2523	1129	100	2454	1098	121	46	0	104	13	141
Arrive On Green	0.05	0.71	0.00	0.06	1.00	1.00	0.14	0.14	0.00	0.14	0.14	0.14
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	575	323	0	513	88	980
Grp Volume(v), veh/h	214	2520	0	81	1384	111	46	0	0	234	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	898	0	0	1582	0	0
Q Serve(g_s), s	5.6	113.6	0.0	3.0	0.0	0.0	0.0	0.0	0.0	16.3	0.0	0.0
Cycle Q Clear(g_c), s	5.6	113.6	0.0	3.0	0.0	0.0	6.7	0.0	0.0	23.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.70		0.00	0.35		0.62
Lane Grp Cap(c), veh/h	377	2523	1129	100	2454	1098	167	0	0	258	0	0
V/C Ratio(X)	0.57	1.00	0.00	0.81	0.56	0.10	0.28	0.00	0.00	0.91	0.00	0.00
Avail Cap(c_a), veh/h	476	2523	1129	145	2454	1098	167	0	0	258	0	0
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	0.81	0.81	0.81	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	22.9	0.0	48.6	0.0	0.0	61.2	0.0	0.0	68.5	0.0	0.0
Incr Delay (d2), s/veh	1.3	17.7	0.0	15.9	0.8	0.2	0.9	0.0	0.0	32.9	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	5.1	74.0	0.0	6.9	0.5	0.1	3.4	0.0	0.0	18.5	0.0	0.0
LnGrp Delay(d),s/veh	7.3	40.6	0.0	64.5	0.8	0.2	62.0	0.0	0.0	101.4	0.0	0.0
LnGrp LOS	A	D		E	A	A	E			F		
Approach Vol, veh/h	2734			1576			46			234		
Approach Delay, s/veh	38.0			4.0			62.0			101.4		
Approach LOS	D			A			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.1	116.9		29.0	11.0	120.0		29.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	17.0	102.0		23.0	9.0	110.0		23.0				
Max Q Clear Time (g_c+I1), s	7.6	2.0		25.0	5.0	115.6		8.7				
Green Ext Time (p_c), s	0.4	99.4		0.0	0.1	0.0		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				29.8								
HCM 2010 LOS				C								

Timings

2023 Future Build PM Peak - Improved

5: Private Drwy/Hooch Drwy (E) & Peachtree Industrial Blvd

02/07/2019

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	113	2433	3	7	8	1391	51	12	0	48	0
Future Volume (vph)	8	113	2433	3	7	8	1391	51	12	0	48	0
Turn Type	pm+pt	pm+pt	NA	Perm	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	1	6				2			8		4
Permitted Phases	6	6		6	2	2		2	8		4	
Detector Phase	1	1	6	6	2	2	2	2	8	8	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	20.0	20.0	20.0	20.0	20.0	20.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	26.0	26.0	26.0	26.0	26.0	26.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	15.0	136.0	136.0	121.0	121.0	121.0	121.0	24.0	24.0	24.0	24.0
Total Split (%)	9.4%	9.4%	85.0%	85.0%	75.6%	75.6%	75.6%	75.6%	15.0%	15.0%	15.0%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0		6.0	6.0	6.0		6.0		6.0
Lead/Lag	Lead	Lead			Lag	Lag	Lag	Lag				
Lead-Lag Optimize?												
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 134 (84%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 5: Private Drwy/Hooch Drwy (E) & Peachtree Industrial Blvd

	Ø1		Ø2 (R)		Ø4
15 s		121 s		24 s	
	Ø6 (R)				Ø8
136 s				24 s	

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	8	113	2433	3	7	8	1391	51	12	0	1	48
Future Volume (veh/h)	8	113	2433	3	7	8	1391	51	12	0	1	48
Number		1	6	16		5	2	12	3	8	18	7
Initial Q (Qb), veh		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
Parking Bus, Adj		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	1900
Adj Flow Rate, veh/h		119	2561	0		8	1464	54	13	0	1	51
Adj No. of Lanes		1	2	1		1	2	1	0	1	0	0
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		295	2906	1300		138	2673	1196	129	2	7	81
Arrive On Green		0.06	1.00	0.00		0.76	0.76	0.76	0.10	0.00	0.10	0.10
Sat Flow, veh/h		1774	3539	1583		123	3539	1583	828	16	65	483
Grp Volume(v), veh/h		119	2561	0		8	1464	54	14	0	0	142
Grp Sat Flow(s),veh/h/ln		1774	1770	1583		123	1770	1583	909	0	0	1541
Q Serve(g_s), s		2.5	0.0	0.0		2.7	27.6	1.4	0.0	0.0	0.0	12.3
Cycle Q Clear(g_c), s		2.5	0.0	0.0		2.7	27.6	1.4	2.2	0.0	0.0	14.5
Prop In Lane		1.00		1.00		1.00		1.00	0.93		0.07	0.36
Lane Grp Cap(c), veh/h		295	2906	1300		138	2673	1196	138	0	0	191
V/C Ratio(X)		0.40	0.88	0.00		0.06	0.55	0.05	0.10	0.00	0.00	0.75
Avail Cap(c_a), veh/h		344	2906	1300		138	2673	1196	149	0	0	204
HCM Platoon Ratio		2.00	2.00	2.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)		0.09	0.09	0.00		0.72	0.72	0.72	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		7.5	0.0	0.0		5.1	8.2	5.0	65.2	0.0	0.0	70.6
Incr Delay (d2), s/veh		0.1	0.4	0.0		0.6	0.6	0.1	0.3	0.0	0.0	13.0
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
%ile BackOfQ(95%),veh/ln		2.0	0.3	0.0		0.2	18.8	1.1	1.0	0.0	0.0	11.2
LnGrp Delay(d),s/veh		7.6	0.4	0.0		5.7	8.7	5.0	65.5	0.0	0.0	83.7
LnGrp LOS		A	A			A	A	A	E			F
Approach Vol, veh/h			2680				1526			14		
Approach Delay, s/veh			0.7				8.6			65.5		
Approach LOS			A				A			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	126.9		22.6		137.4		22.6				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.0	115.0		18.0		130.0		18.0				
Max Q Clear Time (g_c+l1), s	4.5	29.6		16.5		2.0		4.2				
Green Ext Time (p_c), s	0.1	79.2		0.1		114.7		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			6.4									
HCM 2010 LOS			A									
Notes												
User approved ignoring U-Turning movement.												

