

**DEVELOPMENT OF REGIONAL IMPACT
(DRI #3739)**

**TRAFFIC STUDY
FOR
CEDAR GROVE VILLAGE CENTER AT SOUTH FULTON
PARKWAY AND CEDAR GROVE ROAD**

CITY OF SOUTH FULTON, GEORGIA



Prepared for:

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EXECUTIVE SUMMARY

Traffic impacts were evaluated for the proposed mixed-use development that will be located to the north of Cedar Grove Road near the intersection of South Fulton Parkway and Cedar Grove Road in the City of South Fulton, Georgia. The development will consist of following:

- Single-Family Detached Housing: 16 units
- Single Family Attached Housing: 344 units
- Multifamily Housing (Mid-Rise) not close to Rail Transit: 436 units
- General Office Building: 35,240 sf
- Strip Retail Plaza (>40k): 14,000 sf
- Fast Casual Restaurant: 16,080 sf

The development proposes three full access driveways on Cedar Grove Road. Two of the proposed driveways will align with Lynmark Way and Bellmist Drive.

Existing and future operations during the AM peak hour (7:00 AM – 9:00 AM) and PM peak hour (4:00 PM – 6:00 PM) before and after completion of the project were analyzed at the following intersections:

1. South Fulton Parkway and Rosewood Place
2. South Fulton Parkway and SR 92
3. South Fulton Parkway and Cedar Grove Road
4. Cedar Grove Road and Lynmark Way
5. Cedar Grove Road and Bellmist Drive
6. Cedar Grove Road and McClure Road
7. Cedar Grove Road and Parks Trail
8. Cedar Grove Road and The Lakes Drive
9. Cedar Grove Road and Rivertown Road
10. Rivertown Road and John Rivers Road
11. Rivertown Road and Virlyn B Smith Road

Traffic Operations Summary

Table E1 below provides a summary of traffic operations for the “No-Build” and “Build” conditions for the year 2030 with and without system improvements. As per GRTA requirements, all approaches that do not meet the level-of-service (LOS) standard (considered failing) are highlighted in Table E1. Table E1 for “Build” conditions also includes the project’s total added trip and the respective percentage of overall total “Build” condition approach traffic volume for all failing LOS approaches after all improvements are completed.

TABLE E1 — FUTURE INTERSECTION OPERATIONS AT FAILING APPROACHES

Intersection		No-Build Condition: LOS (Delay)				Build Condition: LOS (Delay)							
		NO IMPROVEMENTS		PLANNED AND SYSTEM IMPROVEMENTS		NO IMPROVEMENTS		PLANNED AND SYSTEM IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PERCENT SITE TRIPS OF TOTAL APPROACH TRIPS AT FAILING APPROACHES	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	South Fulton Pkwy @ Rosewood Pl -Northbound Approach	F (*)	F (171.7)	F (*)	F (171.7)	F (*)	F (282.4)	F (*)	F (282.4)	0	0	0%	0%
2	South Fulton Pkwy @ SR 92 -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	D (52.1) D (46.5) E (62.4) D (50.9) D (49.7)	F (91.8) D (47.5) F (159.0) D (54.1) D (52.6)	D (47.7) D (44.9) D (42.9) D (50.9) D (49.7)	D (48.6) D (38.9) D (45.1) D (52.0) D (52.7)	D (55.0) D (54.2) E (62.5) D (51.0) D (52.4)	F (100.0) E (57.9) F (168.6) D (56.8) D (62.8)	D (50.9) D (49.6) D (45.2) D (54.5) D (52.6)	D (53.3) D (52.5) D (51.2) D (54.4) D (54.8)	No Failing Approaches	No Failing Approaches	No Failing Approaches	No Failing Approaches
3	South Fulton Pkwy @ Cedar Grove Rd -Westbound Approach -Northbound Approach -Southbound Approach	D (37.8) D (54.7) C (34.6) C (25.2)	D (36.5) D (54.6) C (28.8) C (32.6)	D (37.8) D (54.7) C (34.6) C (25.2)	D (36.5) D (54.6) C (28.8) C (32.6)	E (55.6) E (65.0) D (46.1) E (67.2)	F (82.8) F (102.9) D (35.3) F (101.5)	D (37.9) D (51.0) D (37.9) C (30.1)	D (41.0) D (53.8) D (44.4) C (34.7)	No Failing Approaches	No Failing Approaches	No Failing Approaches	No Failing Approaches
4	Cedar Grove Rd @ Lynmark Way -Northbound Approach (Lynmark Way) -Southbound Approach (Site Drwy 2)	C (15.7) - -	D (29.1) - -	C (15.7) - -	D (29.1) - -	F (55.5) C (15.1)	F (*) E (39.4)	F (55.5) C (15.1)	F (*) E (39.4)	0 75	0 89	0% 100%	0% 100%

5	<u>Cedar Grove Rd @ Bellmist Dr</u> -Northbound Approach (Bellmist Dr)	B (12.5)	C (15.4)	B (12.5)	C (15.4)	C (21.8)	F (55.3)	C (21.8)	F (55.3)	0	0	0%	0%
	-Southbound Approach (Site Drwy 1)	-	-	-	-	C (18.5)	F (73.1)	C (18.5)	F (73.1)	146	173	100%	100%
9	<u>Cedar Grove Rd @ Rivertown Rd</u> -Southbound Approach	E (39.4)	F (70.8)	<u>C (20.2)</u> D (39.6)	<u>C (21.3)</u> D (44.0)	F (78.4)	F (189.0)	<u>C (21.2)</u> D (38.4)	<u>C (25.9)</u> D (47.3)	No Failing Approaches	No Failing Approaches	No Failing Approaches	No Failing Approaches
10	<u>Rivertown Rd @ John Rivers Rd</u> -Northbound Approach	F (*)	E (38.2)	F (83.3)	D (26.9)	F (*)	F (62.9)	F (123.3)	E (38.7)	5	11	4%	11%
11	<u>Rivertown Rd @ Virlyn B Smith Rd</u> -Northbound Approach	B (14.8)	F (123.8)	<u>B (14.1)</u> D (45.7)	<u>C (26.4)</u> D (43.2)	C (16.1)	F (192.1)	<u>B (14.1)</u> D (45.3)	<u>C (28.0)</u> D (44.7)	No Failing Approaches	No Failing Approaches	No Failing Approaches	No Failing Approaches

The results of future “Build” traffic operations show that the following intersections has LOS “E or F” for the approaches in the AM or PM peak hour or both:

- Intersection 1: South Fulton Parkway at Rosewood Place
- Intersection 2: South Fulton Parkway at SR 92
- Intersection 3: South Fulton Parkway at Cedar Grove Road
- Intersection 4: Cedar Grove Road at Lynmark Way
- Intersection 5: Cedar Grove Road at Bellmist Drive
- Intersection 9: Cedar Grove Road at Rivertown Road
- Intersection 10: Rivertown Road at John Rivers Road
- Intersection 11: Rivertown Road at Virlyn B Smith Road

Intersection 2 (South Fulton Parkway and SR 92), intersection 9 (Cedar Grove Road and Rivertown Road), intersection 10 (Rivertown Road at John Rivers Road) and intersection 11 (Rivertown Road and Virlyn B Smith Road) were improved to achieve the LOS standard after implementation of the identified system improvements. The LOS standard was achieved at intersection 3 (South Fulton Parkway and Cedar Grove Road) by addition of westbound right turn lane on Cedar Grove Road as a site mitigation improvement.

No other improvements are possible at the intersection 1 (South Fulton Parkway at Rosewood Place), Intersection 3 (Cedar Grove Road at Lynmark Way) and intersection 4 (Cedar Grove Road at Bellmist Drive) until traffic signal is warranted by the MUTCD. It is not unusual for stop-controlled side streets to have elevated delays during peak periods as delays are caused by side street wait times to turn left on to the mainline.

At the intersection of SR 92 and South Fulton Parkway, a northbound right turn lane is programmed to be constructed for the northbound traffic on SR 92 by the Fulton County. The northbound right turn lane was under construction when counts were recorded, therefore was not modeled in existing traffic operations. The northbound right turn lane on SR 92 is included in “No-Build” and “Build” traffic operations.

Recommended System Improvements

The following are system improvements that were identified from the “No-Build” condition analysis.

Intersection 2: South Fulton Parkway at SR 92

- Channelization of all right turn lanes

Intersection 9: Cedar Grove Road at Rivertown Road

- When warranted per MUTCD warrants, installation of a traffic signal and realignment of intersection
 - Alternatively, installation of a roundabout can be considered
- Addition of southbound left turn lane on Cedar Grove Road
- Addition of southbound right turn lane on Cedar Grove Road

Intersection 10: Rivertown Road at John Rivers Road

- Addition of northbound left turn lane on John Rivers Road

- Addition of northbound right turn lane on John Rivers Road

Intersection 11: Rivertown Road at Virlyn B Smith Road

- Installation of a traffic signal when warranted per MUTCD standards
- Addition of northbound left turn lane on Virlyn B Smith Road
- Addition of northbound right turn lane on Virlyn B Smith Road

Recommended Site Mitigation Improvements

Intersection 3: South Fulton Parkway at Cedar Grove Road

- Addition of a channelized, westbound right turn lane on Cedar Grove Road

Intersection 4: Cedar Grove Road at Lynmark Way/ Site Driveway 2 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane
- Installation of a deceleration lane

Intersection 5: Cedar Grove Road at Bellmist Drive/ Site Driveway 1 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane for entering traffic

Intersection 12: Cedar Grove Road at Site Driveway 3 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane
- Installation of a deceleration lane

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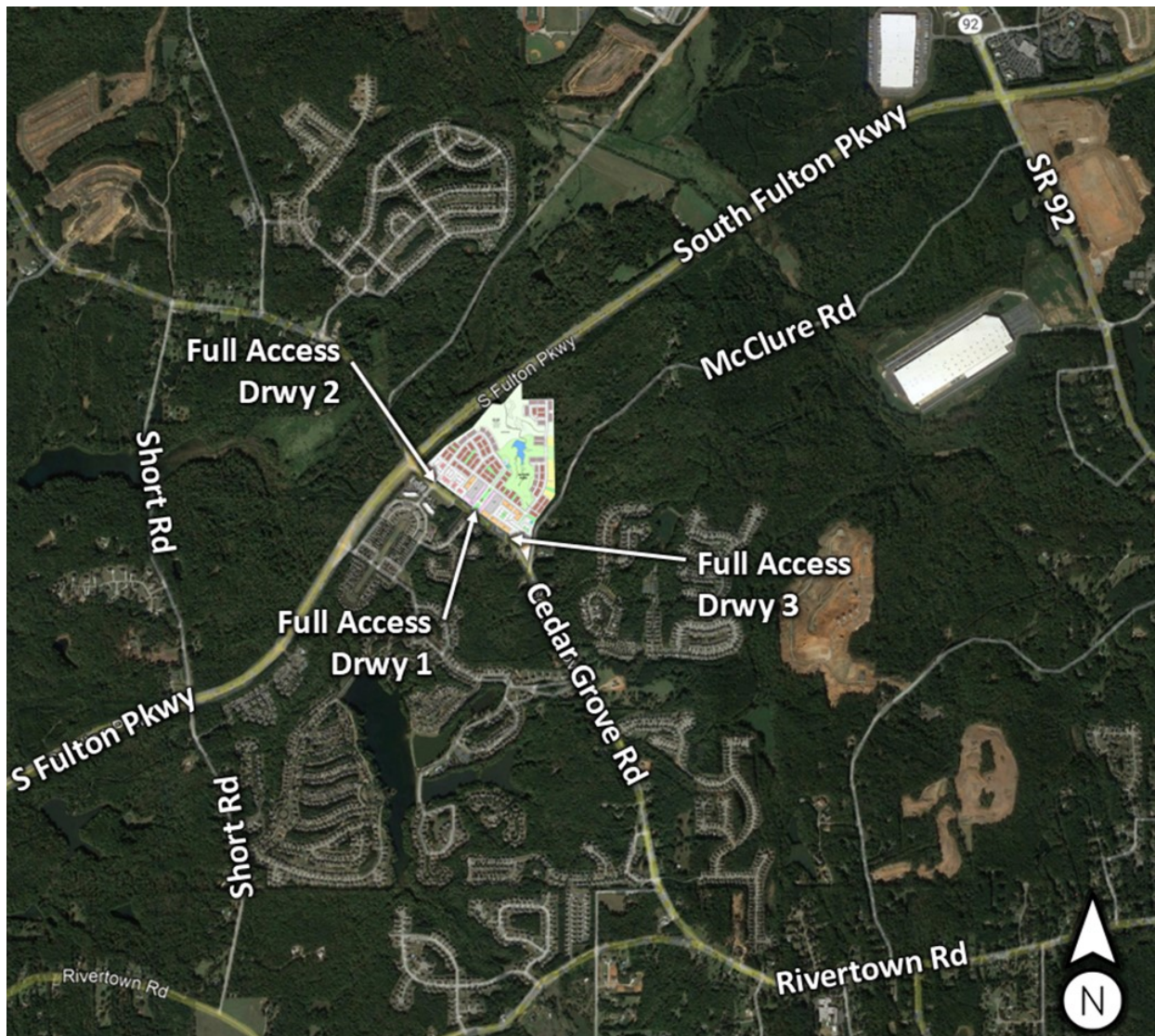
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INTRODUCTION

The purpose of this study is to determine the traffic impact that will result from the proposed mixed use development that will be located in between South Fulton Parkway and McClure Road and to the north of Cedar Grove Road in the City of South Fulton, Georgia. The traffic analysis evaluates the current operations and the future conditions with the traffic generated by the development. The development will consist of following:

- Single-Family Detached Housing: 16 units
- Single Family Attached Housing: 344 units
- Multifamily Housing (Mid-Rise) not close to Rail Transit: 436 units
- General Office Building: 35,240 sf
- Strip Retail Plaza (>40k): 14,000 sf
- Fast Casual Restaurant: 16,080 sf



The development proposes access at the following locations:

- Site Driveway 1: Full access driveway on Cedar Grove Road (aligned with Bellmist Drive)
- Site Driveway 2: Full access driveway on Cedar Grove Road (aligned with Lynmark Way)
- Site Driveway 3: Full access driveway on Cedar Grove Road

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. South Fulton Parkway and Rosewood Place
2. South Fulton Parkway and SR 92
3. South Fulton Parkway and Cedar Grove Road
4. Cedar Grove Road and Lynmark Way
5. Cedar Grove Road and Bellmist Drive
6. Cedar Grove Road and McClure Road
7. Cedar Grove Road and Parks Trail
8. Cedar Grove Road and The Lakes Drive
9. Cedar Grove Road and Rivertown Road
10. Rivertown Road and John Rivers Road
11. Rivertown Road and Virlyn B Smith Road

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

STUDY NETWORK DETERMINATION

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

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

1. South Fulton Parkway and Rosewood Place
2. South Fulton Parkway and SR 92
3. South Fulton Parkway and Cedar Grove Road
4. Cedar Grove Road and Lynmark Way
5. Cedar Grove Road and Bellmist Drive
6. Cedar Grove Road and McClure Road
7. Cedar Grove Road and Parks Trail
8. Cedar Grove Road and The Lakes Drive
9. Cedar Grove Road and Rivertown Road
10. Rivertown Road and John Rivers Road
11. Rivertown Road and Virlyn B Smith Road

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.

 - Intersections to be included in the detailed analysis (apart from site driveways)

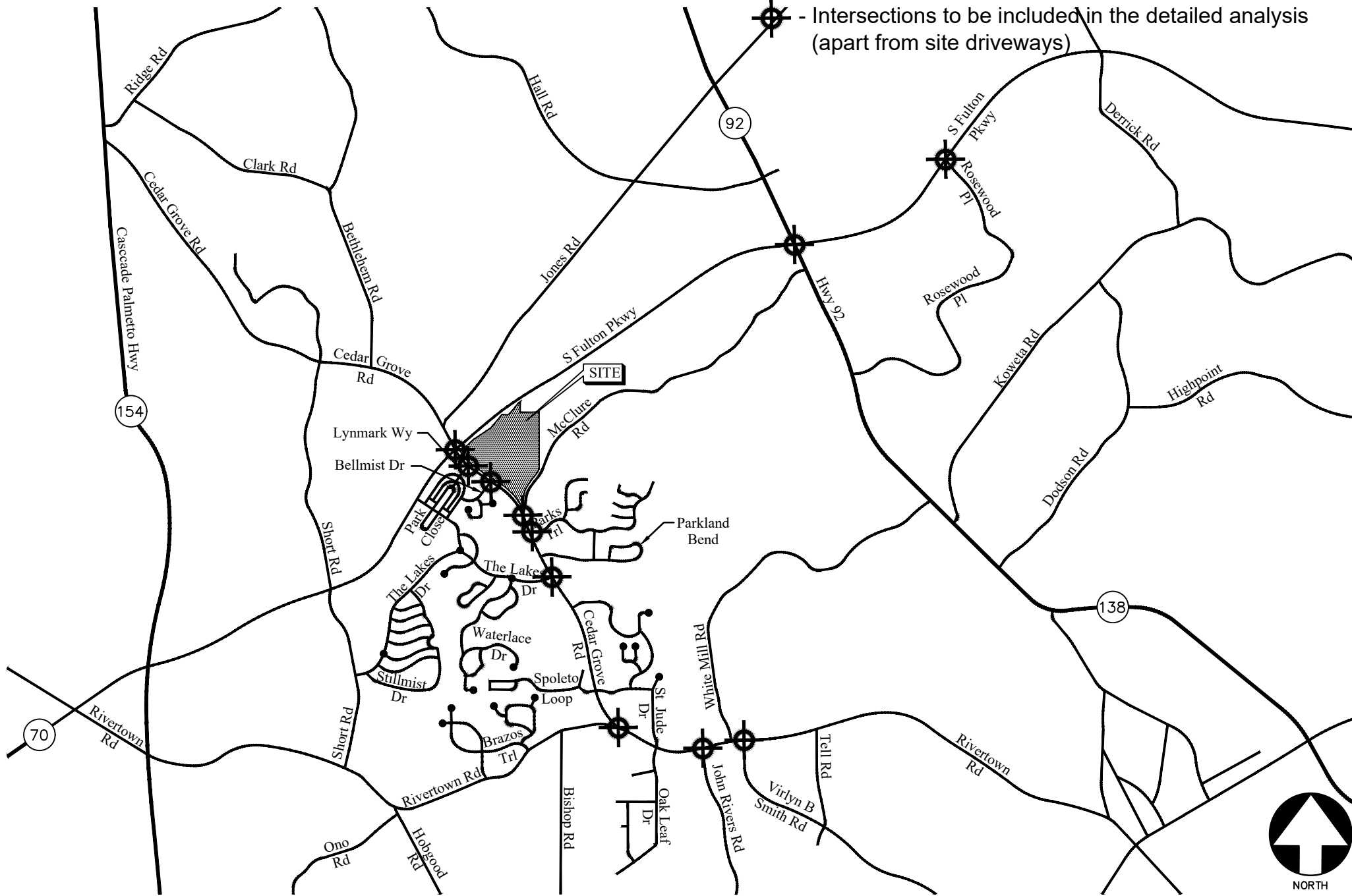


FIGURE 1

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EXISTING ROADWAY FACILITIES

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

South Fulton Parkway

South Fulton Parkway is an east-west, four-lane, median-divided roadway with a speed limit of 55 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) (Station ID's: 121-6056 & 121-0981) indicate that the daily traffic volume on South Fulton Parkway in 2019 was 5,480 vehicles per day east of SR 154 (Palmetto Cascade Highway) and 28,100 vehicles per day east of SR 92 (Campbellton Fairburn Road). GDOT classifies South Fulton Parkway as a Principal Urban Arterial roadway.