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (veh/h)	0	86
Future Volume (veh/h)	0	86
Number	4	14
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900
Adj Flow Rate, veh/h	0	91
Adj No. of Lanes	1	0
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	7	103
Arrive On Green	0.00	0.10
Sat Flow, veh/h	70	987
Grp Volume(v), veh/h	0	0
Grp Sat Flow(s),veh/h/ln	0	0
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.64
Lane Grp Cap(c), veh/h	0	0
V/C Ratio(X)	0.00	0.00
Avail Cap(c_a), veh/h	0	0
HCM Platoon Ratio	1.00	1.00
Upstream Filter(l)	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0
LnGrp LOS		
Approach Vol, veh/h	142	
Approach Delay, s/veh	83.7	
Approach LOS	F	
Timer		

Timings
6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build PM Peak - Improved

02/07/2019

											
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations											
Traffic Volume (vph)	2	57	2321	184	2	67	1362	44	50	96	40
Future Volume (vph)	2	57	2321	184	2	67	1362	44	50	96	40
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	1	6		5	5	2		3		4
Permitted Phases	6	6		6	2	2		2		3	
Detector Phase	1	1	6	6	5	5	2	2	3	3	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	20.0	20.0	4.0	4.0	20.0	20.0	6.0	6.0	6.0
Minimum Split (s)	15.0	15.0	35.2	35.2	15.0	15.0	37.2	37.2	56.2	56.2	56.2
Total Split (s)	14.0	14.0	80.0	80.0	30.0	30.0	96.0	96.0	25.0	25.0	25.0
Total Split (%)	8.8%	8.8%	50.0%	50.0%	18.8%	18.8%	60.0%	60.0%	15.6%	15.6%	15.6%
Yellow Time (s)	3.1	3.1	4.2	4.2	3.1	3.1	4.2	4.2	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	1.2	1.2	2.9	2.9	1.2	1.2	2.7	2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.6	5.4	5.4		6.0	5.4	5.4	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag
Lead-Lag Optimize?											
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 50 (31%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 165

Control Type: Actuated-Coordinated

Splits and Phases: 6: Rogers Bridge Rd & Peachtree Industrial Blvd

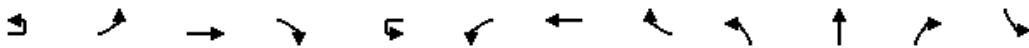
 Ø2 (R)	 Ø1	 Ø3	 Ø4
96 s	14 s	25 s	25 s
 Ø5	 Ø6 (R)		
30 s	80 s		

HCM Signalized Intersection Capacity Analysis

6: Rogers Bridge Rd & Peachtree Industrial Blvd

2023 Future Build PM Peak - Improved

02/07/2019

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	2	57	2321	184	2	67	1362	44	141	50	96	38
Future Volume (vph)	2	57	2321	184	2	67	1362	44	141	50	96	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	0.85	
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.96	1.00	
Satd. Flow (prot)		1770	3539	1583		1770	3539	1583		1796	1583	
Flt Permitted		0.14	1.00	1.00		0.04	1.00	1.00		0.96	1.00	
Satd. Flow (perm)		252	3539	1583		82	3539	1583		1796	1583	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	59	2418	192	2	70	1419	46	147	52	100	40
RTOR Reduction (vph)	0	0	0	41	0	0	0	18	0	0	88	0
Lane Group Flow (vph)	0	61	2418	151	0	72	1419	28	0	199	12	0
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Split	NA	Perm	Split
Protected Phases	1	1	6		5	5	2		3	3		4
Permitted Phases	6	6		6	2	2		2				3
Actuated Green, G (s)		96.8	96.8	96.8		97.9	97.9	97.9		18.8	18.8	
Effective Green, g (s)		96.8	96.8	96.8		97.9	97.9	97.9		18.8	18.8	
Actuated g/C Ratio		0.60	0.60	0.60		0.61	0.61	0.61		0.12	0.12	
Clearance Time (s)		5.6	5.4	5.4		6.0	5.4	5.4		6.2	6.2	
Vehicle Extension (s)		2.0	6.0	6.0		2.0	6.0	6.0		2.5	2.5	
Lane Grp Cap (vph)		216	2141	957		128	2165	968		211	186	
v/s Ratio Prot		0.01	c0.68			0.03	c0.40			c0.11		
v/s Ratio Perm		0.16		0.10		0.32		0.02			0.01	
v/c Ratio		0.28	1.13	0.16		0.56	0.66	0.03		0.94	0.06	
Uniform Delay, d1		29.6	31.6	13.8		36.9	20.1	12.3		70.1	62.8	
Progression Factor		0.44	0.46	0.31		1.82	0.70	1.00		1.00	1.00	
Incremental Delay, d2		0.1	61.8	0.2		3.1	1.4	0.1		45.8	0.1	
Delay (s)		13.1	76.3	4.5		70.3	15.5	12.3		115.9	62.9	
Level of Service		B	E	A		E	B	B		F	E	
Approach Delay (s)			69.7				18.0			98.2		
Approach LOS			E				B			F		
Intersection Summary												
HCM 2000 Control Delay			54.4				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			23.8		
Intersection Capacity Utilization			90.9%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

	↓	↘
Movement	SBT	SBR
Lane Configurations	↕	
Traffic Volume (vph)	40	14
Future Volume (vph)	40	14
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	0.98	
Satd. Flow (prot)	1787	
Flt Permitted	0.98	
Satd. Flow (perm)	1787	
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	42	15
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	92	0
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	13.2	
Effective Green, g (s)	13.2	
Actuated g/C Ratio	0.08	
Clearance Time (s)	6.2	
Vehicle Extension (s)	2.5	
Lane Grp Cap (vph)	147	
v/s Ratio Prot	c0.05	
v/s Ratio Perm		
v/c Ratio	0.63	
Uniform Delay, d1	71.0	
Progression Factor	1.00	
Incremental Delay, d2	7.1	
Delay (s)	78.1	
Level of Service	E	
Approach Delay (s)	78.1	
Approach LOS	E	
Intersection Summary		