SR 92 (Campbellton Fairburn Road)

SR 92 (Campbellton Fairburn Road) is a north-south, two-lane, undivided roadway to north of South Fulton Parkway and five lane with a two way left turn lane to south of South Fulton Parkway and posted speed limit of 55 mph in the vicinity of the site. GDOT traffic counts (Station ID: 121-0292) indicate that the daily traffic volume on SR 92 (Campbellton Fairburn Road) in 2019 was 19,900 vehicles per day south of South Fulton Parkway. GDOT classifies SR 92 (Campbellton Fairburn Road) as a Principal Urban Arterial roadway.

Cedar Grove Road

Cedar Grove Road is an east-west, two-lane, undivided roadway with a posted speed limit of 45 mph to the east of South Fulton Parkway and 35 mph to the west of South Fulton Parkway. GDOT traffic counts (Station ID: 121-0773) indicate that the daily traffic volume on Cedar Grove Road in 2019 was 2,750 vehicles per day west of Short Road. GDOT classifies Cedar Grove Road as an Urban Minor Collector roadway.

Rivertown Road

Rivertown Road is an east-west, two-lane, undivided roadway with a posted speed limit of 45 mph (25 mph when school zone is in effect) in the vicinity of the site. GDOT traffic counts (Station ID's: 121-0768 & 21- 21-0766) indicate that the daily traffic volume on Rivertown Road in 2019 was 4,140 vehicles per day east of Virlyn B Smith Road and 2,000 vehicles per day north of Hobgood Road. GDOT classifies Rivertown Road as an Urban Minor Arterial roadway.

Rosewood Place

Rosewood Place is a north-south, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

Lynmark Way

Lynmark Way is a north-south, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

Bellmist Drive

Bellmist Drive is a north-south, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

McClure Road

McClure Road is a north-south, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

Parks Trail

Parks Trail is an east-west, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

The Lakes Drive

The Lakes Drive is an east-west, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

John Rivers Road

John Rivers Road is a north-south, two-lane, undivided roadway with a posted speed limit of 35 mph (25 mph when school zone is in effect) in the vicinity of the site.

Virlyn B Smith Road

Virlyn B Smith Road is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site.

Existing Bicycle and Pedestrian Facilities

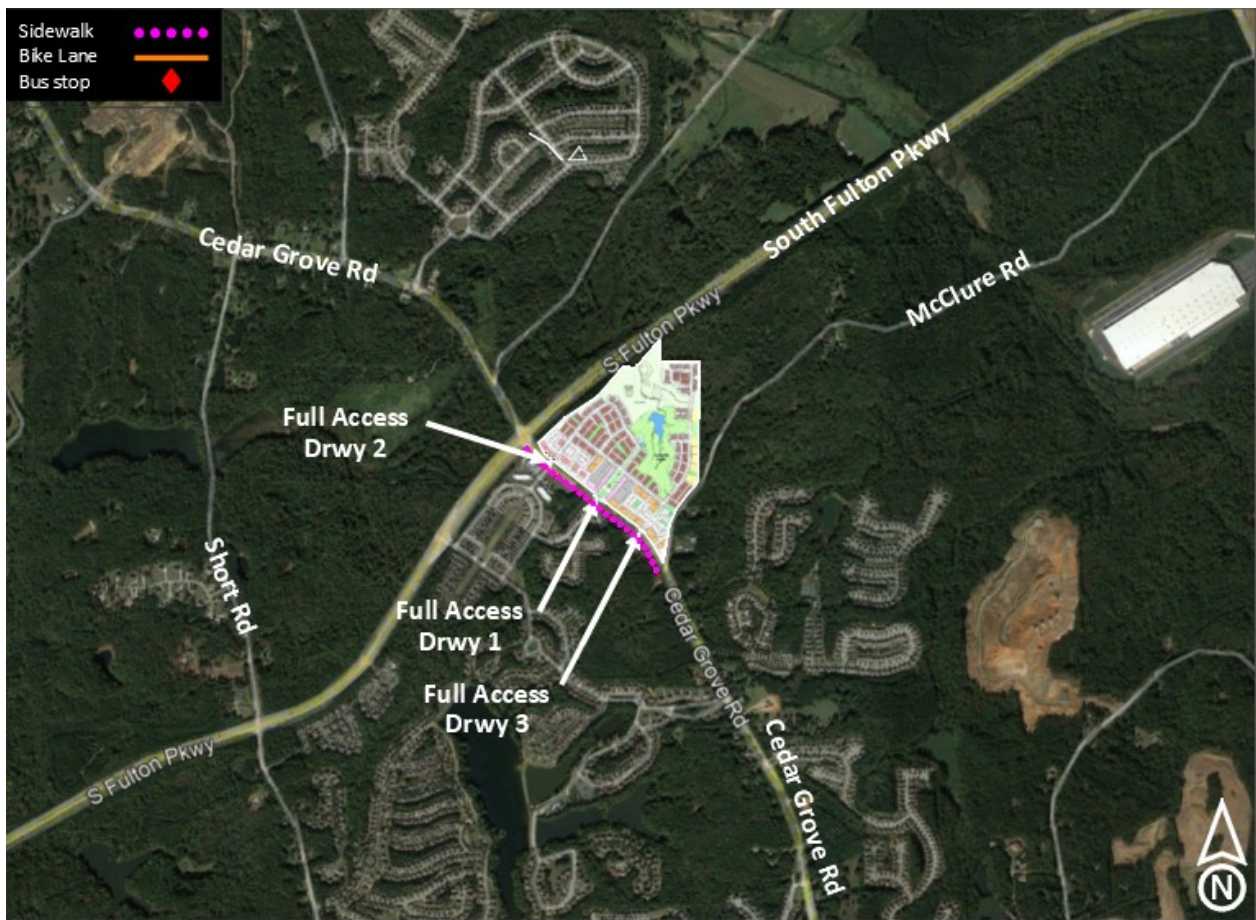
- No bike lanes, or bus stops were identified in the vicinity of the proposed development.
- Sidewalks and crosswalks are available at the neighboring intersections to the proposed site.
- Sidewalk is present on the west side of Cedar Grove Road between South Fulton Parkway and McClure Road.
- Crosswalks are present at all approaches at the intersection of South Fulton Parkway and Cedar Grove Road.
- Bike paths are not present in the study network.

Alternative Modes of Access

- No existing transit routes were identified in the study network.
- No high-capacity transit stations were identified in the vicinity of the proposed development.

The graphic below includes the location of existing sidewalks in the study network.

Existing Alternative Transportation Map



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, 6th edition (HCM 6). 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.

Unsignalized Intersections

For unsignalized intersections controlled by a stop sign on minor streets, the level-of-service (LOS) for motor vehicles with controlled movements is determined by the computed control delay according to the thresholds stated in Table 1 below. LOS is determined for each minor street movement (or shared movement), as well as major street left turns. LOS is not defined for the intersection as a whole or for major street approaches. The LOS of any controlled movement which experiences a volume to capacity ratio greater than 1 is designed as "F" regardless of the control delay.

Control delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Several factors affect the control 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 the main road without experiencing long delays.

TABLE 1 — LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS		
Control Delay (sec/vehicle)	LOS by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 and ≤ 15	B	F
> 15 and ≤ 25	C	F
> 25 and ≤ 35	D	F
> 35 and ≤ 50	E	F
> 50	F	F

*The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection.

Source: Highway Capacity Manual, 6th edition, Exhibit 20-2 *LOS Criteria: Motorized Vehicle Mode*

Signalized Intersections

According to HCM procedures, LOS can be calculated for the entire intersection, each intersection approach, and each lane group. HCM uses control delay alone to characterize LOS for the entire intersection or an approach. Control delay per vehicle is composed of initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Both control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. A volume-to-capacity ratio greater than 1.0 or more for a lane group indicates failure from capacity perspective. Therefore, such a lane group is assigned LOS F regardless of the amount of control delay.

Table 2 below summarizes the LOS criteria from HCM for motorized vehicles at signalized intersections.

TABLE 2 — LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS		
Control Delay (sec/vehicle)*	LOS for Lane Group by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 and ≤ 20	B	F
> 20 and ≤ 35	C	F
> 35 and ≤ 55	D	F
> 55 and ≤ 80	E	F
> 80	F	F

*For approach-based and intersection wide assessments, LOS is defined solely by control delay

Source: Highway Capacity Manual, 6th edition, Exhibit 19-8 *LOS Criteria: Motorized Vehicle Mode*

LOS A is typically assigned when the volume-to-capacity (v/c) ratio is low and either progression is exceptionally favorable, or the cycle length is very short. LOS B is typically assigned when the v/c ratio is low and either progression is highly favorable, or the cycle length is short. However, more vehicles are stopped than with LOS A. LOS C is typically assigned when progression is favorable, or the cycle length is moderate. Individual cycle failures (one or more queued vehicles are not able to depart because of insufficient capacity during the cycle) may begin to appear at this level. Many vehicles still pass through the intersection without stopping, but the number of vehicles stopping is significant. LOS D is typically assigned when the v/c ratio is high and either progression is ineffective, or the cycle length is long. There are many vehicle-stops and individual cycle failures are noticeable. LOS E is typically assigned when the v/c ratio is high, progression is very poor, the cycle length is long, and individual cycle failures are frequent. LOS F is typically assigned when the v/c ratio is very high, progression is very poor, the cycle length is long, and most cycles fail to clear the queue.

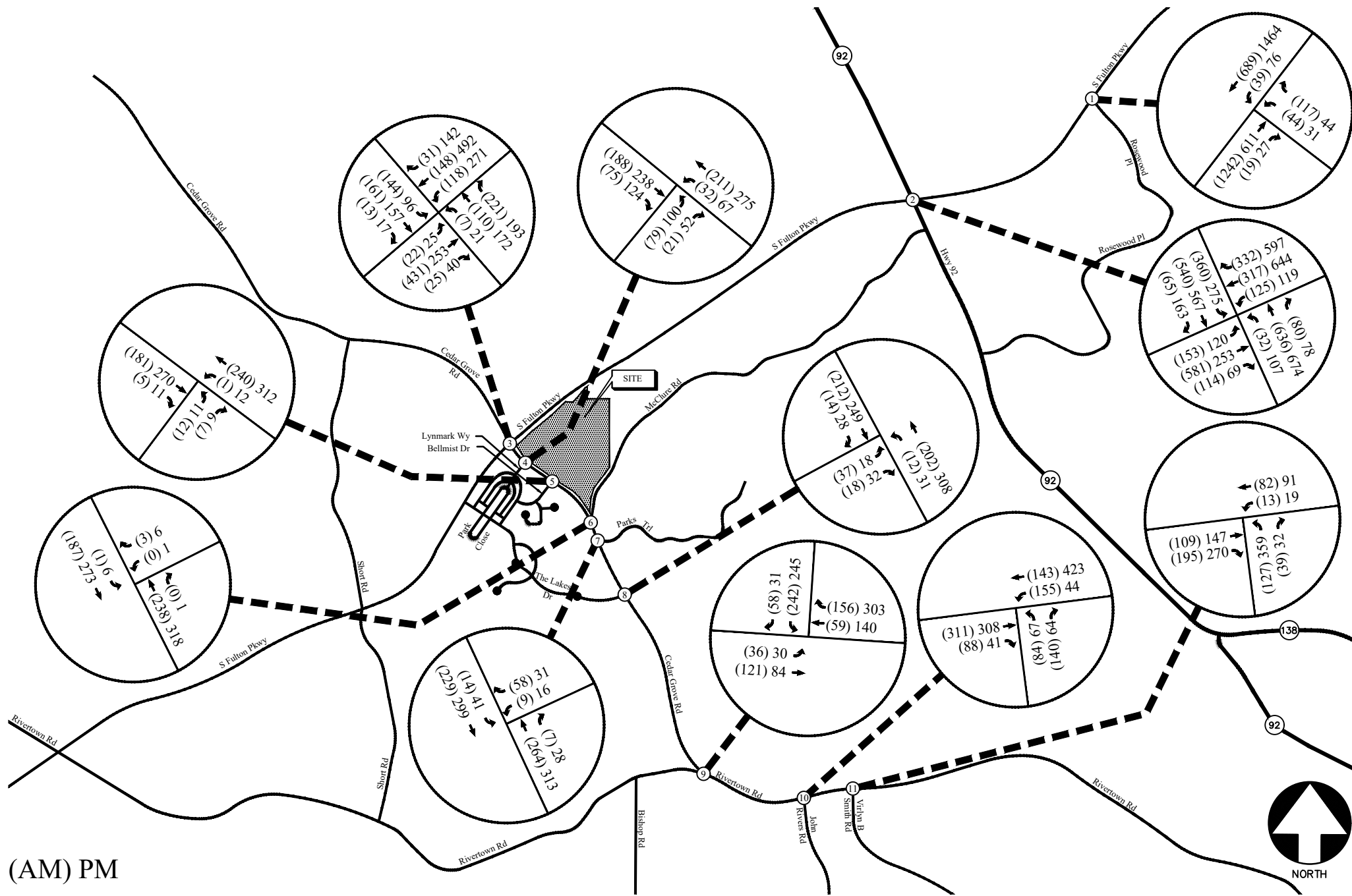
EXISTING 2022 TRAFFIC ANALYSIS

Existing Traffic Volumes

Existing traffic counts were obtained at the following study intersections:

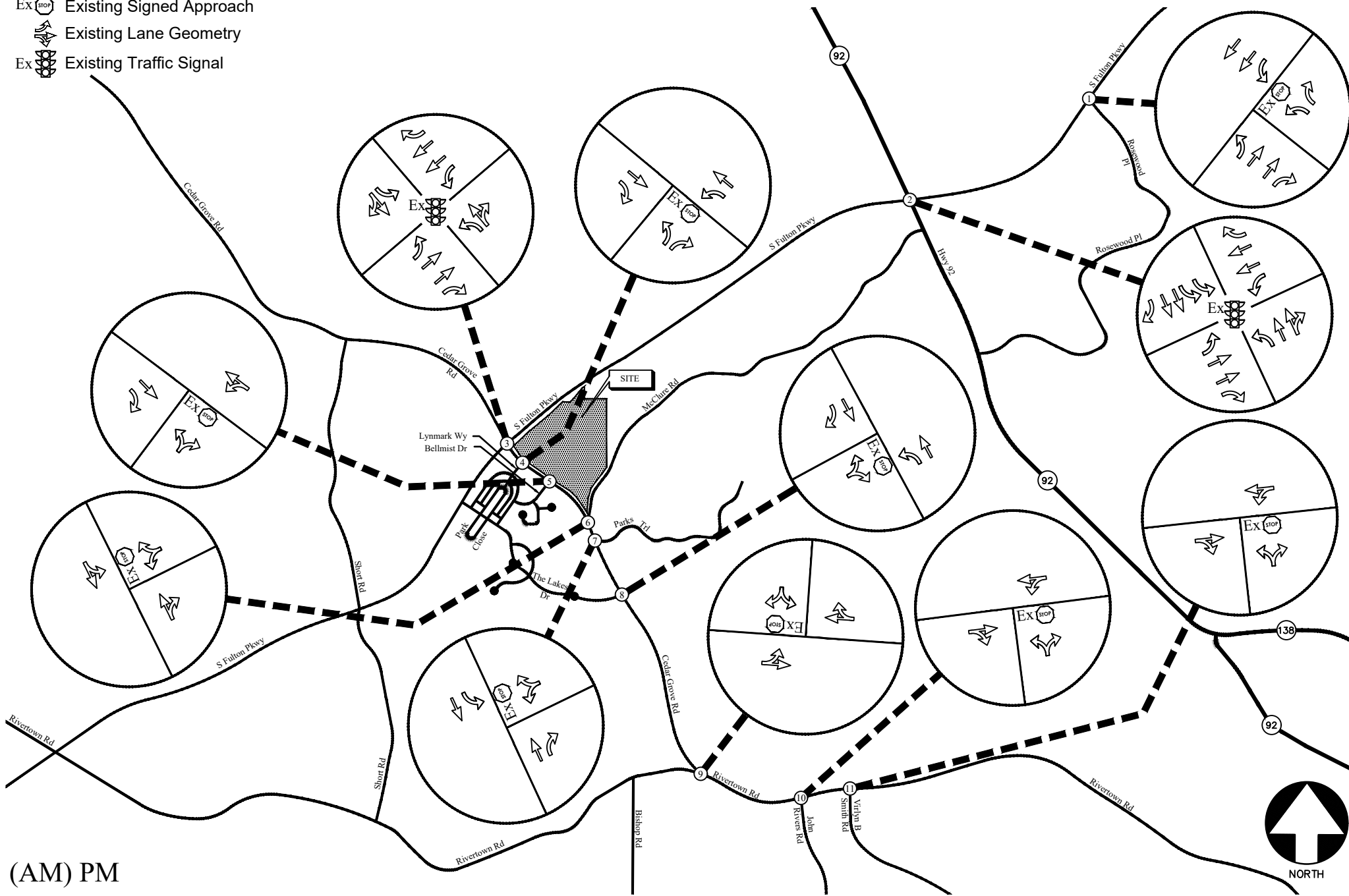
1. South Fulton Parkway and Rosewood Place
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Turning movement counts were collected on Thursday, May 19, 2022 (intersections: 3, 9, 10 and 11), Tuesday May 24, 2022 (intersection: 2), Thursday August 4, 2022 (intersections: 4, 5 and 6) and Thursday September 8, 2022 (intersection: 1, 7 and 8). All turning movement counts were recorded during the AM and PM peak hours between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2.