Timings

2023 Future Build PM Peak - Improved

7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

02/07/2019

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	68	41	265	33	12	239	317	30	230
Future Volume (vph)	68	41	265	33	12	239	317	30	230
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		8			4	5	2		6
Permitted Phases	8		8	4		2		6	
Detector Phase	8	8	8	4	4	5	2	6	6
Switch Phase						6			
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	28.5	28.5	28.5	30.5	30.5	15.0	22.5	42.1	42.1
Total Split (s)	30.3	30.3	30.3	30.3	30.3	20.6	60.8	60.8	60.8
Total Split (%)	27.1%	27.1%	27.1%	27.1%	27.1%	18.4%	54.4%	54.4%	54.4%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.0	4.1	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.6	1.7	1.7	1.7
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.3	5.6	5.8	5.8	5.8
Lead/Lag						Lead		Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 111.7

Actuated Cycle Length: 55.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Rogers Bridge Rd & Albion Farm Rd/Highbrooke Trl

 Ø2	 Ø4
60.8 s	30.3 s
 Ø5	 Ø8
20.6 s	30.3 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	41	265	33	12	19	239	317	59	30	230	25
Future Volume (veh/h)	68	41	265	33	12	19	239	317	59	30	230	25
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	70	42	0	34	12	20	246	327	61	31	237	26
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	65	157	160	50	51	783	1089	203	642	867	95
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.10	0.09	0.71	0.71	0.53	0.53	0.53
Sat Flow, veh/h	971	652	1583	681	500	513	1774	1528	285	992	1650	181
Grp Volume(v), veh/h	112	0	0	66	0	0	246	0	388	31	0	263
Grp Sat Flow(s),veh/h/ln	1623	0	1583	1694	0	0	1774	0	1812	992	0	1831
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	3.3	0.0	4.6	0.9	0.0	4.7
Cycle Q Clear(g_c), s	3.8	0.0	0.0	2.0	0.0	0.0	3.3	0.0	4.6	0.9	0.0	4.7
Prop In Lane	0.62		1.00	0.52		0.30	1.00		0.16	1.00		0.10
Lane Grp Cap(c), veh/h	260	0	157	260	0	0	783	0	1293	642	0	962
V/C Ratio(X)	0.43	0.00	0.00	0.25	0.00	0.00	0.31	0.00	0.30	0.05	0.00	0.27
Avail Cap(c_a), veh/h	752	0	669	744	0	0	1067	0	1684	1043	0	1701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	0.0	24.9	0.0	0.0	4.6	0.0	3.1	6.9	0.0	7.8
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.5	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	0.0	0.0	1.9	0.0	0.0	2.7	0.0	4.4	0.5	0.0	4.5
LnGrp Delay(d),s/veh	26.5	0.0	0.0	25.3	0.0	0.0	4.7	0.0	3.6	7.0	0.0	8.3
LnGrp LOS	C			C			A		A	A		A
Approach Vol, veh/h	112				66		634				294	
Approach Delay, s/veh	26.5				25.3		4.0				8.2	
Approach LOS	C				C		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	48.0		11.2		11.1	36.9	11.2					
Change Period (Y+Rc), s	* 5.8		* 5.3		5.6	* 5.8	* 5.3					
Max Green Setting (Gmax), s	* 55		* 25		15.0	* 55	* 25					
Max Q Clear Time (g_c+l1), s	6.6		4.0		5.3	6.7	5.8					
Green Ext Time (p_c), s	24.4		0.4		0.3	24.4	0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			8.7									
HCM 2010 LOS			A									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build PM Peak - Improved

02/07/2019

	→	←	↖	↑	↗	↓
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↖	↗	↖	↗
Traffic Volume (vph)	32	31	32	538	33	512
Future Volume (vph)	32	31	32	538	33	512
Turn Type	NA	NA	Perm	NA	Perm	NA
Protected Phases	4	3		6		2
Permitted Phases			6		2	
Detector Phase	4	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	25.0	26.0	69.0	69.0	69.0	69.0
Total Split (%)	20.8%	21.7%	57.5%	57.5%	57.5%	57.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Rogers Bridge Rd & Main St/Chattahoochee Dr

↓ Ø2 (R)	↖ Ø3	↗ Ø4
69 s	26 s	25 s
↑ Ø6 (R)		
69 s		

HCM Signalized Intersection Capacity Analysis

8: Rogers Bridge Rd & Main St/Chattahoochee Dr

2023 Future Build PM Peak - Improved

02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	32	34	40	31	34	32	538	57	33	512	29
Future Volume (vph)	29	32	34	40	31	34	32	538	57	33	512	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1748		1770	1836		1770	1848	
Flt Permitted		0.98			0.98		0.38	1.00		0.34	1.00	
Satd. Flow (perm)		1746			1748		705	1836		642	1848	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	34	36	42	33	36	34	566	60	35	539	31
RTOR Reduction (vph)	0	18	0	0	15	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	83	0	0	96	0	34	624	0	35	569	0
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	4	4		3	3			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Effective Green, g (s)		11.1			11.9		80.5	80.5		80.5	80.5	
Actuated g/C Ratio		0.09			0.10		0.67	0.67		0.67	0.67	
Clearance Time (s)		5.5			5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		161			173		472	1231		430	1239	
v/s Ratio Prot		c0.05			c0.05			c0.34			0.31	
v/s Ratio Perm							0.05			0.05		
v/c Ratio		0.51			0.55		0.07	0.51		0.08	0.46	
Uniform Delay, d1		51.9			51.5		6.8	9.8		6.9	9.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8			3.8		0.3	1.5		0.4	1.2	
Delay (s)		54.6			55.3		7.1	11.3		7.2	10.6	
Level of Service		D			E		A	B		A	B	
Approach Delay (s)		54.6			55.3			11.1			10.4	
Approach LOS		D			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.5			
Intersection Capacity Utilization			49.5%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

Timings

2023 Future Build PM Peak - Improved

9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

02/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	287	384	558	83	343	222	303	75	417	123
Future Volume (vph)	287	384	558	83	343	222	303	75	417	123
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	pm+pt	NA	Perm
Protected Phases	1	6		5	2	3	8	7	4	
Permitted Phases	6		6	2				4		4
Detector Phase	1	6	6	5	2	3	8	7	4	4
Switch Phase						8		4		
Minimum Initial (s)	4.0	12.0	12.0	4.0	12.0	4.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	41.5	41.5	15.0	29.5	15.0	38.5	15.0	38.5	38.5
Total Split (s)	20.3	60.6	60.6	20.3	65.6	34.9	45.6	19.9	45.6	45.6
Total Split (%)	12.2%	36.4%	36.4%	12.2%	39.4%	21.0%	27.4%	12.0%	27.4%	27.4%
Yellow Time (s)	3.3	4.5	4.5	3.3	4.5	3.2	3.9	3.2	3.9	3.9
All-Red Time (s)	2.0	1.1	1.1	2.0	1.1	1.7	1.7	1.7	1.7	1.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.6	5.6	5.3	5.6	4.9	5.6	4.9	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	Max	Max	None	Max	None	None	None	None	None

Intersection Summary

Cycle Length: 166.4

Actuated Cycle Length: 151.5

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Old Peachtree Rd/Rogers Bridge Rd & US 23/SR 13 (Buford Hwy)

 Ø1	 Ø2	 Ø3	 Ø4
20.3 s	65.6 s	34.9 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
20.3 s	60.6 s	19.9 s	45.6 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	384	558	83	343	38	222	303	55	75	417	123
Future Volume (veh/h)	287	384	558	83	343	38	222	303	55	75	417	123
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	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	302	404	0	87	361	0	234	319	0	79	439	0
Adj No. of Lanes	1	1	1	1	2	0	2	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	585	885	752	445	1463	0	296	542	0	282	466	396
Arrive On Green	0.10	0.48	0.00	0.04	0.41	0.00	0.09	0.29	0.00	0.05	0.25	0.00
Sat Flow, veh/h	1774	1863	1583	1774	3632	0	3442	1863	0	1774	1863	1583
Grp Volume(v), veh/h	302	404	0	87	361	0	234	319	0	79	439	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1770	0	1721	1863	0	1774	1863	1583
Q Serve(g_s), s	14.0	21.1	0.0	4.1	9.7	0.0	9.7	21.3	0.0	4.8	33.6	0.0
Cycle Q Clear(g_c), s	14.0	21.1	0.0	4.1	9.7	0.0	9.7	21.3	0.0	4.8	33.6	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	585	885	752	445	1463	0	296	542	0	282	466	396
V/C Ratio(X)	0.52	0.46	0.00	0.20	0.25	0.00	0.79	0.59	0.00	0.28	0.94	0.00
Avail Cap(c_a), veh/h	585	885	752	555	1463	0	711	542	0	385	513	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.0	25.5	0.0	23.3	27.8	0.0	65.1	44.1	0.0	38.6	53.4	0.0
Incr Delay (d2), s/veh	0.8	1.7	0.0	0.2	0.4	0.0	4.7	1.7	0.0	0.5	24.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.1	16.8	0.0	3.6	8.4	0.0	8.4	16.7	0.0	4.3	28.0	0.0
LnGrp Delay(d),s/veh	20.8	27.2	0.0	23.5	28.2	0.0	69.8	45.7	0.0	39.1	78.4	0.0
LnGrp LOS	C	C		C	C		E	D		D	E	
Approach Vol, veh/h	706				448			553			518	
Approach Delay, s/veh	24.5				27.3			55.9			72.4	
Approach LOS	C				C			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	20.3	65.6	17.4	41.9	11.3	74.6	11.5	47.8				
Change Period (Y+Rc), s	* 5.3	* 5.6	4.9	* 5.6	* 5.3	* 5.6	4.9	* 5.6				
Max Green Setting (Gmax), s	* 15	* 60	30.0	* 40	* 15	* 55	15.0	* 40				
Max Q Clear Time (g_c+l1), s	16.0	11.7	11.7	35.6	6.1	23.1	6.8	23.3				
Green Ext Time (p_c), s	0.0	25.2	0.8	0.7	0.1	19.5	0.1	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay	44.0											
HCM 2010 LOS	D											
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build PM Peak - Improved
02/07/2019

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		  			  					
Traffic Volume (vph)	60	2229	73	81	1255	14	67	30	28	11
Future Volume (vph)	60	2229	73	81	1255	14	67	30	28	11
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	1	6		5	2		3	8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	4	4
Switch Phase							4			
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	6.0	6.0	6.0
Minimum Split (s)	15.0	33.5	33.5	15.0	39.5	39.5	15.0	57.8	57.8	57.8
Total Split (s)	15.0	110.0	110.0	15.0	110.0	110.0	15.0	35.0	20.0	20.0
Total Split (%)	9.4%	68.8%	68.8%	9.4%	68.8%	68.8%	9.4%	21.9%	12.5%	12.5%
Yellow Time (s)	4.0	4.5	4.5	3.1	4.5	4.5	4.0	4.8	4.8	4.8
All-Red Time (s)	3.0	1.5	1.5	3.0	1.5	1.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	6.0	6.0	6.1	6.0	6.0	7.0	7.8	7.8	7.8
Lead/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

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 10: Chattahoochee Dr & Peachtree Industrial Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	110 s	15 s	20 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	110 s	35 s	

HCM 2010 Signalized Intersection Summary
10: Chattahoochee Dr & Peachtree Industrial Blvd

2023 Future Build PM Peak - Improved
02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	2229	73	81	1255	14	67	30	157	28	11	20
Future Volume (veh/h)	60	2229	73	81	1255	14	67	30	157	28	11	20
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	1900	1863	1863	1900
Adj Flow Rate, veh/h	72	2686	0	98	1512	17	81	36	189	34	13	24
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	3435	1070	132	3436	1070	209	44	232	87	45	83
Arrive On Green	0.02	0.68	0.00	0.06	1.00	1.00	0.05	0.17	0.17	0.08	0.08	0.08
Sat Flow, veh/h	1774	5085	1583	1774	5085	1583	1774	260	1363	1151	587	1084
Grp Volume(v), veh/h	72	2686	0	98	1512	17	81	0	225	34	0	37
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1583	1774	0	1622	1151	0	1671
Q Serve(g_s), s	2.0	58.1	0.0	2.8	0.0	0.0	6.6	0.0	21.4	4.7	0.0	3.3
Cycle Q Clear(g_c), s	2.0	58.1	0.0	2.8	0.0	0.0	6.6	0.0	21.4	11.1	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.84	1.00		0.65
Lane Grp Cap(c), veh/h	317	3435	1070	132	3436	1070	209	0	276	87	0	127
V/C Ratio(X)	0.23	0.78	0.00	0.74	0.44	0.02	0.39	0.00	0.82	0.39	0.00	0.29
Avail Cap(c_a), veh/h	363	3435	1070	178	3436	1070	209	0	276	87	0	127
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	0.74	0.74	0.74	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.5	17.9	0.0	33.9	0.0	0.0	62.3	0.0	64.0	76.6	0.0	69.8
Incr Delay (d2), s/veh	0.1	1.8	0.0	4.9	0.3	0.0	0.4	0.0	16.6	2.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	36.3	0.0	5.5	0.2	0.0	5.8	0.0	16.3	2.8	0.0	2.9
LnGrp Delay(d),s/veh	7.6	19.7	0.0	38.7	0.3	0.0	62.7	0.0	80.6	78.7	0.0	70.7
LnGrp LOS	A	B		D	A	A	E		F	E		E
Approach Vol, veh/h	2758			1627			306			71		
Approach Delay, s/veh	19.4			2.6			75.9			74.5		
Approach LOS	B			A			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	10.9	114.1	15.0	20.0	10.9	114.1	35.0					
Change Period (Y+Rc), s	7.0	6.0	7.0	7.8	6.1	6.0	7.8					
Max Green Setting (Gmax), s	8.0	104.0	8.0	12.2	8.9	104.0	27.2					
Max Q Clear Time (g_c+I1), s	4.0	2.0	8.6	13.1	4.8	60.1	23.4					
Green Ext Time (p_c), s	0.0	101.4	0.0	0.0	0.0	43.8	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay				18.1								
HCM 2010 LOS				B								
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 11: Sugarloaf Pkwy & Peachtree Industrial Blvd