LEGEND

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



(AM) PM

EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3
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Existing Traffic Operations

Existing 2022 traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analyses 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>South Fulton Pkwy @ Rosewood Pl</u> -Westbound Left -Northbound Approach	Stop Controlled on NB Approach	B (12.8) F (55.2)	A (9.1) D (30.8)	D/D E/D
2	<u>South Fulton Pkwy @ SR 92</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>D (40.5)</u> C (27.8) C (30.1) D (55.0) D (48.7)	<u>D (44.8)</u> C (23.2) D (40.9) D (54.5) D (51.2)	<u>D/D</u> D/D D/D D/D D/D
3	<u>South Fulton Pkwy @ Cedar Grove Rd</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>C (31.8)</u> D (34.7) D (54.7) C (21.4) B (16.9)	<u>C (29.5)</u> D (35.3) D (54.0) C (22.4) B (17.6)	<u>D/D</u> D/D D/D D/D D/D
4	<u>Cedar Grove Rd @ Lynmark Way</u> -Westbound Left -Northbound Approach (Lynmark Way)	Stop Controlled on NB approach	A (7.9) B (12.3)	A (8.3) C (15.5)	D/D D/D
5	<u>Cedar Grove Rd @ Bellmist Dr</u> -Westbound Left -Northbound Approach (Bellmist Dr)	Stop Controlled on SB approach	A (7.6) B (10.9)	A (7.9) B (12.3)	D/D D/D
6	<u>Cedar Grove Rd @ McClure Rd</u> -Eastbound Left -Southbound Approach	Stop Controlled on SB approach	A (7.8) A (9.7)	A (8.0) B (10.8)	D/D D/D
7	<u>Cedar Grove Rd @ Parks Trail</u> -Westbound Approach -Southbound Left	Stop Controlled on WB approach	B (10.6) A (7.9)	B (12.4) A (8.1)	D/D D/D
8	<u>Cedar Grove Rd @ The Lakes Dr</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB approach	B (11.5) A (7.7)	B (11.6) A (7.9)	D/D D/D
9	<u>Cedar Grove Rd @ Rivertown Rd</u> -Eastbound Left -Southbound Approach	Stop Controlled on SB approach	A (7.8) C (16.2)	A (8.4) C (19.3)	D/D D/D
10	<u>Rivertown Rd @ John Rivers Rd</u> -Westbound Left -Northbound Approach	Stop Controlled on NB approach	A (9.0) D (31.6)	A (8.1) C (17.1)	D/D D/D
11	<u>Rivertown Rd @ Virlyn B Smith Rd</u> -Westbound Left -Northbound Approach	Stop Controlled on NB approach	A (7.9) B (11.8)	A (8.2) C (22.8)	D/D D/D

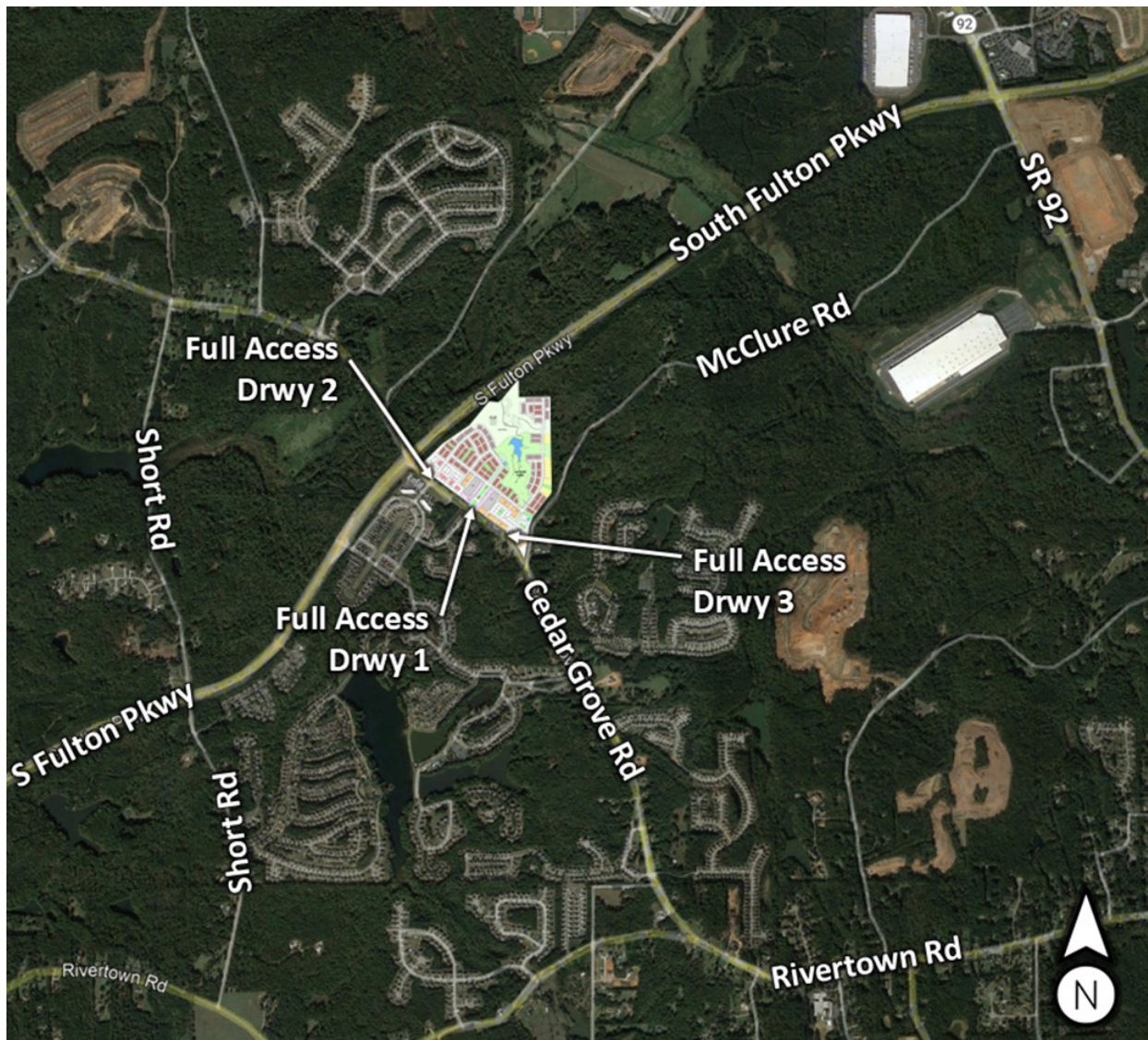
The results of existing traffic operations analysis indicate that all the signalized study intersections are operating at an overall level-of-service “D” or better in both the AM and PM peak hours. Most of the un-

signalized intersections are operating at a level-of-service “D” or better in both the AM and PM peak hours. Approaches that are operating at a level of service “E” or “F” will be addressed in the future traffic operations sections.

PROJECT DESCRIPTION

The proposed mixed use development will be located in between South Fulton Parkway and McClure Road and to the north of Cedar Grove Road in the City of South Fulton. The development will consist of:

- Single-Family Detached Housing: 16 units
- Single Family Attached Housing: 344 units
- Multifamily Housing (Mid-Rise) not close to Rail Transit: 436 units
- General Office Building: 35,240 sf
- Strip Retail Plaza (>40k): 14,000 sf
- Fast Casual Restaurant: 16,080 sf



The development proposes access at the following locations:

- Site Driveway 1: Full access driveway on Cedar Grove Road (aligned with Bellmist Drive)
- Site Driveway 2: Full access driveway on Cedar Grove Road (aligned with Lynmark Way)
- Site Driveway 3: Full access driveway on Cedar Grove Road

Site Plan

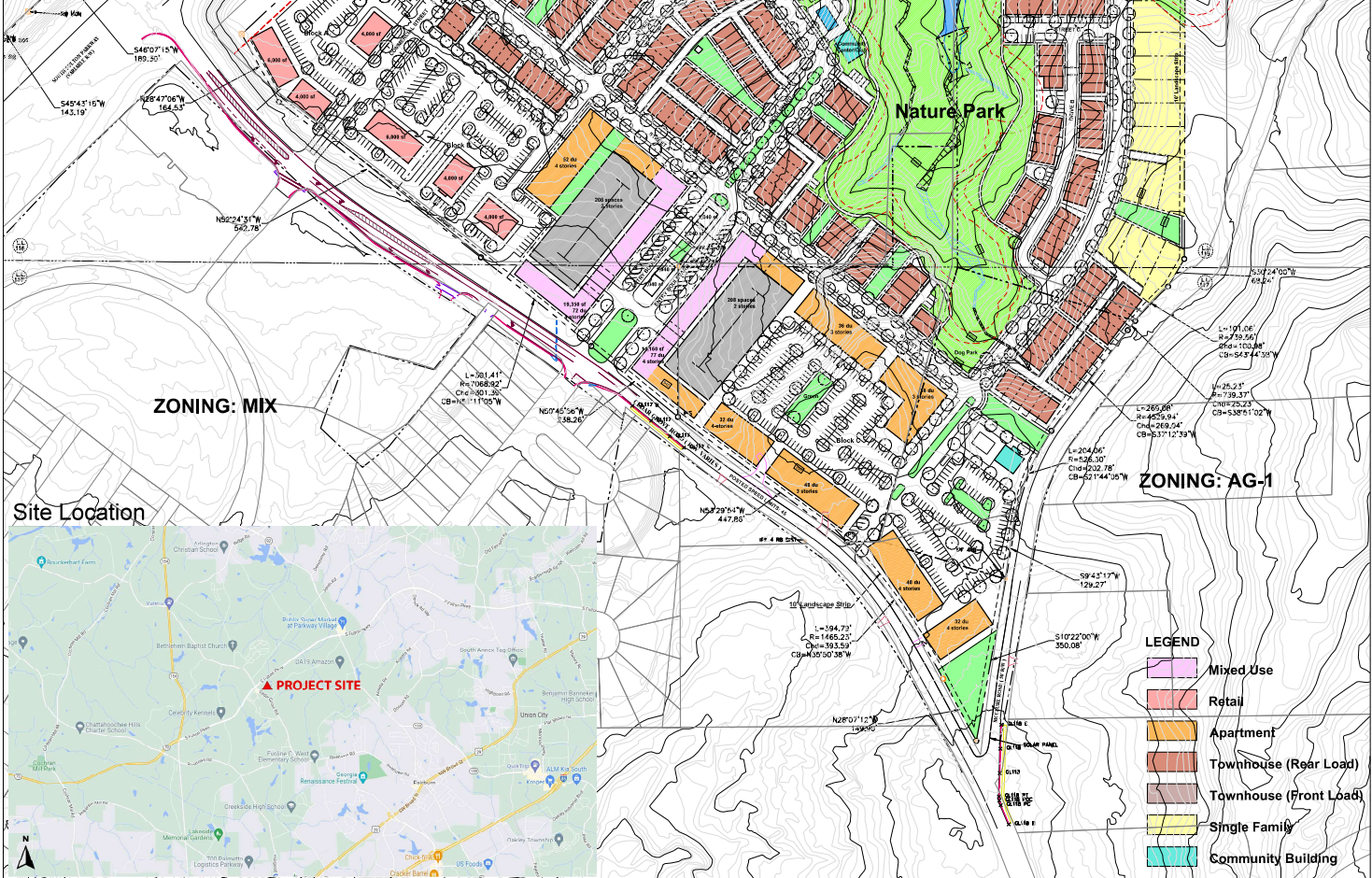
A site plan is shown in Figure 4.

Summary			
	Commercial sf	Residential units	Parking Provided Non-Res. Res.
Block A			
Commercial	14,000	-	87 -
Block B			
Commercial	14,000	-	70 -
Mixed Use	19,350	124	100 187
Block C			
Multifamily		232	358
Mixed Use	14,160	77	71 116
Central Boulevard			
Commercial/Restaurant	4,160		40
Total	65,670	433	368 661
Townhouse and Single Family			
Townhouses - Rear load		287	
Townhouses - Front load		57	
Single Families		16	
TOTAL		360	
Guest parking provided*		195 spaces	

* These are on street parking as well as off street spaces located in the alleys.
Not including 12 spaces at Community Center

Total Site Area	66.9	acres	
Total Residential	703	units	
Density	11.9	du/ac	

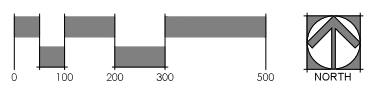
	sf	acres	%
Open space	1,027,667	23.6	35.3%



Site Plan for: CEDAR GROVE VILLAGE CENTER

2022.06.03

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Planned Bicycle and Pedestrian Facilities

Sidewalks will be provided along the internal street network and along street frontage of the proposed development to promote external connectivity via pedestrian facilities. Trails will be considered where possible internal to the development.

Potential Pedestrian and Bicycle Destinations

Potential pedestrian and bicycle destinations in the vicinity of the proposed development include the following:

- Duncan Park
- Cedar Grove Park
- Lakeside Memorial Gardens
- Cochran Mill Park
- Wilkerson Mill-Farris Park
- Ronald Bridges Park.

Planned Transit Facilities

There is no existing or planned public transit service near the proposed development.

Consistency with Adopted Comprehensive Plan

The site is currently zoned as Agricultural (AG-1) and is requesting a rezoning to Community Live-Work Area (MIX). According to Unified Growth Policy Map the proposed development falls under Developing Rural land use area. The future land use map zoning for the site will be Community Live-Work Area (MIX). The land use vision and goals of City of South Fulton are to coordinate infrastructure expansion with land use to encourage the expansion of infrastructure networks that are guided by the future development map.

The proposed mixed-use development is consistent with the land use vision and goals since the proposed development consists of residential area. The proposed development will honor the current aquatic survey regulations with their subcontracted environmental provider.

Future Land Use Map

Future Land Use Map Zoning	Community Live-Work Area (MIX)
Land Use Vision and Goals for City of South Fulton	The vision for the 2021 City of South Fulton Comprehensive Plan is Village Live-Work Area.
Relation to Existing Land Use Plans	The proposed mixed-use development is consistent with the land use vision and goals included by the City of South Fulton since it will provide a balanced mix of commercial, office, and residential uses at intersections along corridors within rural South Fulton. The proposed project conforms to the comprehensive plan vision but is seeking a higher density to allow for feasible development.

The proposed mixed-use development is consistent with the land use vision and goals listed above.

Project Phasing

This project has been evaluated for the complete build-out of the development in 2030.

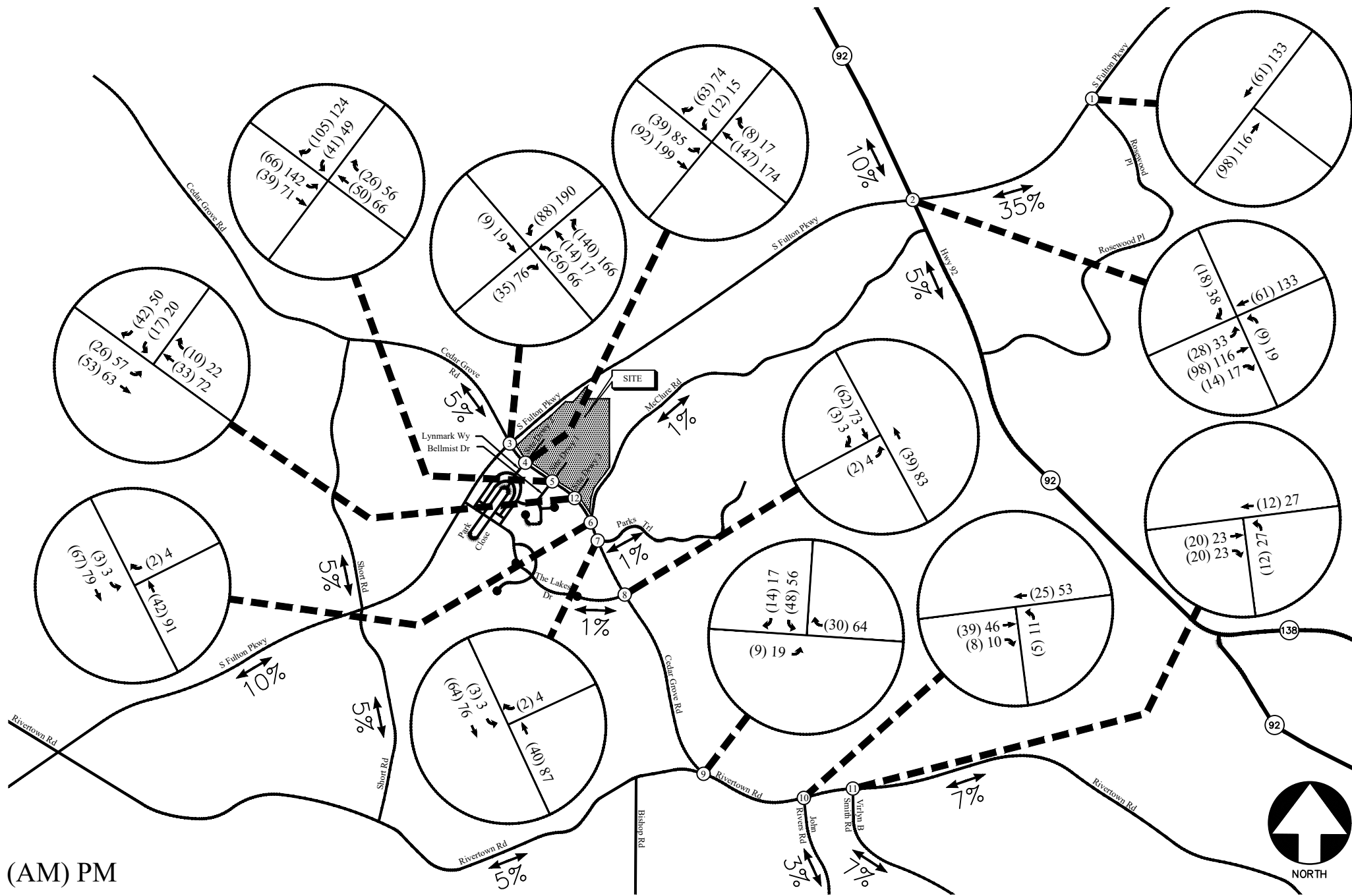
Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 11th 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*, 215 – *Single Family Attached Housing*, 221 – *Multifamily Housing (Mid-Rise) not close to Rail Transit*, 710 – *General Office Building*, 822 – *Strip Retail Plaza (>40k)* and 930 – *Fast Casual Restaurant*. 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	16 units	4	10	14	11	7	18	187
Mixed-Use Reduction		0	0	0	-1	-1	-2	-8
ITE 215 – Single Family Attached Housing	344 units	54	119	173	115	87	202	2,571
Mixed-Use Reduction		-1	-3	-4	-12	-8	-20	-90
ITE 221 – Multifamily Housing (Mid-Rise)	436 units	41	139	180	104	66	170	2,033
Mixed-Use Reduction		-1	-3	-4	-10	-6	-16	-113
ITE 710 – General Office Building	35,240 sf	60	8	68	12	58	70	468
Mixed-Use Reduction		-1	-1	-2	-5	-4	-9	-79
ITE 822 – Strip Retail Plaza (>40k)	14,000 sf	22	14	36	49	50	99	820
Mixed-Use Reduction		-2	-1	-3	-6	-9	-15	-94
ITE 930 – Fast Casual Restaurant	16,080 sf	11	12	23	150	123	273	1,562
Mixed-Use Reduction		-5	-2	-7	-12	-18	-30	-180
Alternate Mode Reduction (4%)		-7	-12	-19	-16	-14	-30	-283
Total Trips (without Reductions)		192	302	494	441	391	832	7,641
New External Trips (with Reductions)		175	280	455	379	331	710	6,794

Trip Distribution

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



(AM) PM

OUTER LEG TRIP DISTRIBUTION AND SITE-GENERATED
WEEKDAY PEAK HOUR VOLUMES

FIGURE 5
A&R Engineering Inc.

FUTURE 2030 TRAFFIC ANALYSIS

The future 2030 traffic operations are analyzed for the “Build” and “No-Build” conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic. Note that survey and construction drawings would be needed to verify the feasibility and extent of additional right-of-way required for any recommended improvements.