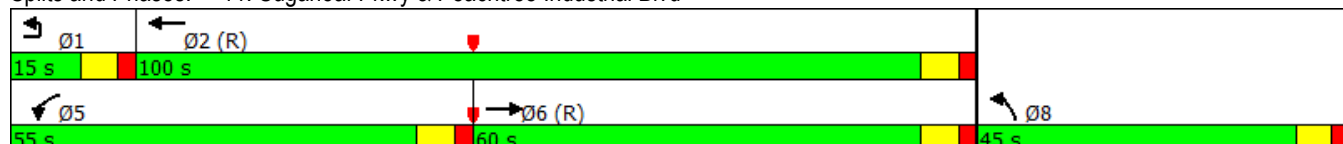
2023 Future Build PM Peak - Improved
02/07/2019

	→	↘	↙	←	↖	↗	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1
Lane Configurations	↑↑↑	↑	↘↘	↑↑↑	↘↘	↑	
Traffic Volume (vph)	1583	997	899	655	779	1266	
Future Volume (vph)	1583	997	899	655	779	1266	
Turn Type	NA	Free	Prot	NA	Prot	Free	
Protected Phases	6		5	2	8		1
Permitted Phases		Free				Free	
Detector Phase	6		5	2	8		
Switch Phase							
Minimum Initial (s)	20.0		4.0	20.0	6.0		4.0
Minimum Split (s)	38.7		15.0	61.5	51.9		15.0
Total Split (s)	60.0		55.0	100.0	45.0		15.0
Total Split (%)	37.5%		34.4%	62.5%	28.1%		9%
Yellow Time (s)	4.5		4.5	4.5	4.1		4.5
All-Red Time (s)	2.2		2.2	2.2	2.8		2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0		
Total Lost Time (s)	6.7		6.7	6.7	6.9		
Lead/Lag	Lag		Lead	Lag		Lead	
Lead-Lag Optimize?							
Recall Mode	C-Min		None	C-Min	Max		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: 150
Control Type: Actuated-Coordinated

Splits and Phases: 11: Sugarloaf Pkwy & Peachtree Industrial Blvd



HCM Signalized Intersection Capacity Analysis

11: Sugarloaf Pkwy & Peachtree Industrial Blvd

2023 Future Build PM Peak - Improved

02/07/2019

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		  	 	  	  	  	  
Traffic Volume (vph)	0	1583	997	899	655	779	1266
Future Volume (vph)	0	1583	997	899	655	779	1266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.7	4.0	6.7	6.7	6.9	4.0
Lane Util. Factor		0.91	1.00	0.97	0.91	0.97	1.00
Frt		1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		5085	1583	3433	5085	3433	1583
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1632	1028	927	675	803	1305
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1632	1028	927	675	803	1305
Turn Type	Prot	NA	Free	Prot	NA	Prot	Free
Protected Phases	1	6		5	2	8	
Permitted Phases			Free				Free
Actuated Green, G (s)		55.0	160.0	46.6	108.3	38.1	160.0
Effective Green, g (s)		55.0	160.0	46.6	108.3	38.1	160.0
Actuated g/C Ratio		0.34	1.00	0.29	0.68	0.24	1.00
Clearance Time (s)		6.7		6.7	6.7	6.9	
Vehicle Extension (s)		6.0		3.0	6.0	2.5	
Lane Grp Cap (vph)		1747	1583	999	3441	817	1583
v/s Ratio Prot		c0.32		0.27	0.13	c0.23	
v/s Ratio Perm			0.65				c0.82
v/c Ratio		0.93	0.65	0.93	0.20	0.98	0.82
Uniform Delay, d1		50.8	0.0	55.1	9.6	60.6	0.0
Progression Factor		0.93	1.00	1.00	1.00	1.24	1.00
Incremental Delay, d2		7.4	1.3	14.1	0.1	6.3	0.5
Delay (s)		54.6	1.3	69.2	9.8	81.7	0.5
Level of Service		D	A	E	A	F	A
Approach Delay (s)		34.0			44.1	31.4	
Approach LOS		C			D	C	
Intersection Summary							
HCM 2000 Control Delay			35.7		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.95				
Actuated Cycle Length (s)			160.0		Sum of lost time (s)		20.3
Intersection Capacity Utilization			95.4%		ICU Level of Service		F
Analysis Period (min)			15				
c Critical Lane Group							

Timings
12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build PM Peak - Improved

02/07/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Future Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases			4	8		8	6		6	2	2	
Detector Phase	3	4	4	7	8	8	1	6	6	5	5	2
Switch Phase	8			4								
Minimum Initial (s)	4.0	20.0	20.0	4.0	20.0	20.0	4.0	20.0	20.0	4.0	4.0	20.0
Minimum Split (s)	15.0	44.8	44.8	15.0	44.8	44.8	15.0	38.7	38.7	15.0	15.0	42.7
Total Split (s)	25.0	50.0	50.0	15.0	40.0	40.0	20.0	76.0	76.0	19.0	19.0	75.0
Total Split (%)	15.6%	31.3%	31.3%	9.4%	25.0%	25.0%	12.5%	47.5%	47.5%	11.9%	11.9%	46.9%
Yellow Time (s)	3.9	4.6	4.6	3.9	4.6	4.6	3.6	4.7	4.7	3.6	3.6	4.7
All-Red Time (s)	3.0	2.2	2.2	3.0	2.2	2.2	3.0	1.9	1.9	3.0	3.0	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 107 (67%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