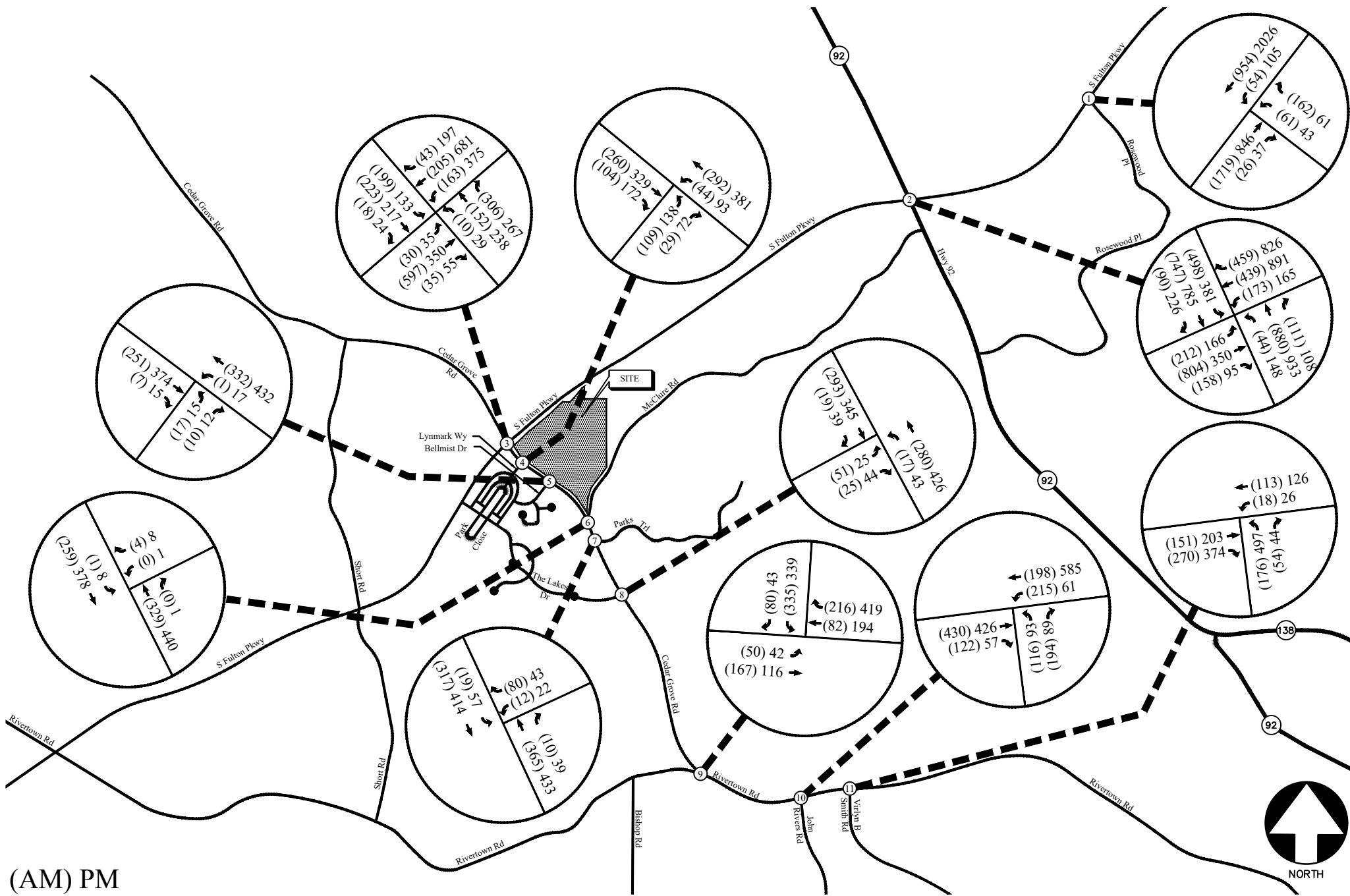
Improvements that are identified as “System Improvements” address deficiencies that are found within the existing road network prior to any impacts from the proposed development’s added traffic. Improvements that are identified as “Site Mitigation Improvements” address further impacts that are a result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

Future “No-Build” Conditions

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

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 three (2017-2019) years revealed growth of approximately 4.8% in the area. This growth factor was applied to the existing traffic volumes 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.



(AM) PM

FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 6

A&R Engineering Inc.

Planned and Programmed Improvements in Study Area

TABLE 5 — PLANNED AND PROGRAMMED IMPROVEMENTS

Project Name	From / To Points	Sponsor	GDOT PI #	ARC ID #	Design FY	ROW / UTL FY	CST FY
South Fulton Scenic Byway Multi-use Trail	From Cochran Mill Park to Phillips Road	Chattahoochee Hills	0009643	FS-209		2017	2020
South Fulton Parkway Corridor Plan	From Campbellton Fairburn Road to SR 154 (Campbellton Road)	GDOT	N/A	FS-011			2050

Since the network year for the South Fulton Parkway Corridor Plan is 2050 and the proposed development is planned to be completed by 2030, the planned project will not be considered in the future analysis.

At the intersection of SR 92 and South Fulton Parkway, a northbound right turn lane is programmed to be constructed for the northbound traffic on SR 92 by the Fulton County. The northbound right turn lane was under construction when counts were recorded, therefore was not modeled in existing traffic operations. The northbound right turn lane on SR 92 is included in “No-Build” and “Build” traffic operations.

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.

TABLE 6 — FUTURE “NO-BUILD” INTERSECTION OPERATIONS

Intersection		No Build Condition: LOS (Delay)			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	<u>South Fulton Pkwy @ Rosewood Pl</u>				
	-Westbound Left -Northbound Approach	C (18.8) F (*)	B (10.4) F (171.7)	C (18.8) F (*)	B (10.4) F (171.7)
2	<u>South Fulton Pkwy @ SR 92</u>	<u>D (52.1)</u>	<u>F (91.8)</u>	<u>D (47.7)</u>	<u>D (48.6)</u>
	-Eastbound Approach	D (46.5)	D (47.5)	D (44.9)	D (38.9)
	-Westbound Approach	E (62.4)	F (159.0)	D (42.9)	D (45.1)
	-Northbound Approach	D (50.9)	D (54.1)	D (50.9)	D (52.0)
	-Southbound Approach	D (49.7)	D (52.6)	D (49.7)	D (52.7)
3	<u>South Fulton Pkwy @ Cedar Grove Rd</u>	<u>D (37.8)</u>	<u>D (36.5)</u>	<u>D (37.8)</u>	<u>D (36.5)</u>
	-Eastbound Approach	C (34.8)	C (29.8)	C (34.8)	C (29.8)
	-Westbound Approach	D (54.7)	D (54.6)	D (54.7)	D (54.6)
	-Northbound Approach	C (34.6)	C (28.8)	C (34.6)	C (28.8)
	-Southbound Approach	C (25.2)	C (32.6)	C (25.2)	C (32.6)
4	<u>Cedar Grove Rd @ Lynmark Way</u>				
	-Westbound Left -Northbound Approach (Lynmark Way)	A (8.2) C (15.7)	A (8.9) D (29.1)	A (8.2) C (15.7)	A (8.9) D (29.1)
5	<u>Cedar Grove Rd @ Bellmist Dr</u>				
	-Westbound Left	A (7.8)	A (8.3)	A (7.8)	A (8.3)

	-Northbound Approach (Bellmist Dr)	B (12.5)	C (15.4)	B (12.5)	C (15.4)
6	<u>Cedar Grove Rd @ McClure Rd</u>				
	-Eastbound Left	A (8.1)	A (8.4)	A (8.1)	A (8.4)
	-Southbound Approach	B (10.4)	B (12.1)	B (10.4)	B (12.1)
7	<u>Cedar Grove Rd @ Parks Trail</u>				
	-Westbound Approach	B (12.1)	C (15.9)	B (12.1)	C (15.9)
	-Southbound Left	A (8.1)	A (8.6)	A (8.1)	A (8.6)
8	<u>Cedar Grove Rd @ The Lakes Dr</u>				
	-Eastbound Approach	B (13.7)	B (14.2)	B (13.7)	B (14.2)
	-Northbound Left	A (8.0)	A (8.2)	A (8.0)	A (8.2)
9	<u>Cedar Grove Rd @ Rivertown Rd</u>			<u>C (20.2)</u>	<u>C (21.3)</u>
	-Eastbound Approach/ Left	A (8.1)	A (9.1)	A (7.1)	A (8.6)
	-Westbound Approach	-	-	A (8.0)	B (12.1)
	-Southbound Approach	E (39.4)	F (70.8)	D (39.6)	D (44.0)
10	<u>Rivertown Rd @ John Rivers Rd</u>				
	-Westbound Left	B (10.3)	A (8.6)	B (10.3)	A (8.6)
	-Northbound Approach	F (*)	E (38.2)	F (83.3)	D (26.9)
11	<u>Rivertown Rd @ Virlyn B Smith Rd</u>			<u>B (14.1)</u>	<u>C (26.4)</u>
	-Eastbound Approach	A (8.2)	A (8.8)	A (4.3)	B (16.0)
	-Westbound Left	-	-	A (3.1)	B (10.7)
	-Northbound Approach	B (14.8)	F (123.8)	D (45.7)	D (43.2)

*Delay exceeds 300 secs

The results of future “No-Build” traffic operations show that the following intersections has LOS “E” and “F” for one or more approaches in the AM or PM peak hour or both:

- Intersection 1: South Fulton Parkway at Rosewood Place
- Intersection 2: South Fulton Parkway at SR 92
- Intersection 9: Cedar Grove Road at Rivertown Road
- Intersection 10: Rivertown Road at John Rivers Road
- Intersection 11: Rivertown Road at Virlyn B Smith Road

Recommended System Improvements

The following are system improvements that were identified from the “No-Build” condition analysis.

Intersection 2: South Fulton Parkway at SR 92

- Channelization of all right turn lanes

Intersection 9: Cedar Grove Road at Rivertown Road

- When warranted per MUTCD warrants, installation of a traffic signal and realignment of intersection
 - Alternatively, installation of a roundabout can be considered
- Addition of southbound left turn lane on Cedar Grove Road
- Addition of southbound right turn lane on Cedar Grove Road

Intersection 10: Rivertown Road at John Rivers Road

- Addition of northbound left turn lane on John Rivers Road

- Addition of northbound right turn lane on John Rivers Road

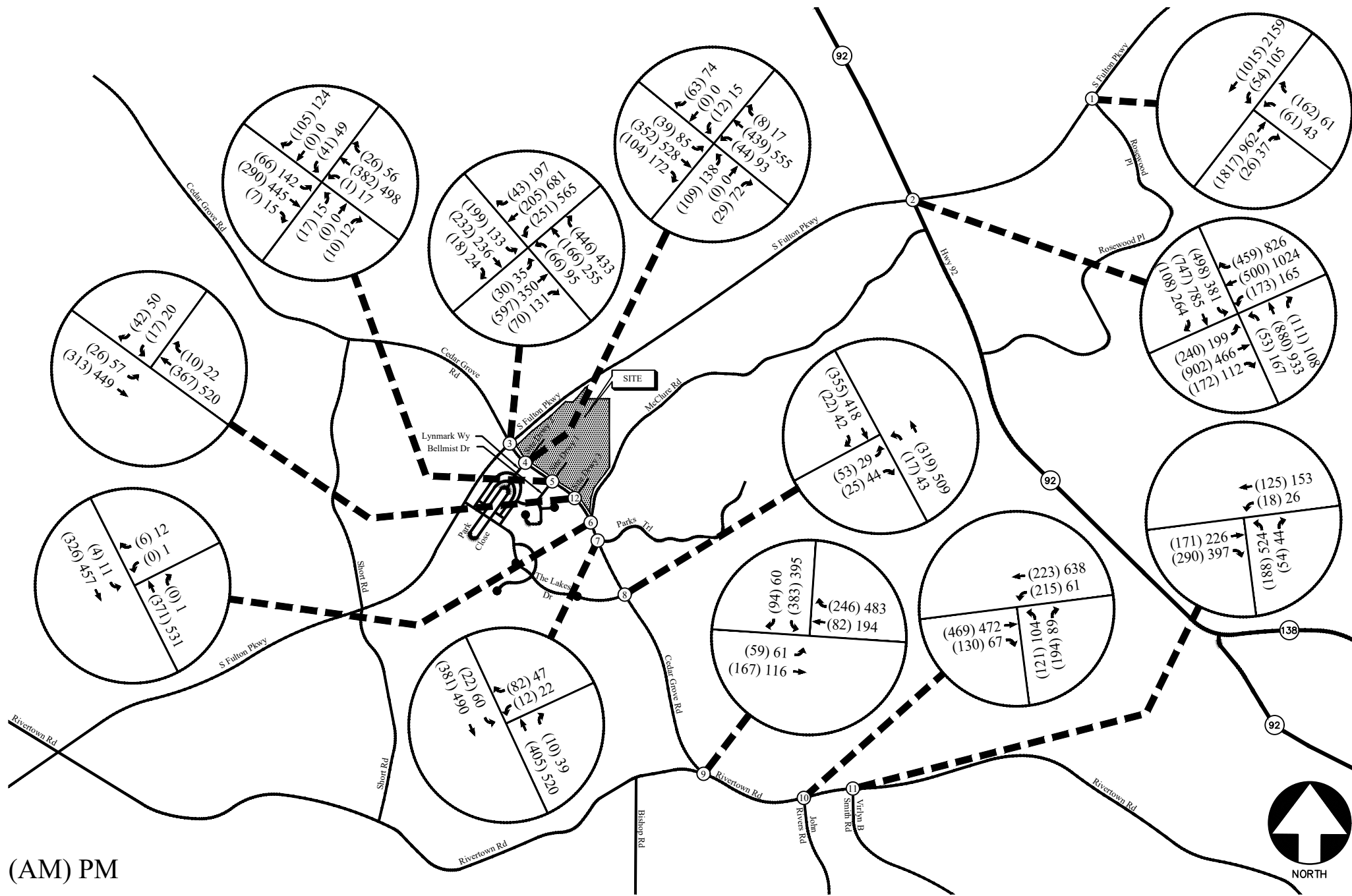
Intersection 11: Rivertown Road at Virlyn B Smith Road

- Installation of a traffic signal if warranted
- Addition of northbound left turn lane on Virlyn B Smith Road
- Addition of northbound right turn lane on Virlyn B Smith Road

After the recommended system improvements are implemented, the intersections listed above will operate at a LOS “D” or better in both the AM and PM peak hours and the intersection of Rivertown Road at John Rivers Road will operate at LOS “F” with a lower delay. No other improvements are possible at the intersection 1 (South Fulton Parkway at Rosewood Place) until traffic signal is warranted by the MUTCD. It is not unusual for stop controlled side streets to have elevated delays during peak periods as delays are caused by side street wait times to turn left on to the mainline.

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 (Figures 5) were added to base traffic volumes (Figure 6) to calculate the future traffic volumes after the construction of the development. These total future traffic volumes are shown in Figure 7.



(AM) PM

FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 7
A&R Engineering Inc.

Future “Build” Traffic Operations

The future “Build” traffic operations were analyzed using the volumes in Figure 7. The results of the future “Build” traffic operations analysis are shown in Table 9.

TABLE 9— FUTURE “BUILD” INTERSECTION OPERATIONS					
Intersection		Build Condition: LOS (Delay)			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	<u>South Fulton Pkwy @ Rosewood Pl</u> -Westbound Left -Northbound Approach	C (20.6) F (*)	B (11.2) F (282.4)	C (20.6) F (*)	B (11.2) F (282.4)
2	<u>South Fulton Pkwy @ SR 92</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (55.0)</u> D (54.2) E (62.5) D (51.0) D (52.4)	<u>F (100.0)</u> E (57.9) F (168.6) D (56.8) D (62.8)	<u>D (50.9)</u> D (49.6) D (45.2) D (54.5) D (52.6)	<u>D (53.3)</u> D (52.5) D (51.2) D (54.4) D (54.8)
3	<u>South Fulton Pkwy @ Cedar Grove Rd</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>E (55.6)</u> D (42.7) E (65.0) D (46.1) E (67.2)	<u>F (82.8)</u> C (30.0) F (102.9) D (35.3) F (101.5)	<u>D (37.9)</u> C (26.0) D (51.0) D (37.9) C (30.1)	<u>D (41.0)</u> C (32.0) D (53.8) D (44.4) C (34.7)
4	<u>Cedar Grove Rd @ Lynmark Way</u> -Eastbound Left -Westbound Left -Northbound Approach (Lynmark Way) -Southbound Approach (Site Drwy 2)	A (8.4) A (8.5) F (55.5) C (15.1)	A (9.1) A (9.8) F (*) E (39.4)	A (8.4) A (8.5) F (55.5) C (15.1)	A (9.1) A (9.8) F (*) E (39.4)
5	<u>Cedar Grove Rd @ Bellmist Dr</u> -Eastbound Left -Westbound Left -Northbound Approach (Bellmist Dr) -Southbound Approach (Site Drwy 1)	A (8.5) A (7.9) C (21.8) C (18.5)	A (9.5) A (8.5) F (55.3) F (73.1)	A (8.5) A (7.9) C (21.8) C (18.5)	A (9.5) A (8.5) F (55.3) F (73.1)
6	<u>Cedar Grove Rd @ McClure Rd</u> -Eastbound Left -Southbound Approach	A (8.2) B (10.8)	A (8.7) B (13.1)	A (8.2) B (10.8)	A (8.7) B (13.1)
7	<u>Cedar Grove Rd @ Parks Trail</u> -Westbound Approach -Southbound Left	B (12.9) A (8.3)	C (18.8) A (8.9)	B (12.9) A (8.3)	C (18.8) A (8.9)
8	<u>Cedar Grove Rd @ The Lakes Dr</u> -Eastbound Approach -Northbound Left	C (15.3) A (8.2)	C (17.0) A (8.5)	C (15.3) A (8.2)	C (17.0) A (8.5)
9	<u>Cedar Grove Rd @ Rivertown Rd</u> -Eastbound Approach/ Left -Westbound Approach -Southbound Approach	A (8.2) - F (78.4)	A (9.5) - F (189.0)	<u>C (21.2)</u> A (8.7) A (9.7) D (38.4)	<u>C (25.9)</u> B (14.0) B (16.6) D (47.3)
10	<u>Rivertown Rd @ John Rivers Rd</u> -Westbound Left -Northbound Approach	B (10.6) F (*)	A (8.8) F (62.9)	B (10.6) F (123.3)	A (8.8) E (38.7)
11	<u>Rivertown Rd @ Virlyn B Smith Rd</u> -Eastbound Approach	A (8.3)	A (8.9)	<u>B (14.1)</u> A (4.8)	<u>C (28.0)</u> B (18.6)

	-Westbound Left -Northbound Approach	- C (16.1)	- F (192.1)	A (3.3) D (45.3)	B (11.9) D (44.7)
12	<u>Cedar Grove Rd @ Site Drwy 3</u> -Eastbound Left -Southbound Approach	A (8.2) B (12.9)	A (8.9) C (17.8)	A (8.2) B (12.9)	A (8.9) C (17.8)

*Delay exceeds 300 secs

The results of future “Build” traffic operations show that the following intersection has LOS “E or F” for the approaches in the AM or PM peak hour or both:

- Intersection 1: South Fulton Parkway at Rosewood Place
- Intersection 2: South Fulton Parkway at SR 92
- Intersection 3: South Fulton Parkway at Cedar Grove Road
- Intersection 4: Cedar Grove Road at Lynmark Way
- Intersection 5: Cedar Grove Road at Bellmist Drive
- Intersection 9: Cedar Grove Road at Rivertown Road
- Intersection 10: Rivertown Road at John Rivers Road
- Intersection 11: Rivertown Road at Virlyn B Smith Road

After the recommended system and site improvements are implemented, the following intersections will operate at LOS “D” or better in both the AM and PM peak hours. System improvements are detailed on page 25 of the traffic study. Site Mitigation improvements are detailed below.

Site Mitigation Improvements

Intersection 3: South Fulton Parkway at Cedar Grove Road

- Addition of a channelized, westbound right turn lane on Cedar Grove Road

Intersection 4: Cedar Grove Road at Lynmark Way/ Site Driveway 2 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane
- Installation of a deceleration lane

Intersection 5: Cedar Grove Road at Bellmist Drive/ Site Driveway 1 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane for entering traffic

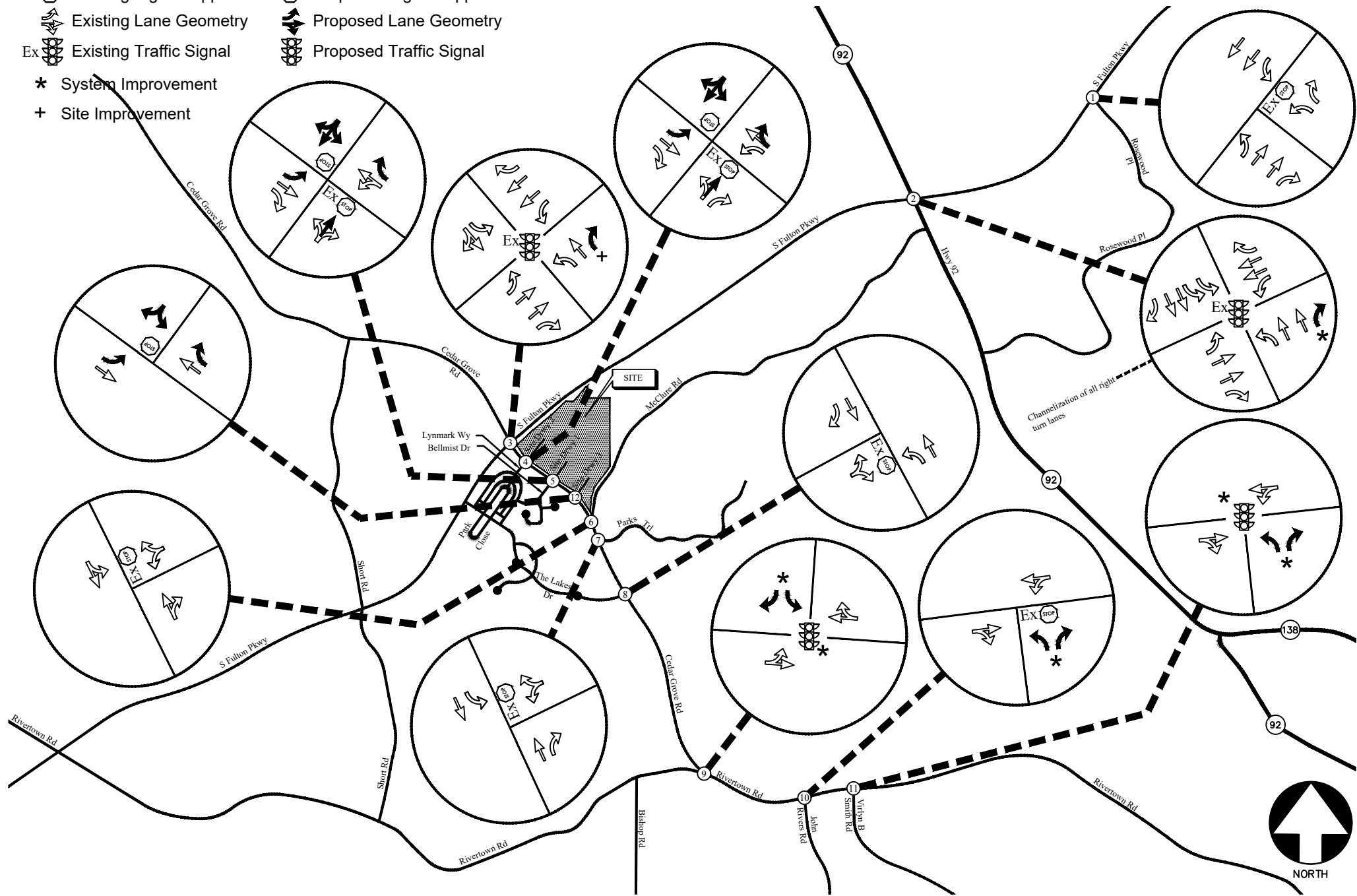
Intersection 12: Cedar Grove Road at Site Driveway 3 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane
- Installation of a deceleration lane

Recommendations for future traffic control and lane geometry are shown in Figure 8.

LEGEND

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



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 8
A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the proposed mixed use development that will be located in between South Fulton Parkway and McClure Road and to the north of Cedar Grove Road in the City of South Fulton, Georgia.

The development proposes full access at the following locations:

- Site Driveway 1: Full access driveway on Cedar Grove Road (aligned with Bellmist Drive)
- Site Driveway 2: Full access driveway on Cedar Grove Road (aligned with Lynmark Way)
- Site Driveway 3: Full access driveway on Cedar Grove Road

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. South Fulton Parkway and Rosewood Place
2. South Fulton Parkway and SR 92
3. South Fulton Parkway and Cedar Grove Road
4. Cedar Grove Road and Lynmark Way/ Site Driveway 2
5. Cedar Grove Road and Bellmist Drive/ Site Driveway 1
6. Cedar Grove Road and McClure Road
7. Cedar Grove Road and Parks Trail
8. Cedar Grove Road and The Lakes Drive
9. Cedar Grove Road and Rivertown Road
10. Rivertown Road and John Rivers Road
11. Rivertown Road and Virlyn B Smith Road
12. Cedar Grove Road and Site Driveway 3

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 future “Build” traffic operations show that the following intersection has LOS “E or F” for the approaches in the AM or PM peak hour or both:

- Intersection 1: South Fulton Parkway at Rosewood Place
- Intersection 2: South Fulton Parkway at SR 92
- Intersection 3: South Fulton Parkway at Cedar Grove Road
- Intersection 4: Cedar Grove Road at Lynmark Way
- Intersection 5: Cedar Grove Road at Bellmist Drive
- Intersection 9: Cedar Grove Road at Rivertown Road
- Intersection 10: Rivertown Road at John Rivers Road
- Intersection 11: Rivertown Road at Virlyn B Smith Road

After the implementation of recommended system and site mitigation improvements listed below, the intersections will operate at a LOS “D” or better in both the AM and PM peak hours and the intersection of Rivertown Road at John Rivers Road will operate at LOS “F” with a lower delay.

No other improvements are possible at the intersection 1 (South Fulton Parkway at Rosewood Place), intersection 4 (Cedar Grove Road at Lynmark Way) and intersection 5 (Cedar Grove Road at Bellmist Drive) until traffic signal is warranted by the MUTCD. It is not unusual for stop controlled side streets to have elevated delays during peak periods as delays are caused by side street wait times to turn left on to the mainline.

Recommended System Improvements

The following are system improvements that were identified from the “No-Build” condition analysis.

Intersection 2: South Fulton Parkway at SR 92

- Channelization of all right turn lanes

Intersection 9: Cedar Grove Road at Rivertown Road

- When warranted per MUTCD warrants, installation of a traffic signal and realignment of intersection
 - Alternatively, installation of a roundabout can be considered
- Addition of southbound left turn lane on Cedar Grove Road
- Addition of southbound right turn lane on Cedar Grove Road

Intersection 10: Rivertown Road at John Rivers Road

- Addition of northbound left turn lane on John Rivers Road
- Addition of northbound right turn lane on John Rivers Road

Intersection 11: Rivertown Road at Virlyn B Smith Road

- Installation of a traffic signal if warranted
- Addition of northbound left turn lane on Virlyn B Smith Road
- Addition of northbound right turn lane on Virlyn B Smith Road

Recommended Site Mitigation Improvements

Intersection 3: South Fulton Parkway at Cedar Grove Road

- Addition of a channelized, westbound right turn lane on Cedar Grove Road

Intersection 4: Cedar Grove Road at Lynmark Way/ Site Driveway 2 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane
- Installation of a deceleration lane

Intersection 5: Cedar Grove Road at Bellmist Drive/ Site Driveway 1 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane for entering traffic

Intersection 12: Cedar Grove Road at Site Driveway 3 (Full Access)

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cedar Grove Road remaining free flow
- Installation of a left turn lane
- Installation of a deceleration lane

Appendix

Existing Intersection Traffic Counts	
Character Areas.....	
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” Intersection Analysis with Improvements	
Future “Build” Intersections Analysis	
Future “Build” Intersections Analysis with Improvements.....	
Traffic Volume Worksheets	

Existing Intersection Traffic Counts

A & R Engineering, Inc.

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

TMC Data
S. Fulton Pkwy @ Cedar Grove Rd
7-9 am I 4-6 pm

File Name : 20220257
Site Code : 20220257
Start Date : 5/19/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	S. Fulton Pkwy Northbound				S. Fulton Pkwy Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd 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
07:00 AM	4	123	2	129	15	38	4	57	33	27	6	66	2	20	42	64	316
07:15 AM	4	112	7	123	23	38	9	70	41	33	5	79	1	28	61	90	362
07:30 AM	2	119	7	128	33	39	9	81	35	36	1	72	1	25	58	84	365
07:45 AM	7	96	7	110	35	36	10	81	39	52	3	94	3	28	66	97	382
Total	17	450	23	490	106	151	32	289	148	148	15	311	7	101	227	335	1425
08:00 AM	9	104	4	117	27	35	3	65	29	40	4	73	2	29	36	67	322
08:15 AM	3	82	7	92	27	54	17	98	27	43	2	72	1	23	59	83	345
08:30 AM	3	97	2	102	22	49	12	83	28	22	3	53	0	20	54	74	312
08:45 AM	3	88	4	95	29	35	15	79	25	18	2	45	2	18	48	68	287
Total	18	371	17	406	105	173	47	325	109	123	11	243	5	90	197	292	1266
*** BREAK ***																	
04:00 PM	10	47	8	65	74	117	35	226	15	31	4	50	7	35	44	86	427
04:15 PM	7	68	9	84	62	117	36	215	20	37	1	58	5	37	75	117	474
04:30 PM	10	49	10	69	65	128	32	225	36	54	3	93	7	45	42	94	481
04:45 PM	4	73	11	88	77	133	37	247	20	28	6	54	3	39	35	77	466
Total	31	237	38	306	278	495	140	913	91	150	14	255	22	156	196	374	1848
05:00 PM	4	63	10	77	67	114	37	218	20	38	7	65	6	51	41	98	458
05:15 PM	6	57	8	71	65	130	38	233	21	34	1	56	13	33	51	97	457
05:30 PM	4	51	8	63	69	129	33	231	18	28	2	48	10	44	46	100	442
05:45 PM	3	49	6	58	56	128	31	215	27	48	4	79	8	42	38	88	440
Total	17	220	32	269	257	501	139	897	86	148	14	248	37	170	176	383	1797
Grand Total	83	1278	110	1471	746	1320	358	2424	434	569	54	1057	71	517	796	1384	6336
Apprch %	5.6	86.9	7.5		30.8	54.5	14.8		41.1	53.8	5.1		5.1	37.4	57.5		
Total %	1.3	20.2	1.7	23.2	11.8	20.8	5.7	38.3	6.8	9	0.9	16.7	1.1	8.2	12.6	21.8	

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7-9 am I 4-6 pm

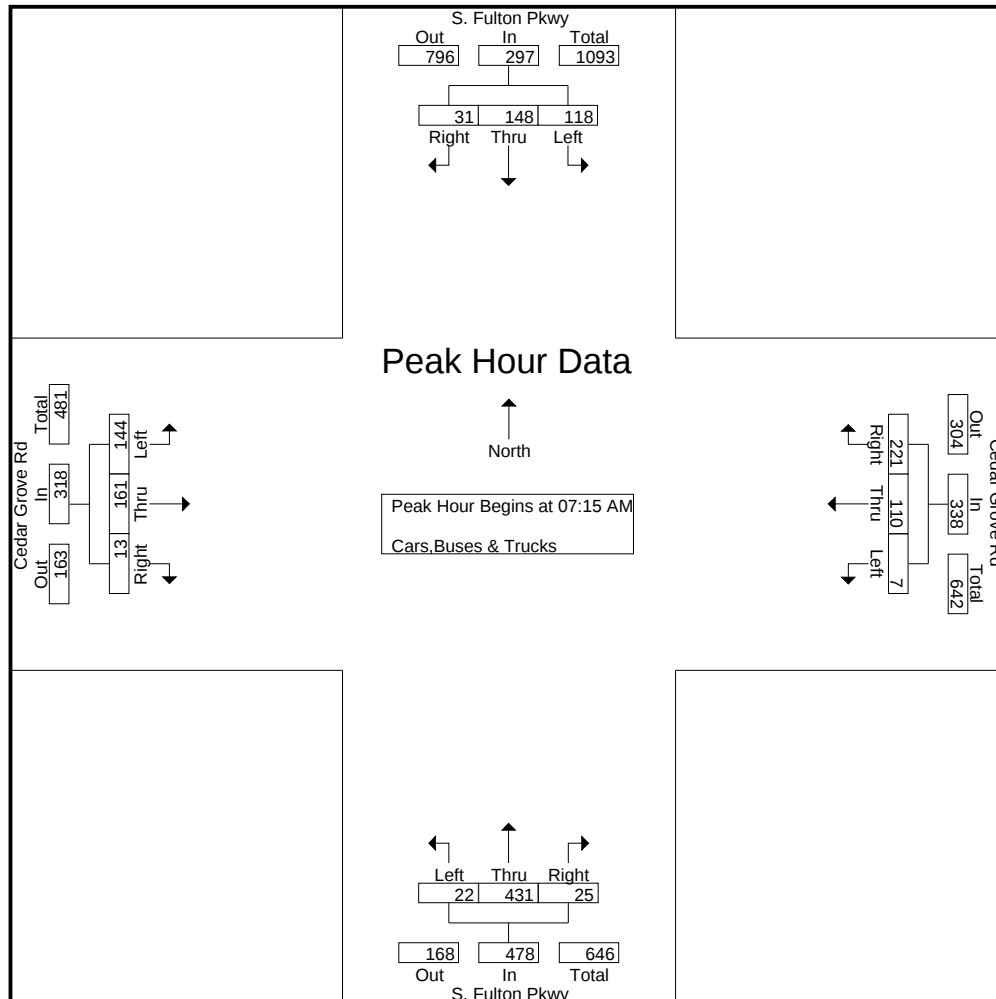
File Name : 20220257

Site Code : 20220257

Start Date : 5/19/2022

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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 07:15 AM																	
07:15 AM	4	112	7	123	23	38	9	70	41	33	5	79	1	28	61	90	362
07:30 AM	2	119	7	128	33	39	9	81	35	36	1	72	1	25	58	84	365
07:45 AM	7	96	7	110	35	36	10	81	39	52	3	94	3	28	66	97	382
08:00 AM	9	104	4	117	27	35	3	65	29	40	4	73	2	29	36	67	322
Total Volume	22	431	25	478	118	148	31	297	144	161	13	318	7	110	221	338	1431
% App. Total	4.6	90.2	5.2		39.7	49.8	10.4		45.3	50.6	4.1		2.1	32.5	65.4		
PHF	.611	.905	.893	.934	.843	.949	.775	.917	.878	.774	.650	.846	.583	.948	.837	.871	.937



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S. Fulton Pkwy @ Cedar Grove Rd
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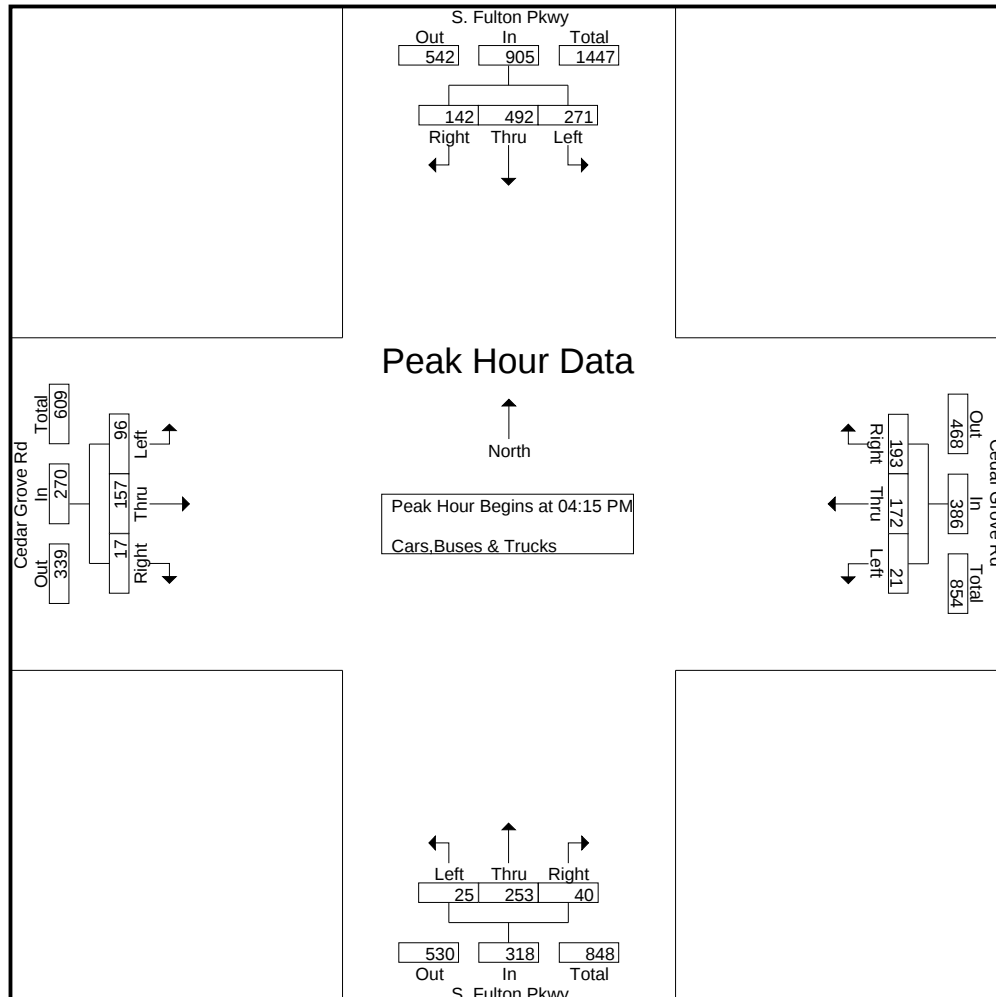
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	S. Fulton Pkwy Northbound				S. Fulton Pkwy Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	7	68	9	84	62	117	36	215	20	37	1	58	5	37	75	117	474
04:30 PM	10	49	10	69	65	128	32	225	36	54	3	93	7	45	42	94	481
04:45 PM	4	73	11	88	77	133	37	247	20	28	6	54	3	39	35	77	466
05:00 PM	4	63	10	77	67	114	37	218	20	38	7	65	6	51	41	98	458
Total Volume	25	253	40	318	271	492	142	905	96	157	17	270	21	172	193	386	1879
% App. Total	7.9	79.6	12.6		29.9	54.4	15.7		35.6	58.1	6.3		5.4	44.6	50		
PHF	.625	.866	.909	.903	.880	.925	.959	.916	.667	.727	.607	.726	.750	.843	.643	.825	.977