											
Ø1	Ø2 (R)	Ø4	Ø3	Ø5	Ø6 (R)	Ø7	Ø8				
20 s	75 s	50 s	15 s	19 s	76 s	25 s	40 s				

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	161
Future Volume (vph)	161
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Detector Phase	2
Switch Phase	
Minimum Initial (s)	20.0
Minimum Split (s)	42.7
Total Split (s)	75.0
Total Split (%)	46.9%
Yellow Time (s)	4.7
All-Red Time (s)	1.9
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.6
Lead/Lag	Lag
Lead-Lag Optimize?	
Recall Mode	C-Min
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

12: Sugarloaf Pkwy & US 23/SR 13 (Buford Hwy)

2023 Future Build PM Peak - Improved

02/07/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Future Volume (vph)	305	482	33	81	224	218	57	1663	93	2	192	1636
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583		1770	3539
Flt Permitted	0.95	1.00	1.00	0.24	1.00	1.00	0.06	1.00	1.00		0.05	1.00
Satd. Flow (perm)	3433	1863	1583	441	1863	1583	107	3539	1583		98	3539
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	314	497	34	84	231	225	59	1714	96	2	198	1687
RTOR Reduction (vph)	0	0	25	0	0	112	0	0	54	0	0	0
Lane Group Flow (vph)	314	497	9	84	231	113	59	1714	42	0	200	1687
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		1	6		5	5	2
Permitted Phases			4	8		8	6		6	2	2	
Actuated Green, G (s)	18.1	43.2	43.2	33.2	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Effective Green, g (s)	18.1	43.2	43.2	33.2	33.2	33.2	75.5	69.4	69.4		88.1	75.7
Actuated g/C Ratio	0.11	0.27	0.27	0.21	0.21	0.21	0.47	0.43	0.43		0.55	0.47
Clearance Time (s)	6.9	6.8	6.8	6.9	6.8	6.8	6.6	6.6	6.6		6.6	6.6
Vehicle Extension (s)	2.0	6.0	6.0	2.0	6.0	6.0	2.0	6.0	6.0		2.0	6.0
Lane Grp Cap (vph)	388	503	427	158	386	328	113	1535	686		183	1674
v/s Ratio Prot	0.09	c0.27		0.03	c0.12		0.02	0.48			c0.08	c0.48
v/s Ratio Perm			0.01	0.08		0.07	0.22		0.03		c0.51	
v/c Ratio	0.81	0.99	0.02	0.53	0.60	0.35	0.52	1.12	0.06		1.09	1.01
Uniform Delay, d1	69.3	58.1	42.9	66.3	57.4	54.1	36.9	45.3	26.3		53.4	42.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.32	0.50
Incremental Delay, d2	11.1	37.1	0.1	1.7	4.6	1.8	2.0	62.0	0.2		81.4	19.9
Delay (s)	80.4	95.2	42.9	68.1	61.9	55.9	38.9	107.3	26.5		152.0	41.0
Level of Service	F	F	D	E	E	E	D	F	C		F	D
Approach Delay (s)		87.6			60.4			101.0				48.5
Approach LOS		F			E			F				D

Intersection Summary

HCM 2000 Control Delay	74.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	26.9
Intersection Capacity Utilization	109.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	161
Future Volume (vph)	161
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.6
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	166
RTOR Reduction (vph)	87
Lane Group Flow (vph)	79
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	75.7
Effective Green, g (s)	75.7
Actuated g/C Ratio	0.47
Clearance Time (s)	6.6
Vehicle Extension (s)	6.0
Lane Grp Cap (vph)	748
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.11
Uniform Delay, d1	23.4
Progression Factor	0.02
Incremental Delay, d2	0.2
Delay (s)	0.7
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Traffic Volume Worksheets

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth Traffic Volumes

A&R Engineering
December 2018

1. PIB @ State Bridge

A.M. Peak Hour

Condition	Peachtree Industrial Blvd				Peachtree Industrial Blvd				State Bridge Rd				Pleasant Hill Rd			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	367	1089	59	1515	364	1543	504	2411	296	1278	502	2076	82	1120	81	1283
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	405	1202	65	1672	402	1704	556	2662	327	1411	554	2292	91	1237	89	1417
Total New Trips:	0	19	0	19	43	54	54	151	19	0	0	19	0	0	15	15
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	405	1221	65	1691	445	1758	610	2813	346	1411	554	2311	91	1237	104	1432

P.M. Peak Hour

Condition	Peachtree Industrial Blvd				Peachtree Industrial Blvd				State Bridge Rd				Pleasant Hill Rd			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	540	2124	163	2827	319	827	422	1568	351	1584	332	2267	64	1173	231	1468
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	596	2345	180	3121	352	913	466	1731	388	1749	367	2504	71	1295	255	1621
Total New Trips:	0	59	0	59	29	37	37	103	59	0	0	59	0	0	47	47
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	596	2404	180	3180	381	950	503	1834	447	1749	367	2563	71	1295	302	1668

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
December 2018

2. PIB @ Abbotts Bridge

A.M. Peak Hour

Condition	SR 120 (Duluth Hwy)				SR 120 (Abbotts Bridge Rd)				Peachtree Industrial Blvd				Peachtree Industrial Blvd			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	288	336	12	636	215	331	658	1204	423	730	359	1512	59	1530	442	2031
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	318	371	13	702	237	365	726	1328	467	806	396	1669	65	1689	488	2242
Total New Trips:	0	0	5	5	25	0	0	25	0	53	0	53	14	150	71	235
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	318	371	18	707	262	365	726	1353	467	859	396	1722	79	1839	559	2477

P.M. Peak Hour

Condition	SR 120 (Duluth Hwy)				SR 120 (Abbotts Bridge Rd)				Peachtree Industrial Blvd				Peachtree Industrial Blvd			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	239	275	32	546	367	335	474	1176	660	1854	261	2775	70	948	197	1215
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	264	304	35	603	405	370	523	1298	729	2047	288	3064	77	1047	218	1342
Total New Trips:	0	0	16	16	79	0	0	79	0	165	0	165	10	102	49	161
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	264	304	51	619	484	370	523	1377	729	2212	288	3229	87	1149	267	1503