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TMC DATA

S. Fulton Pkwy @ Short Rd

7-9 am | 4-6 pm

File Name : 20220258

Site Code : 20220258

Start Date : 5/19/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Short Rd Northbound				Short Rd Southbound				S. Fulton Pkwy Eastbound				S. Fulton Pkwy 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
07:00 AM	0	3	8	11	2	1	2	5	0	88	0	88	4	31	1	36	140
07:15 AM	0	1	21	22	1	2	0	3	0	69	0	69	5	36	0	41	135
07:30 AM	0	2	12	14	1	0	0	1	0	91	1	92	4	27	1	32	139
07:45 AM	2	3	11	16	3	3	1	7	0	73	0	73	9	30	2	41	137
Total	2	9	52	63	7	6	3	16	0	321	1	322	22	124	4	150	551
08:00 AM	1	1	13	15	1	4	0	5	1	81	0	82	3	32	1	36	138
08:15 AM	1	3	6	10	1	3	1	5	0	68	1	69	6	35	2	43	127
08:30 AM	1	2	18	21	1	5	3	9	0	69	2	71	2	43	1	46	147
08:45 AM	1	3	16	20	0	2	0	2	2	58	0	60	5	42	0	47	129
Total	4	9	53	66	3	14	4	21	3	276	3	282	16	152	4	172	541
*** BREAK ***																	
04:00 PM	0	4	8	12	0	1	0	1	1	40	0	41	12	109	3	124	178
04:15 PM	0	2	12	14	0	0	1	1	1	46	0	47	9	116	1	126	188
04:30 PM	0	2	10	12	3	4	0	7	0	53	0	53	7	106	3	116	188
04:45 PM	2	1	12	15	0	1	1	2	1	52	0	53	19	118	3	140	210
Total	2	9	42	53	3	6	2	11	3	191	0	194	47	449	10	506	764
05:00 PM	0	0	16	16	3	2	2	7	1	48	1	50	9	107	3	119	192
05:15 PM	0	7	10	17	3	5	1	9	1	53	1	55	14	108	5	127	208
05:30 PM	1	4	7	12	1	3	0	4	4	38	0	42	10	124	0	134	192
05:45 PM	2	4	6	12	1	7	1	9	0	45	1	46	11	102	0	113	180
Total	3	15	39	57	8	17	4	29	6	184	3	193	44	441	8	493	772
Grand Total	11	42	186	239	21	43	13	77	12	972	7	991	129	1166	26	1321	2628
Apprch %	4.6	17.6	77.8		27.3	55.8	16.9		1.2	98.1	0.7		9.8	88.3	2		
Total %	0.4	1.6	7.1	9.1	0.8	1.6	0.5	2.9	0.5	37	0.3	37.7	4.9	44.4	1	50.3	

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S. Fulton Pkwy @ Short Rd

7-9 am | 4-6 pm

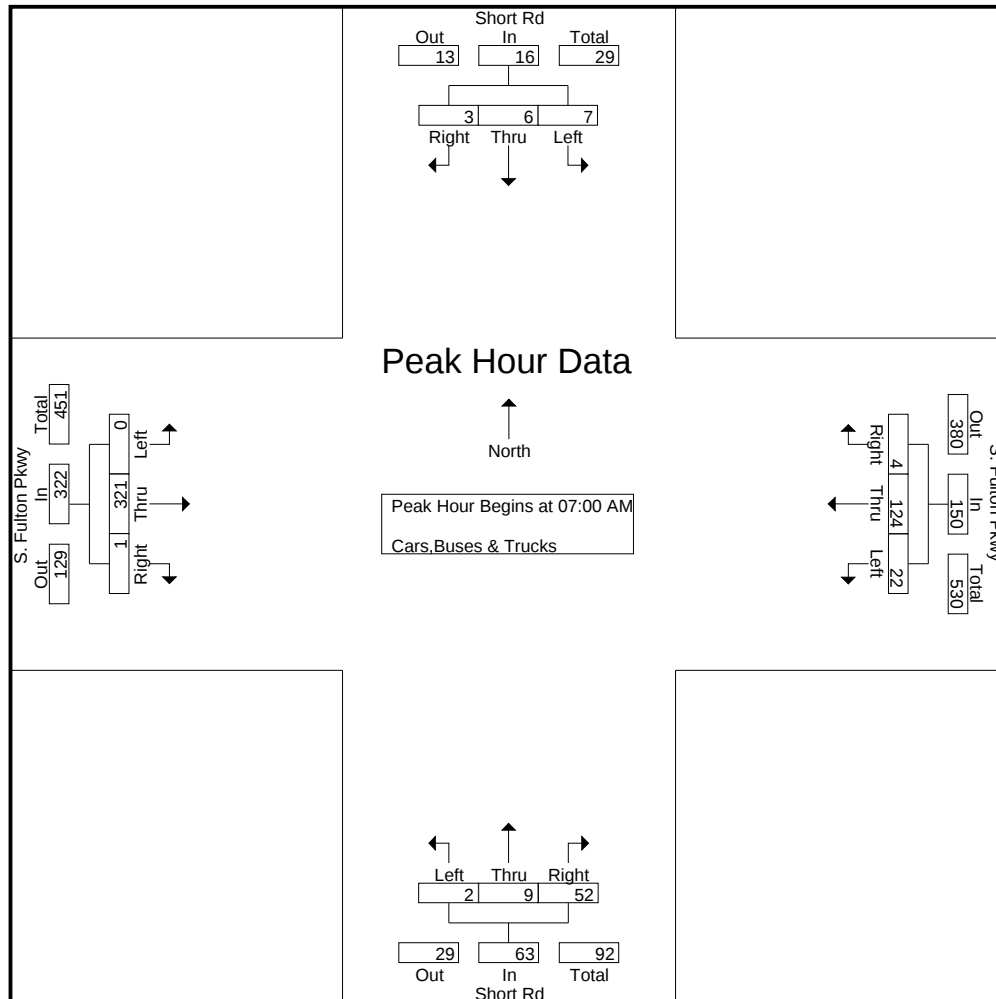
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	Short Rd Northbound				Short Rd Southbound				S. Fulton Pkwy Eastbound				S. Fulton Pkwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	3	8	11	2	1	2	5	0	88	0	88	4	31	1	36	140
07:15 AM	0	1	21	22	1	2	0	3	0	69	0	69	5	36	0	41	135
07:30 AM	0	2	12	14	1	0	0	1	0	91	1	92	4	27	1	32	139
07:45 AM	2	3	11	16	3	3	1	7	0	73	0	73	9	30	2	41	137
Total Volume	2	9	52	63	7	6	3	16	0	321	1	322	22	124	4	150	551
% App. Total	3.2	14.3	82.5		43.8	37.5	18.8		0	99.7	0.3		14.7	82.7	2.7		
PHF	.250	.750	.619	.716	.583	.500	.375	.571	.000	.882	.250	.875	.611	.861	.500	.915	.984



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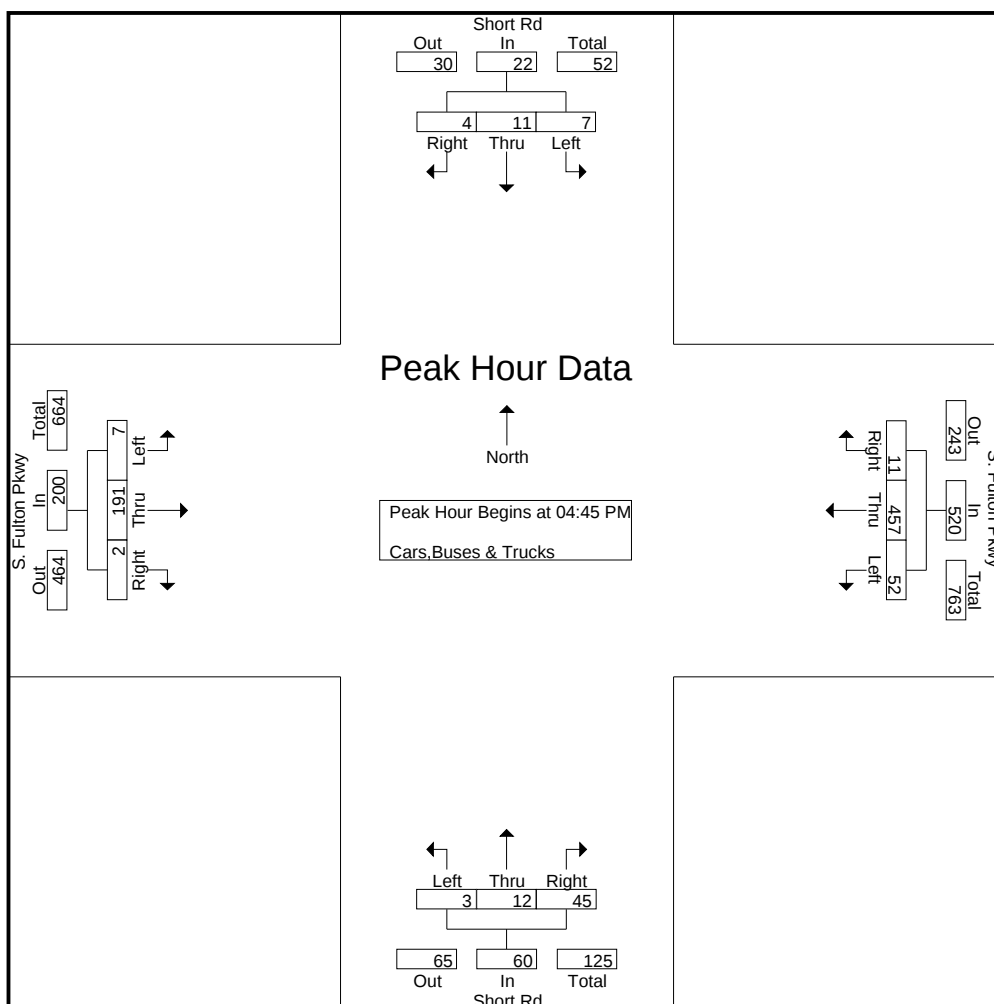
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	Short Rd Northbound				Short Rd Southbound				S. Fulton Pkwy Eastbound				S. Fulton Pkwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	2	1	12	15	0	1	1	2	1	52	0	53	19	118	3	140	210
05:00 PM	0	0	16	16	3	2	2	7	1	48	1	50	9	107	3	119	192
05:15 PM	0	7	10	17	3	5	1	9	1	53	1	55	14	108	5	127	208
05:30 PM	1	4	7	12	1	3	0	4	4	38	0	42	10	124	0	134	192
Total Volume	3	12	45	60	7	11	4	22	7	191	2	200	52	457	11	520	802
% App. Total	5	20	75		31.8	50	18.2		3.5	95.5	1		10	87.9	2.1		
PHF	.375	.429	.703	.882	.583	.550	.500	.611	.438	.901	.500	.909	.684	.921	.550	.929	.955



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Rivertown Rd @ John Rivers Rd

7-9 am | 4-6 pm

File Name : 20220259

Site Code : 20220259

Start Date : 5/19/2022

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Groups Printed- Cars,Buses & Trucks

	John Rivers Rd Northbound				Southbound				Rivertown Rd Eastbound				Rivertown Rd 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
07:00 AM	5	0	4	9	0	0	0	0	0	71	10	81	34	17	0	51	141
07:15 AM	24	0	40	64	0	0	0	0	0	68	18	86	43	27	0	70	220
07:30 AM	24	0	47	71	0	0	0	0	0	75	28	103	62	35	0	97	271
07:45 AM	22	0	42	64	0	0	0	0	0	95	23	118	32	43	0	75	257
Total	75	0	133	208	0	0	0	0	0	309	79	388	171	122	0	293	889
08:00 AM	14	0	11	25	0	0	0	0	0	73	19	92	18	38	0	56	173
08:15 AM	13	0	10	23	0	0	0	0	0	78	16	94	37	45	0	82	199
08:30 AM	8	0	22	30	0	0	0	0	0	68	24	92	26	50	0	76	198
08:45 AM	14	0	11	25	0	0	0	0	0	53	19	72	15	53	0	68	165
Total	49	0	54	103	0	0	0	0	0	272	78	350	96	186	0	282	735
*** BREAK ***																	
04:00 PM	15	0	13	28	0	0	0	0	0	57	16	73	13	81	0	94	195
04:15 PM	21	0	16	37	0	0	0	0	0	63	10	73	15	117	0	132	242
04:30 PM	18	0	19	37	0	0	0	0	0	79	6	85	9	102	0	111	233
04:45 PM	16	0	12	28	0	0	0	0	0	94	10	104	13	94	0	107	239
Total	70	0	60	130	0	0	0	0	0	293	42	335	50	394	0	444	909
05:00 PM	12	0	17	29	0	0	0	0	0	72	15	87	7	110	0	117	233
05:15 PM	14	0	8	22	0	0	0	0	0	69	14	83	9	87	0	96	201
05:30 PM	7	0	2	9	0	0	0	0	0	68	9	77	6	122	0	128	214
05:45 PM	6	0	7	13	0	0	0	0	0	63	21	84	12	104	0	116	213
Total	39	0	34	73	0	0	0	0	0	272	59	331	34	423	0	457	861
Grand Total	233	0	281	514	0	0	0	0	0	1146	258	1404	351	1125	0	1476	3394
Apprch %	45.3	0	54.7		0	0	0		0	81.6	18.4		23.8	76.2	0		
Total %	6.9	0	8.3	15.1	0	0	0	0	0	33.8	7.6	41.4	10.3	33.1	0	43.5	

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7-9 am | 4-6 pm

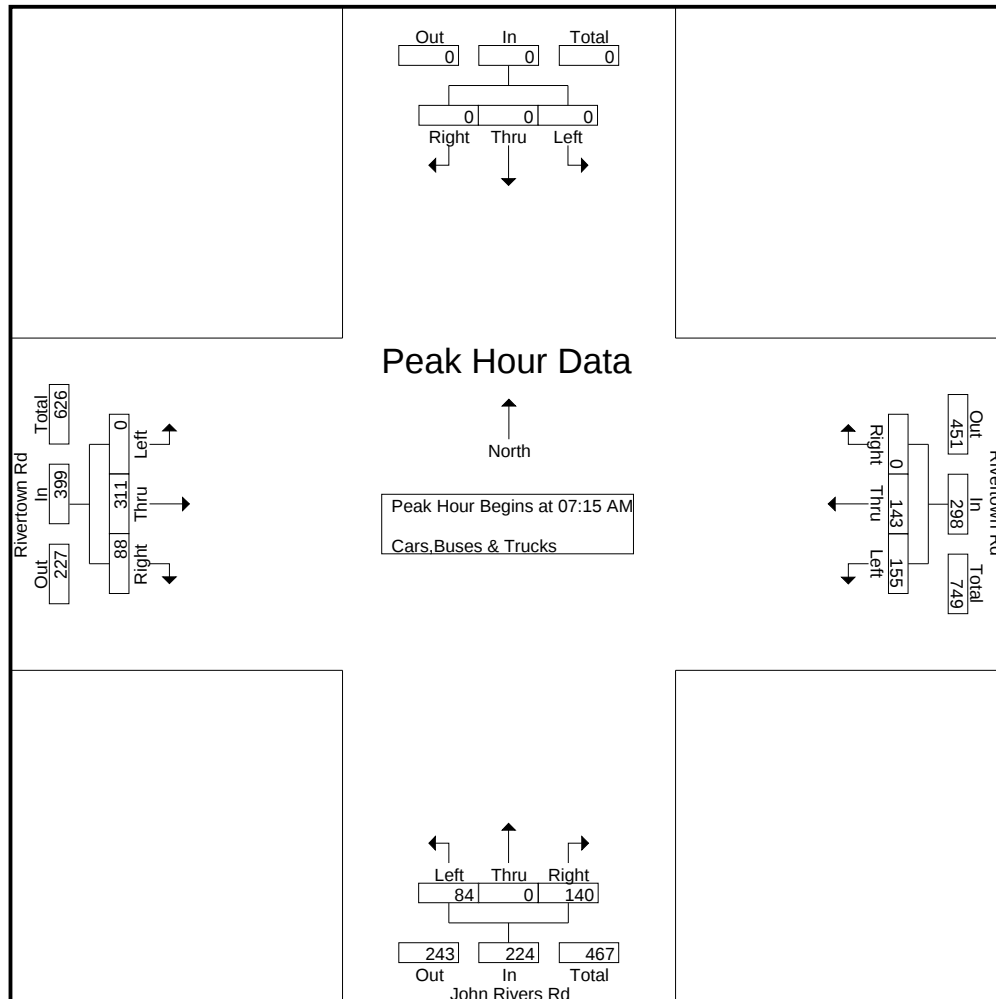
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	24	0	40	64	0	0	0	0	0	68	18	86	43	27	0	70	220
07:30 AM	24	0	47	71	0	0	0	0	0	75	28	103	62	35	0	97	271
07:45 AM	22	0	42	64	0	0	0	0	0	95	23	118	32	43	0	75	257
08:00 AM	14	0	11	25	0	0	0	0	0	73	19	92	18	38	0	56	173
Total Volume	84	0	140	224	0	0	0	0	0	311	88	399	155	143	0	298	921
% App. Total	37.5	0	62.5		0	0	0		0	77.9	22.1		52	48	0		
PHF	.875	.000	.745	.789	.000	.000	.000	.000	.000	.818	.786	.845	.625	.831	.000	.768	.850



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Rivertown Rd @ John Rivers Rd
7-9 am | 4-6 pm

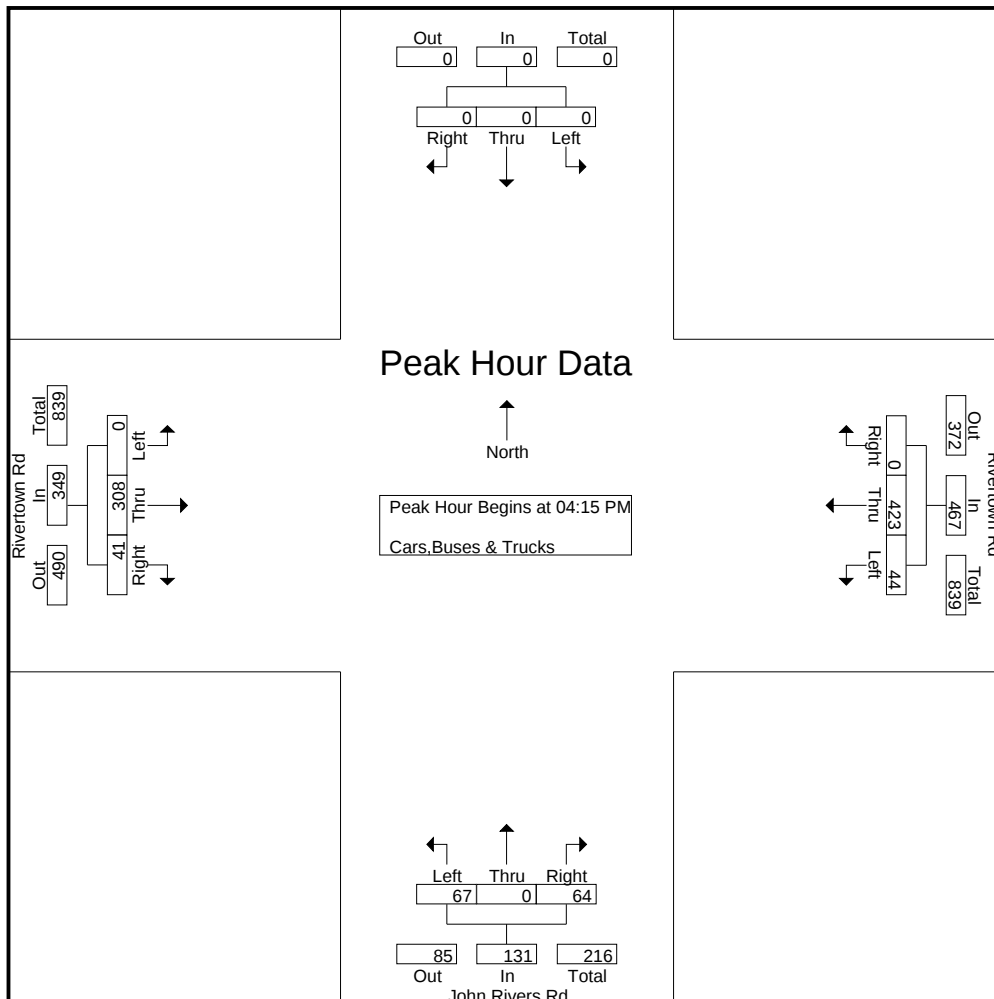
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	21	0	16	37	0	0	0	0	0	63	10	73	15	117	0	132	242
04:30 PM	18	0	19	37	0	0	0	0	0	79	6	85	9	102	0	111	233
04:45 PM	16	0	12	28	0	0	0	0	0	94	10	104	13	94	0	107	239
05:00 PM	12	0	17	29	0	0	0	0	0	72	15	87	7	110	0	117	233
Total Volume	67	0	64	131	0	0	0	0	0	308	41	349	44	423	0	467	947
% App. Total	51.1	0	48.9		0	0	0		0	88.3	11.7		9.4	90.6	0		
PHF	.798	.000	.842	.885	.000	.000	.000	.000	.000	.819	.683	.839	.733	.904	.000	.884	.978



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ Rivertown Rd
7-9 am I 4-6 pm

File Name : 20220260
Site Code : 20220260
Start Date : 5/19/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Northbound				Cedar Grove Rd Southbound				Rivertown Rd Eastbound				Rivertown Rd 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
07:00 AM	0	0	0	0	50	0	4	54	9	31	0	40	0	13	34	47	141
07:15 AM	0	0	0	0	67	0	9	76	7	35	0	42	0	15	41	56	174
07:30 AM	0	0	0	0	61	0	24	85	10	28	0	38	0	19	44	63	186
07:45 AM	0	0	0	0	54	0	9	63	7	27	0	34	0	12	33	45	142
Total	0	0	0	0	232	0	46	278	33	121	0	154	0	59	152	211	643
08:00 AM	0	0	0	0	60	0	16	76	12	31	0	43	0	13	38	51	170
08:15 AM	0	0	0	0	50	0	4	54	8	23	0	31	0	13	38	51	136
08:30 AM	0	0	0	0	38	0	15	53	5	28	0	33	0	14	45	59	145
08:45 AM	0	0	0	0	39	0	4	43	2	24	0	26	0	15	37	52	121
Total	0	0	0	0	187	0	39	226	27	106	0	133	0	55	158	213	572
*** BREAK ***																	
04:00 PM	0	0	0	0	53	0	5	58	7	19	0	26	0	41	77	118	202
04:15 PM	0	0	0	0	69	0	8	77	8	28	0	36	0	38	75	113	226
04:30 PM	0	0	0	0	64	0	9	73	8	22	0	30	0	26	76	102	205
04:45 PM	0	0	0	0	59	0	9	68	7	15	0	22	0	35	75	110	200
Total	0	0	0	0	245	0	31	276	30	84	0	114	0	140	303	443	833
05:00 PM	0	0	0	0	56	0	10	66	7	22	0	29	0	38	61	99	194
05:15 PM	0	0	0	0	55	0	10	65	2	20	0	22	0	36	73	109	196
05:30 PM	0	0	0	0	72	0	10	82	8	21	0	29	0	31	55	86	197
05:45 PM	0	0	0	0	56	0	10	66	8	21	0	29	0	25	66	91	186
Total	0	0	0	0	239	0	40	279	25	84	0	109	0	130	255	385	773
Grand Total	0	0	0	0	903	0	156	1059	115	395	0	510	0	384	868	1252	2821
Apprch %	0	0	0		85.3	0	14.7		22.5	77.5	0		0	30.7	69.3		
Total %	0	0	0		32	0	5.5	37.5	4.1	14	0	18.1	0	13.6	30.8	44.4	

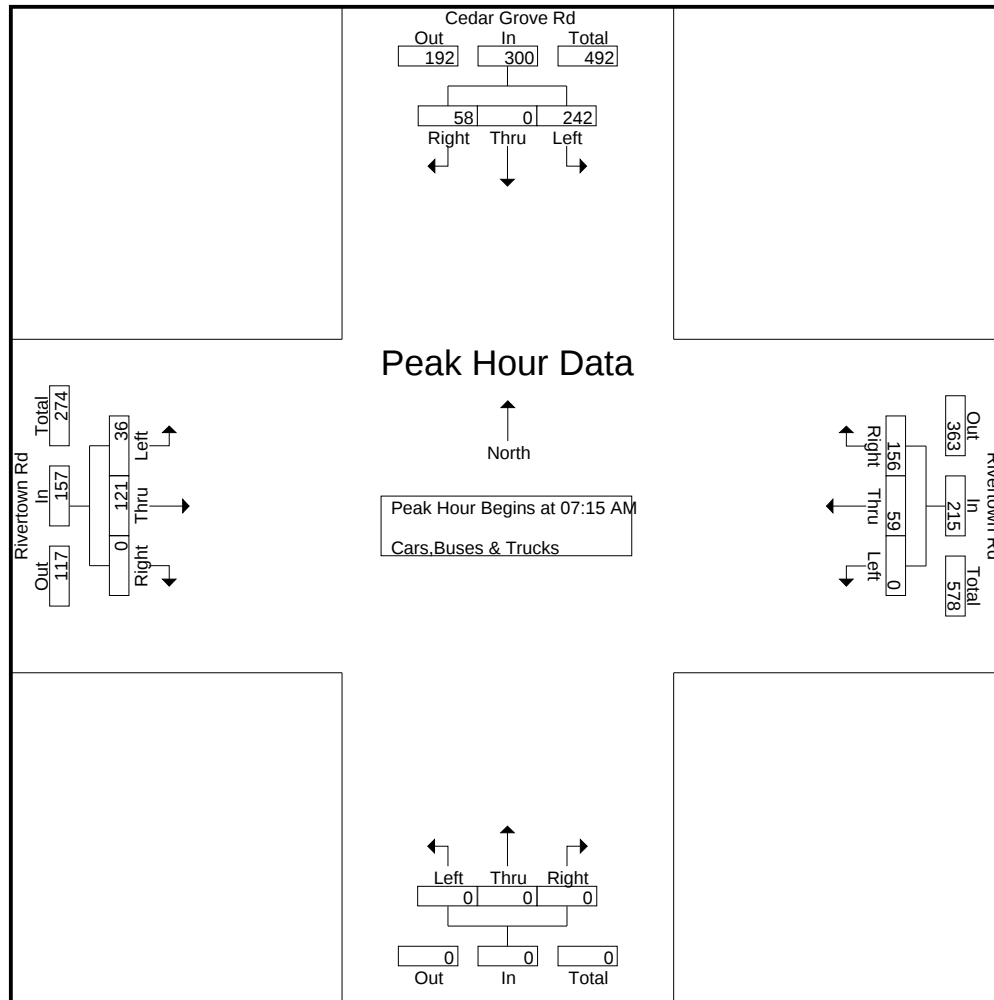
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ Rivertown Rd
7-9 am I 4-6 pm

File Name : 20220260
Site Code : 20220260
Start Date : 5/19/2022
Page No : 2

	Northbound				Cedar Grove Rd Southbound				Rivertown Rd Eastbound				Rivertown Rd 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 07:15 AM																	
07:15 AM	0	0	0	0	67	0	9	76	7	35	0	42	0	15	41	56	174
07:30 AM	0	0	0	0	61	0	24	85	10	28	0	38	0	19	44	63	186
07:45 AM	0	0	0	0	54	0	9	63	7	27	0	34	0	12	33	45	142
08:00 AM	0	0	0	0	60	0	16	76	12	31	0	43	0	13	38	51	170
Total Volume	0	0	0	0	242	0	58	300	36	121	0	157	0	59	156	215	672
% App. Total	0	0	0	0	80.7	0	19.3		22.9	77.1	0		0	27.4	72.6		
PHF	.000	.000	.000	.000	.903	.000	.604	.882	.750	.864	.000	.913	.000	.776	.886	.853	.903



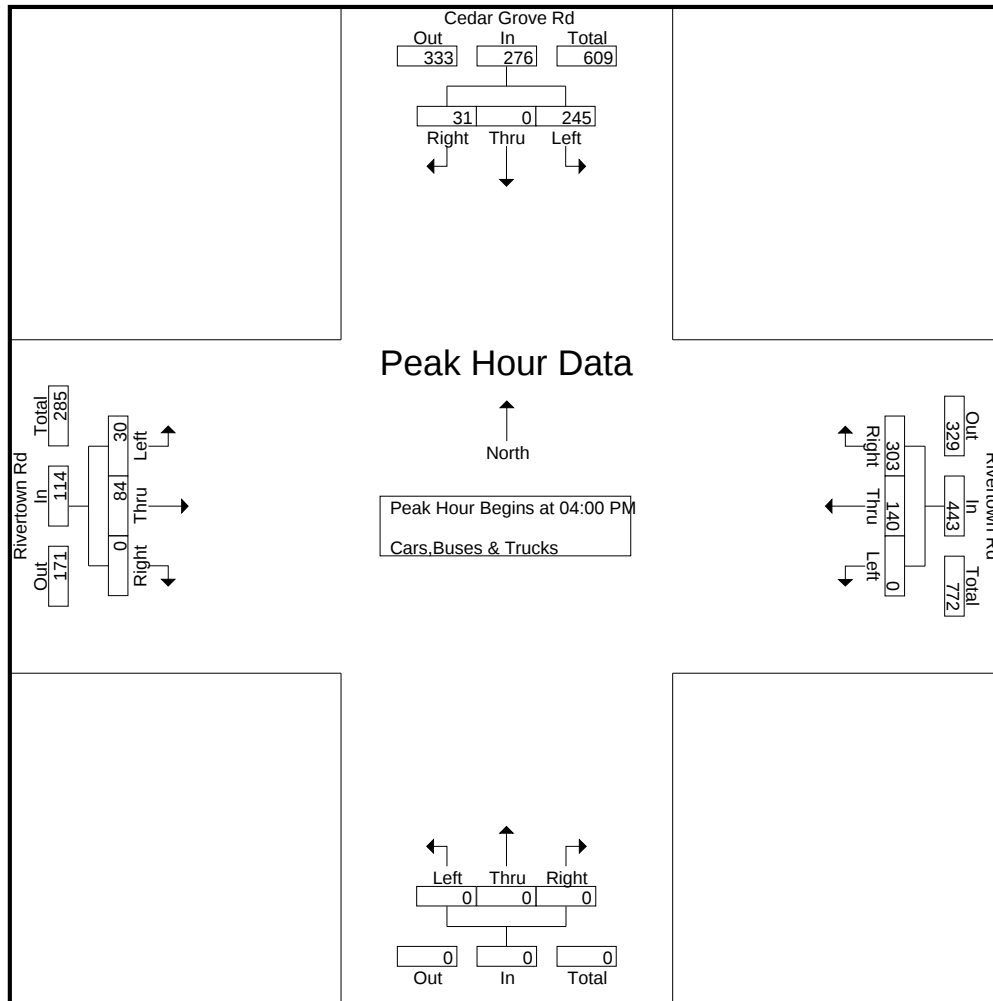
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ Rivertown Rd
7-9 am | 4-6 pm

File Name : 20220260
Site Code : 20220260
Start Date : 5/19/2022
Page No : 3

	Northbound				Cedar Grove Rd Southbound				Rivertown Rd Eastbound				Rivertown Rd 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 04:00 PM																	
04:00 PM	0	0	0	0	53	0	5	58	7	19	0	26	0	41	77	118	202
04:15 PM	0	0	0	0	69	0	8	77	8	28	0	36	0	38	75	113	226
04:30 PM	0	0	0	0	64	0	9	73	8	22	0	30	0	26	76	102	205
04:45 PM	0	0	0	0	59	0	9	68	7	15	0	22	0	35	75	110	200
Total Volume	0	0	0	0	245	0	31	276	30	84	0	114	0	140	303	443	833
% App. Total	0	0	0	0	88.8	0	11.2		26.3	73.7	0		0	31.6	68.4		
PHF	.000	.000	.000	.000	.888	.000	.861	.896	.938	.750	.000	.792	.000	.854	.984	.939	.921



A & R Engineering, Inc.

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

TMC DATA
S. Fulton Pkwy @ SR 92
7-9 am | 4-6 pm

File Name : 20220261
Site Code : 20220261
Start Date : 5/24/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 92 Northbound				SR 92 Southbound				S. Fulton Pkwy Eastbound				S. Fulton Pkwy 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
07:00 AM	14	82	29	125	95	108	11	214	31	157	22	210	16	30	38	84	633
07:15 AM	9	129	36	174	82	121	10	213	39	143	28	210	26	52	58	136	733
07:30 AM	8	144	20	172	111	122	22	255	45	175	25	245	39	58	87	184	856
07:45 AM	8	158	16	182	86	146	17	249	50	155	14	219	31	97	68	196	846
Total	39	513	101	653	374	497	60	931	165	630	89	884	112	237	251	600	3068
08:00 AM	8	167	25	200	91	147	20	258	38	140	18	196	27	88	86	201	855
08:15 AM	9	146	19	174	89	125	20	234	32	131	33	196	24	61	83	168	772
08:30 AM	16	138	26	180	86	134	18	238	38	106	23	167	24	62	69	155	740
08:45 AM	12	125	20	157	93	139	27	259	41	103	22	166	33	56	81	170	752
Total	45	576	90	711	359	545	85	989	149	480	96	725	108	267	319	694	3119
*** BREAK ***																	
04:00 PM	24	169	16	209	80	85	98	263	89	95	88	272	31	127	108	266	1010
04:15 PM	15	135	17	167	95	98	85	278	98	85	99	282	34	142	153	329	1056
04:30 PM	25	153	19	197	88	125	115	328	92	115	108	315	29	125	120	274	1114
04:45 PM	24	165	21	210	98	105	120	323	85	118	116	319	51	142	139	332	1184
Total	88	622	73	783	361	413	418	1192	364	413	411	1188	145	536	520	1201	4364
05:00 PM	20	174	17	211	105	98	105	308	116	128	127	371	45	161	130	336	1226
05:15 PM	34	170	21	225	115	105	115	335	126	130	135	391	22	142	154	318	1269
05:30 PM	26	140	19	185	120	115	98	333	116	124	132	372	17	150	143	310	1200
05:45 PM	27	186	20	233	112	120	125	357	99	114	118	331	21	121	138	280	1201
Total	107	670	77	854	452	438	443	1333	457	496	512	1465	105	574	565	1244	4896
Grand Total	279	2381	341	3001	1546	1893	1006	4445	1135	2019	1108	4262	470	1614	1655	3739	15447
Apprch %	9.3	79.3	11.4		34.8	42.6	22.6		26.6	47.4	26		12.6	43.2	44.3		
Total %	1.8	15.4	2.2	19.4	10	12.3	6.5	28.8	7.3	13.1	7.2	27.6	3	10.4	10.7	24.2	

A & R Engineering, Inc.

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

TMC DATA

S. Fulton Pkwy @ SR 92

7-9 am | 4-6 pm

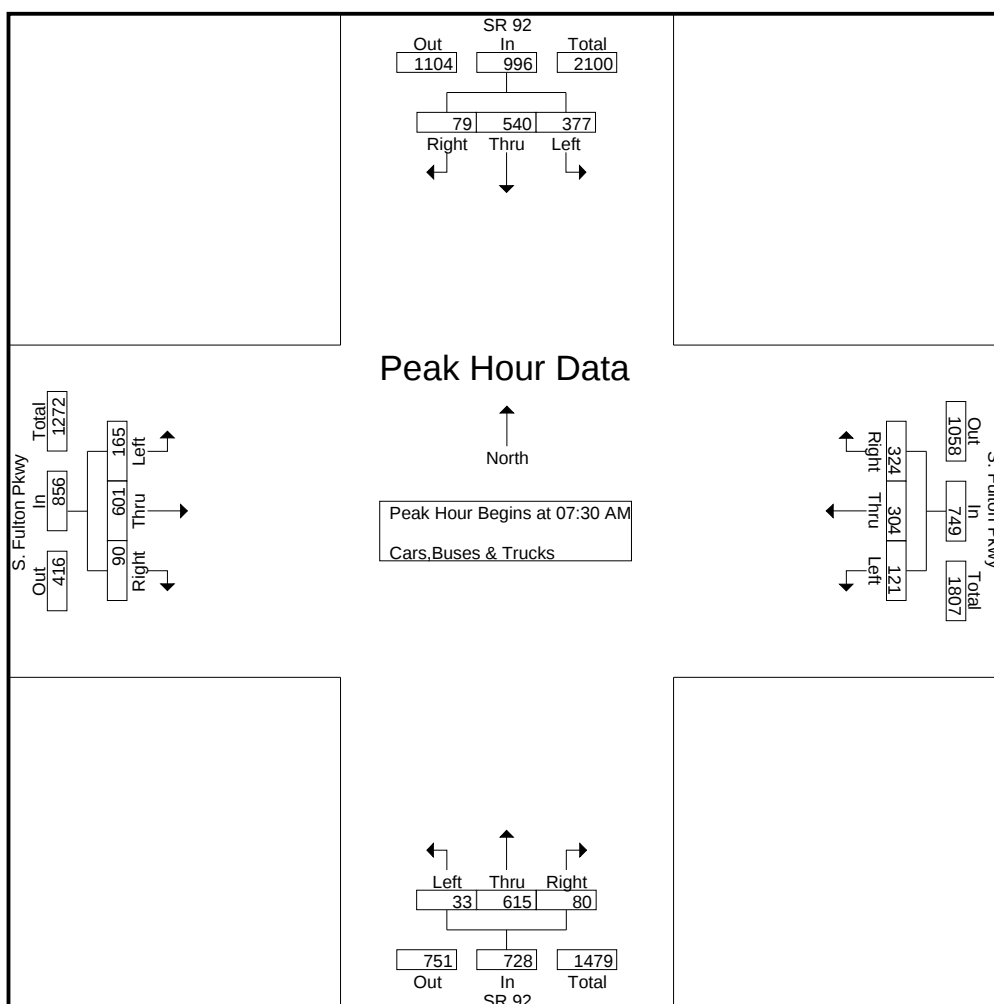
File Name : 20220261

Site Code : 20220261

Start Date : 5/24/2022

Page No : 2

	SR 92 Northbound				SR 92 Southbound				S. Fulton Pkwy Eastbound				S. Fulton Pkwy 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 07:30 AM																	
07:30 AM	8	144	20	172	111	122	22	255	45	175	25	245	39	58	87	184	856
07:45 AM	8	158	16	182	86	146	17	249	50	155	14	219	31	97	68	196	846
08:00 AM	8	167	25	200	91	147	20	258	38	140	18	196	27	88	86	201	855
08:15 AM	9	146	19	174	89	125	20	234	32	131	33	196	24	61	83	168	772
Total Volume	33	615	80	728	377	540	79	996	165	601	90	856	121	304	324	749	3329
% App. Total	4.5	84.5	11		37.9	54.2	7.9		19.3	70.2	10.5		16.2	40.6	43.3		
PHF	.917	.921	.800	.910	.849	.918	.898	.965	.825	.859	.682	.873	.776	.784	.931	.932	.972



A & R Engineering, Inc.