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth **Traffic Volumes**

A&R Engineering
 December 2018

3. SR 120 @ George Rogers

A.M. Peak Hour

Condition	SR 120 (Duluth Hwy)				SR 120 (Duluth Hwy)				George Rogers Ave				Duluth HS Drwy			
	Northbound		Southbound		Eastbound		Westbound		L		T		L		T	
Existing 2018 Volumes:	111	341	0	452	0	403	89	492	88	0	36	124	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	123	376	0	499	0	445	98	543	97	0	40	137	0	0	0	0
Total New Trips:	0	6	0	6	0	18	11	29	4	0	0	4	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	123	382	0	505	0	463	109	572	101	0	40	141	0	0	0	0

P.M. Peak Hour

Condition	SR 120 (Duluth Hwy)				SR 120 (Duluth Hwy)				George Rogers Ave				Duluth HS Drwy			
	Northbound		Southbound		Eastbound		Westbound		L		T		L		T	
Existing 2018 Volumes:	42	380	0	422	0	442	25	467	134	0	116	250	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	46	420	0	466	0	488	28	516	148	0	128	276	0	0	0	0
Total New Trips:	0	20	0	20	0	12	7	19	12	0	0	12	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	46	440	0	486	0	500	35	535	160	0	128	288	0	0	0	0

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

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December 2018

4. PIB @ Hooch W. Drwy

A.M. Peak Hour

Condition	Chattahoochee Trce				Hooch Drwy (W)				Peachtree Industrial Blvd				Peachtree Industrial Blvd			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	62	0	15	77	8	0	8	16	25	868	85	978	20	2035	17	2072
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	68	0	17	85	9	0	9	18	28	958	94	1080	22	2247	19	2288
Total New Trips:	0	4	2	6	67	12	153	232	54	29	0	83	6	82	24	112
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	68	4	19	91	76	12	162	250	82	987	94	1163	28	2329	43	2400

P.M. Peak Hour

Condition	Chattahoochee Trce				Hooch Drwy (W)				Peachtree Industrial Blvd				Peachtree Industrial Blvd			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	27	0	65	92	28	0	30	58	31	2086	115	2232	66	1140	28	1234
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	30	0	72	102	31	0	33	64	34	2303	127	2464	73	1259	31	1363
Total New Trips:	0	13	7	20	46	8	105	159	169	91	0	260	4	56	74	134
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	30	13	79	122	77	8	138	223	203	2394	127	2724	77	1315	105	1497

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December 2018

A.M. Peak Hour

P.M. Peak Hour

Condition	Private Drwy Northbound				Hooch Drwy (E) Southbound				Peachtree Industrial Blvd Eastbound				Peachtree Industrial Blvd Westbound					
	L	T	R	Tot	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2018 Volumes:	11	0	1	12	17	0	21	38	7	11	2165	3	2186	6	7	1195	8	1216
Growth Factor (%):	2	2	2		2	2	2		2	2	2	2		2	2	2	2	
No-Build 2023 Volumes:	12	0	1	13	19	0	23	42	8	12	2390	3	2413	7	8	1319	9	1343
Total New Trips:	0	0	0	0	25	0	61	86	0	98	46	0	144	0	0	74	40	114
Pass-by Trips:	0	0	0	0	4	0	2	6	0	3	-3	0	0	0	0	-2	2	0
Future 2023 Volumes:	12	0	1	13	48	0	86	134	8	113	2433	3	2557	7	8	1391	51	1457

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
December 2018

6. PIB @ Rogers Bridge

A.M. Peak Hour

Condition	Rogers Bridge Rd Northbound				Rogers Bridge Rd Southbound				Peachtree Industrial Blvd Eastbound				Peachtree Industrial Blvd Westbound					
	L	T	R	Tot	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2018 Volumes:	91	19	47	157	31	44	28	103	6	18	862	83	969	6	141	1633	31	1811
Growth Factor (%):	2	2	2		2	2	2		2	2	2	2		2	2	2	2	
No-Build 2023 Volumes:	100	21	52	173	34	49	31	114	7	20	952	92	1071	7	156	1803	34	2000
Total New Trips:	5	0	0	5	0	0	0	0	0	0	89	14	103	0	0	31	0	31
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	105	21	52	178	34	49	31	114	7	20	1041	106	1174	7	156	1834	34	2031

P.M. Peak Hour

Condition	Rogers Bridge Rd Northbound				Rogers Bridge Rd Southbound				Peachtree Industrial Blvd Eastbound				Peachtree Industrial Blvd Westbound					
	L	T	R	Tot	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2018 Volumes:	113	45	87	245	34	36	13	83	2	52	2047	158	2259	2	61	1145	40	1248
Growth Factor (%):	2	2	2		2	2	2		2	2	2	2		2	2	2	2	
No-Build 2023 Volumes:	125	50	96	271	38	40	14	92	2	57	2260	174	2493	2	67	1264	44	1377
Total New Trips:	16	0	0	16	0	0	0	0	0	0	61	10	71	0	0	98	0	98
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	141	50	96	287	38	40	14	92	2	57	2321	184	2564	2	67	1362	44	1475

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
December 2018

7. Rogers Bridge @ Albion Farm

A.M. Peak Hour

Condition	Rogers Bridge Rd Northbound			Rogers Bridge Rd Southbound			Albion Farm Rd Eastbound			Highbrooke Trl Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	186	188	18	392	6	256	69	331	72	26	199	297
Growth Factor (%):	2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	205	208	20	433	7	283	76	366	79	29	220	328
Total New Trips:	1	5	0	6	0	14	0	14	0	0	4	4
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	206	213	20	439	7	297	76	380	79	29	224	332

P.M. Peak Hour

Condition	Rogers Bridge Rd Northbound			Rogers Bridge Rd Southbound			Albion Farm Rd Eastbound			Highbrooke Trl Westbound		
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	213	273	53	539	27	199	23	249	62	37	238	337
Growth Factor (%):	2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	235	301	59	595	30	220	25	275	68	41	263	372
Total New Trips:	4	16	0	20	0	10	0	10	0	0	2	2
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	239	317	59	615	30	230	25	285	68	41	265	374

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
December 2018

8. Rogers Bridge @ Main St

A.M. Peak Hour

Condition	Rogers Bridge Rd Northbound				Rogers Bridge Rd Southbound				Main St Eastbound				Chattahoochee Dr Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	27	363	20	410	19	515	25	559	24	14	25	63	32	26	24	82
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	30	401	22	453	21	569	28	618	26	15	28	69	35	29	26	90
Total New Trips:	0	6	0	6	0	18	0	18	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	30	407	22	459	21	587	28	636	26	15	28	69	35	29	26	90

P.M. Peak Hour

Condition	Rogers Bridge Rd Northbound				Rogers Bridge Rd Southbound				Main St Eastbound				Chattahoochee Dr Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	29	469	52	550	30	453	26	509	26	29	31	86	36	28	31	95
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	32	518	57	607	33	500	29	562	29	32	34	95	40	31	34	105
Total New Trips:	0	20	0	20	0	12	0	12	0	0	0	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	32	538	57	627	33	512	29	574	29	32	34	95	40	31	34	105

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
December 2018

9. Buford Hwy @ Rogers Bridge

A.M. Peak Hour

Condition	Old Peachtree Rd Northbound				Rogers Bridge Rd Southbound				US 23/SR 13 (Buford Hwy) Eastbound				US 23/SR 13 (Buford Hwy) Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	468	308	46	822	34	220	332	586	78	282	209	569	43	715	38	796
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	517	340	51	908	38	243	367	648	86	311	231	628	47	789	42	878
Total New Trips:	0	4	0	4	0	11	7	18	3	0	0	3	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	517	344	51	912	38	254	374	666	89	311	231	631	47	789	42	878

P.M. Peak Hour

Condition	Old Peachtree Rd Northbound				Rogers Bridge Rd Southbound				US 23/SR 13 (Buford Hwy) Eastbound				US 23/SR 13 (Buford Hwy) Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	201	264	50	515	68	371	107	546	253	348	505	1106	75	311	34	420
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	222	291	55	568	75	410	118	603	279	384	558	1221	83	343	38	464
Total New Trips:	0	12	0	12	0	7	5	12	8	0	0	8	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	222	303	55	580	75	417	123	615	287	384	558	1229	83	343	38	464

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
December 2018

10. PTB @ Chattahoochee Dr

A.M. Peak Hour

Condition	Chattahoochee Dr Northbound				Chattahoochee Dr Southbound				Peachtree Industrial Blvd Eastbound				Peachtree Industrial Blvd Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	40	8	41	89	39	21	54	114	14	906	18	938	198	1851	15	2064
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	44	9	45	98	43	23	60	126	15	1000	20	1035	219	2044	17	2280
Total New Trips:	0	0	0	0	0	0	0	0	0	89	0	89	0	31	0	31
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	44	9	45	98	43	23	60	126	15	1089	20	1124	219	2075	17	2311

P.M. Peak Hour

Condition	Chattahoochee Dr Northbound				Chattahoochee Dr Southbound				Peachtree Industrial Blvd Eastbound				Peachtree Industrial Blvd Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	61	27	142	230	25	10	18	53	54	1964	66	2084	73	1048	13	1134
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	67	30	157	254	28	11	20	59	60	2168	73	2301	81	1157	14	1252
Total New Trips:	0	0	0	0	0	0	0	0	0	61	0	61	0	98	0	98
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	67	30	157	254	28	11	20	59	60	2229	73	2362	81	1255	14	1350

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
December 2018

11. PIB @ Sugarloaf Pkwy

A.M. Peak Hour

Condition	Sugarloaf Pkwy Northbound				-				Peachtree Industrial Blvd Eastbound				Peachtree Industrial Blvd Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	856	0	575	1431	0	0	0	0	0	409	625	1034	1224	1149	0	2373
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	945	0	635	1580	0	0	0	0	0	452	690	1142	1351	1269	0	2620
Total New Trips:	25	0	0	25	0	0	0	0	0	18	71	89	0	6	0	6
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	970	0	635	1605	0	0	0	0	0	470	761	1231	1351	1275	0	2626

P.M. Peak Hour

Condition	Sugarloaf Pkwy Northbound				-				Peachtree Industrial Blvd Eastbound				Peachtree Industrial Blvd Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	634	0	1147	1781	0	0	0	0	0	1423	859	2282	814	575	0	1389
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2023 Volumes:	700	0	1266	1966	0	0	0	0	0	1571	948	2519	899	635	0	1534
Total New Trips:	79	0	0	79	0	0	0	0	0	12	49	61	0	20	0	20
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	779	0	1266	2045	0	0	0	0	0	1583	997	2580	899	655	0	1554

18-089 The Hooch Tract, Peachtree Ind Blvd, Duluth
Traffic Volumes

A&R Engineering
 December 2018

12. Buford Hwy @ Sugarloaf Pkwy

A.M. Peak Hour

Condition	Sugarloaf Pkwy Northbound				Sugarloaf Pkwy Southbound				US 23/SR 13 (Buford Hwy) Eastbound				US 23/SR 13 (Buford Hwy) Westbound					
	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	47	1169	87	1303	1	129	1415	360	1905	1	132	205	37	375	66	401	148	615
Growth Factor (%):	2	2	2		2	2	2	2		2	2	2	2		2	2	2	
No-Build 2023 Volumes:	52	1291	96	1439	1	142	1562	397	2102	1	146	226	41	414	73	443	163	679
Total New Trips:	0	19	0	19	0	18	54	0	72	0	0	0	0	0	0	0	6	6
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	52	1310	96	1458	1	160	1616	397	2174	1	146	226	41	414	73	443	169	685

P.M. Peak Hour

Condition	Sugarloaf Pkwy Northbound				Sugarloaf Pkwy Southbound				US 23/SR 13 (Buford Hwy) Eastbound				US 23/SR 13 (Buford Hwy) Westbound					
	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	L	T	R	Tot
Existing 2018 Volumes:	52	1453	84	1589	2	163	1448	146	1759	0	276	437	30	743	73	203	179	455
Growth Factor (%):	2	2	2		2	2	2	2		2	2	2	2		2	2	2	
No-Build 2023 Volumes:	57	1604	93	1754	2	180	1599	161	1942	0	305	482	33	820	81	224	198	503
Total New Trips:	0	59	0	59	0	12	37	0	49	0	0	0	0	0	0	0	20	20
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2023 Volumes:	57	1663	93	1813	2	192	1636	161	1991	0	305	482	33	820	81	224	218	523