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

TMC DATA

S. Fulton Pkwy @ SR 92

7-9 am | 4-6 pm

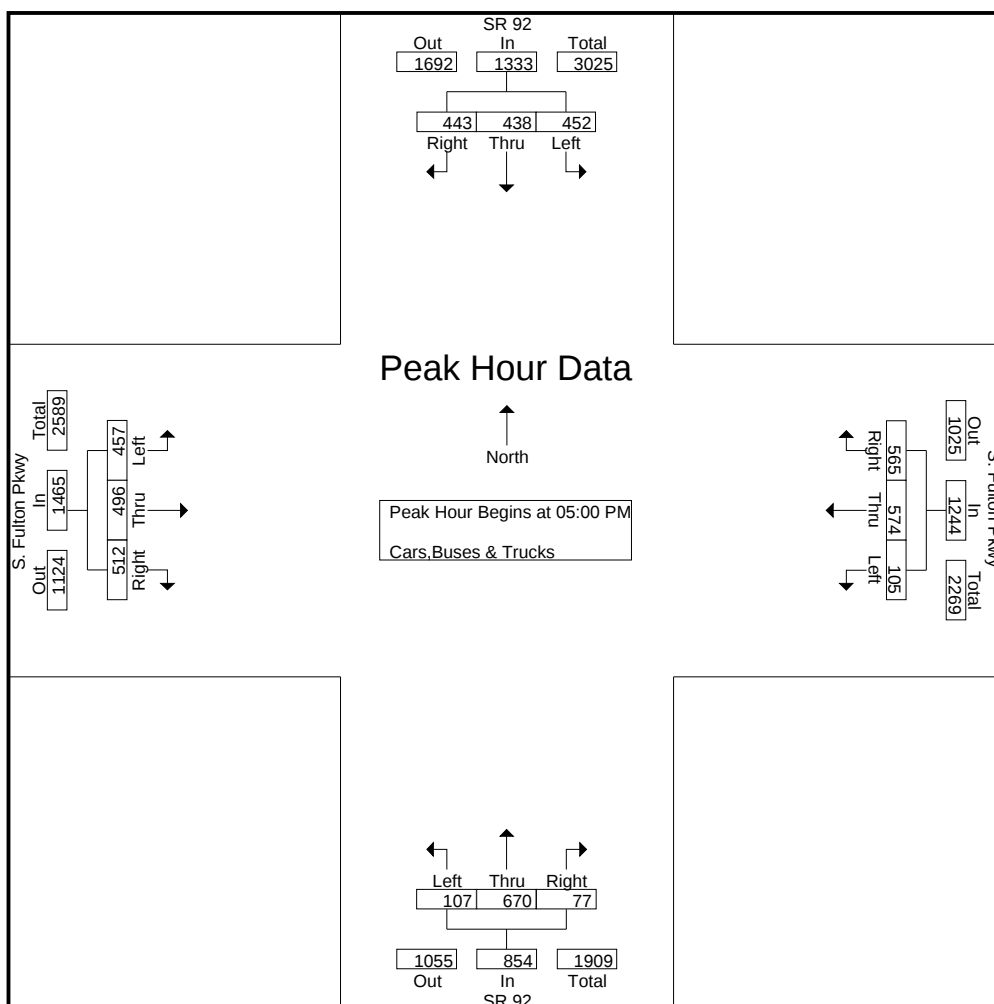
File Name : 20220261

Site Code : 20220261

Start Date : 5/24/2022

Page No : 3

	SR 92 Northbound				SR 92 Southbound				S. Fulton Pkwy Eastbound				S. Fulton Pkwy 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	20	174	17	211	105	98	105	308	116	128	127	371	45	161	130	336	1226
05:15 PM	34	170	21	225	115	105	115	335	126	130	135	391	22	142	154	318	1269
05:30 PM	26	140	19	185	120	115	98	333	116	124	132	372	17	150	143	310	1200
05:45 PM	27	186	20	233	112	120	125	357	99	114	118	331	21	121	138	280	1201
Total Volume	107	670	77	854	452	438	443	1333	457	496	512	1465	105	574	565	1244	4896
% App. Total	12.5	78.5	9		33.9	32.9	33.2		31.2	33.9	34.9		8.4	46.1	45.4		
PHF	.787	.901	.917	.916	.942	.913	.886	.933	.907	.954	.948	.937	.583	.891	.917	.926	.965



A & R Engineering, Inc.

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

TMC DATA

Rivertown Rd @ Virlyn B Smith Rd
7-9 am | 4-6 pm

File Name : 20220263

Site Code : 20220263

Start Date : 5/19/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Virlyn B Smith Rd Northbound				Southbound				Rivertown Rd Eastbound				Rivertown Rd 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
07:00 AM	25	0	8	33	0	0	0	0	0	28	51	79	2	18	0	20	132
07:15 AM	31	0	9	40	0	0	0	0	0	27	49	76	3	21	0	24	140
07:30 AM	29	0	11	40	0	0	0	0	0	26	53	79	2	20	0	22	141
07:45 AM	32	0	10	42	0	0	0	0	0	29	48	77	5	19	0	24	143
Total	117	0	38	155	0	0	0	0	0	110	201	311	12	78	0	90	556
08:00 AM	35	0	9	44	0	0	0	0	0	27	45	72	3	22	0	25	141
08:15 AM	39	0	8	47	0	0	0	0	0	24	43	67	2	17	0	19	133
08:30 AM	33	0	12	45	0	0	0	0	0	19	48	67	4	18	0	22	134
08:45 AM	28	0	13	41	0	0	0	0	0	21	41	62	2	17	0	19	122
Total	135	0	42	177	0	0	0	0	0	91	177	268	11	74	0	85	530
*** BREAK ***																	
04:00 PM	96	0	8	104	0	0	0	0	0	36	63	99	4	24	0	28	231
04:15 PM	95	0	6	101	0	0	0	0	0	35	65	100	5	28	0	33	234
04:30 PM	91	0	7	98	0	0	0	0	0	39	69	108	4	21	0	25	231
04:45 PM	77	0	11	88	0	0	0	0	0	37	73	110	6	18	0	24	222
Total	359	0	32	391	0	0	0	0	0	147	270	417	19	91	0	110	918
05:00 PM	75	0	10	85	0	0	0	0	0	35	68	103	7	17	0	24	212
05:15 PM	73	0	9	82	0	0	0	0	0	28	62	90	5	15	0	20	192
05:30 PM	77	0	7	84	0	0	0	0	0	26	67	93	4	14	0	18	195
05:45 PM	81	0	8	89	0	0	0	0	0	29	61	90	3	12	0	15	194
Total	306	0	34	340	0	0	0	0	0	118	258	376	19	58	0	77	793
Grand Total	917	0	146	1063	0	0	0	0	0	466	906	1372	61	301	0	362	2797
Apprch %	86.3	0	13.7		0	0	0		0	34	66		16.9	83.1	0		
Total %	32.8	0	5.2	38	0	0	0	0	0	16.7	32.4	49.1	2.2	10.8	0	12.9	

A & R Engineering, Inc.

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

TMC DATA

Rivertown Rd @ Virlyn B Smith Rd

7-9 am | 4-6 pm

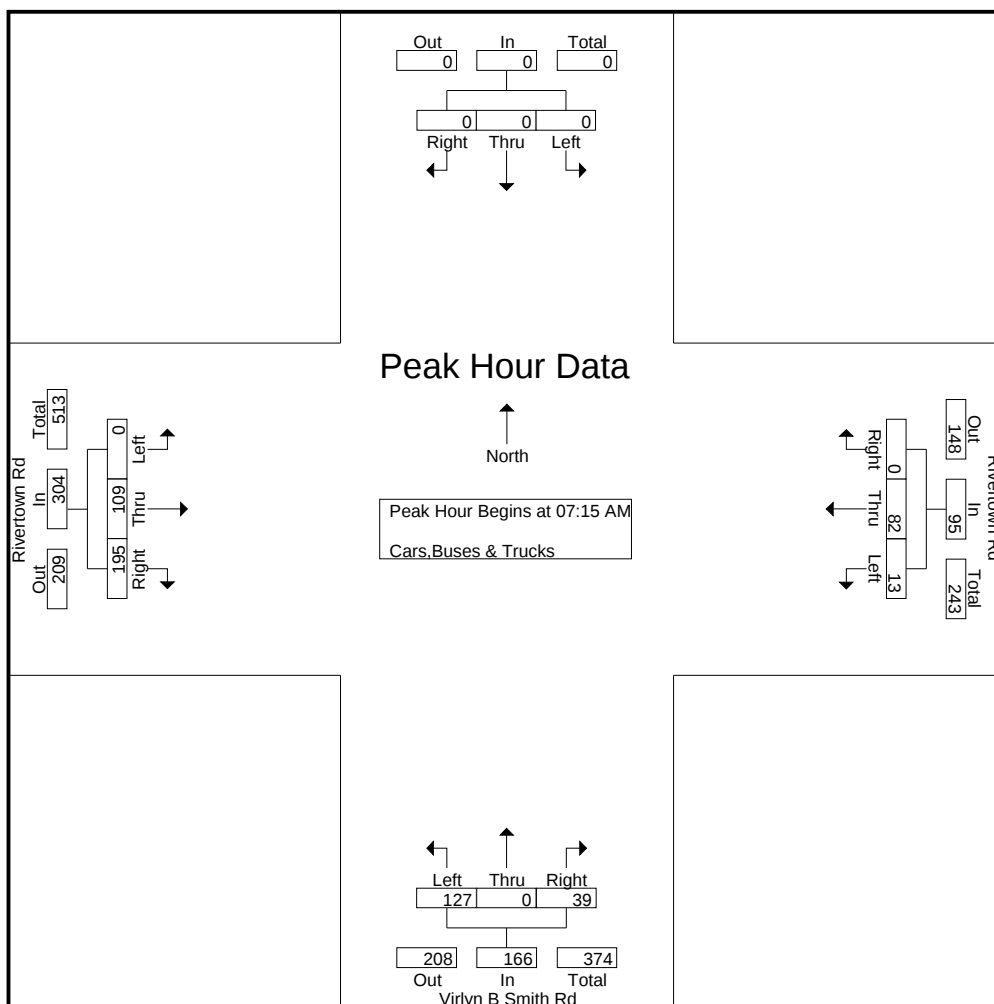
File Name : 20220263

Site Code : 20220263

Start Date : 5/19/2022

Page No : 2

	Virlyn B Smith Rd Northbound				Southbound				Rivertown Rd Eastbound				Rivertown Rd 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 07:15 AM																	
07:15 AM	31	0	9	40	0	0	0	0	0	27	49	76	3	21	0	24	140
07:30 AM	29	0	11	40	0	0	0	0	0	26	53	79	2	20	0	22	141
07:45 AM	32	0	10	42	0	0	0	0	0	29	48	77	5	19	0	24	143
08:00 AM	35	0	9	44	0	0	0	0	0	27	45	72	3	22	0	25	141
Total Volume	127	0	39	166	0	0	0	0	0	109	195	304	13	82	0	95	565
% App. Total	76.5	0	23.5		0	0	0		0	35.9	64.1		13.7	86.3	0		
PHF	.907	.000	.886	.943	.000	.000	.000	.000	.000	.940	.920	.962	.650	.932	.000	.950	.988



A & R Engineering, Inc.

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

TMC DATA

Rivertown Rd @ Virlyn B Smith Rd
7-9 am | 4-6 pm

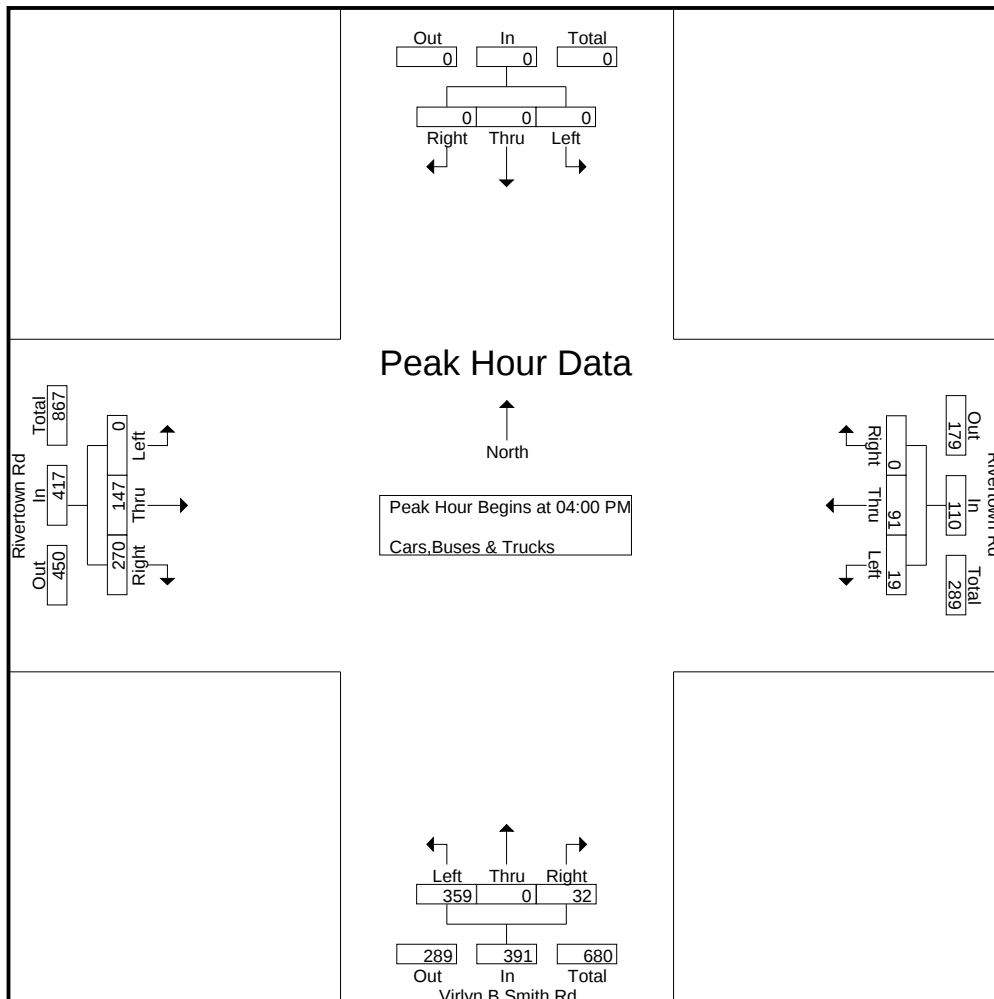
File Name : 20220263

Site Code : 20220263

Start Date : 5/19/2022

Page No : 3

	Virlyn B Smith Rd Northbound				Southbound				Rivertown Rd Eastbound				Rivertown Rd 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 04:00 PM																	
04:00 PM	96	0	8	104	0	0	0	0	0	36	63	99	4	24	0	28	231
04:15 PM	95	0	6	101	0	0	0	0	0	35	65	100	5	28	0	33	234
04:30 PM	91	0	7	98	0	0	0	0	0	39	69	108	4	21	0	25	231
04:45 PM	77	0	11	88	0	0	0	0	0	37	73	110	6	18	0	24	222
Total Volume	359	0	32	391	0	0	0	0	0	147	270	417	19	91	0	110	918
% App. Total	91.8	0	8.2		0	0	0		0	35.3	64.7		17.3	82.7	0		
PHF	.935	.000	.727	.940	.000	.000	.000	.000	.000	.942	.925	.948	.792	.813	.000	.833	.981



A & R Engineering, Inc.

2160 Kinston Court Suite 'o'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ Bellmist Dr
7-9 am I 4-6 pm

File Name : 20220356
Site Code : 20220356
Start Date : 8/4/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

Start Time	Bellmist Dr Northbound				Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	2	0	2	4	0	0	0	0	0	29	0	29	0	67	0	67	100
07:15 AM	4	0	1	5	0	0	0	0	0	47	2	49	0	53	0	53	107
07:30 AM	6	0	3	9	0	0	0	0	0	44	1	45	1	59	0	60	114
07:45 AM	0	0	1	1	0	0	0	0	0	61	2	63	0	61	0	61	125
Total	12	0	7	19	0	0	0	0	0	181	5	186	1	240	0	241	446
08:00 AM	2	0	2	4	0	0	0	0	0	43	2	45	0	51	0	51	100
08:15 AM	4	0	2	6	0	0	0	0	0	41	0	41	2	52	0	54	101
08:30 AM	3	0	4	7	0	0	0	0	0	38	0	38	3	49	0	52	97
08:45 AM	1	0	1	2	0	0	0	0	0	28	2	30	0	55	0	55	87
Total	10	0	9	19	0	0	0	0	0	150	4	154	5	207	0	212	385
*** BREAK ***																	
04:00 PM	3	0	0	3	0	0	0	0	0	80	3	83	5	70	0	75	161
04:15 PM	4	0	2	6	0	0	0	0	0	88	2	90	1	55	0	56	152
04:30 PM	0	0	1	1	0	0	0	0	0	65	2	67	3	78	0	81	149
04:45 PM	4	0	1	5	0	0	0	0	0	69	5	74	2	60	0	62	141
Total	11	0	4	15	0	0	0	0	0	302	12	314	11	263	0	274	603
05:00 PM	1	0	4	5	0	0	0	0	0	63	4	67	4	81	0	85	157
05:15 PM	5	0	0	5	0	0	0	0	0	70	4	74	2	67	0	69	148
05:30 PM	4	0	2	6	0	0	0	0	0	77	1	78	1	90	0	91	175
05:45 PM	1	0	3	4	0	0	0	0	0	60	2	62	5	74	0	79	145
Total	11	0	9	20	0	0	0	0	0	270	11	281	12	312	0	324	625
Grand Total	44	0	29	73	0	0	0	0	0	903	32	935	29	1022	0	1051	2059
Apprch %	60.3	0	39.7		0	0	0		0	96.6	3.4		2.8	97.2	0		
Total %	2.1	0	1.4	3.5	0	0	0	0	0	43.9	1.6	45.4	1.4	49.6	0	51	

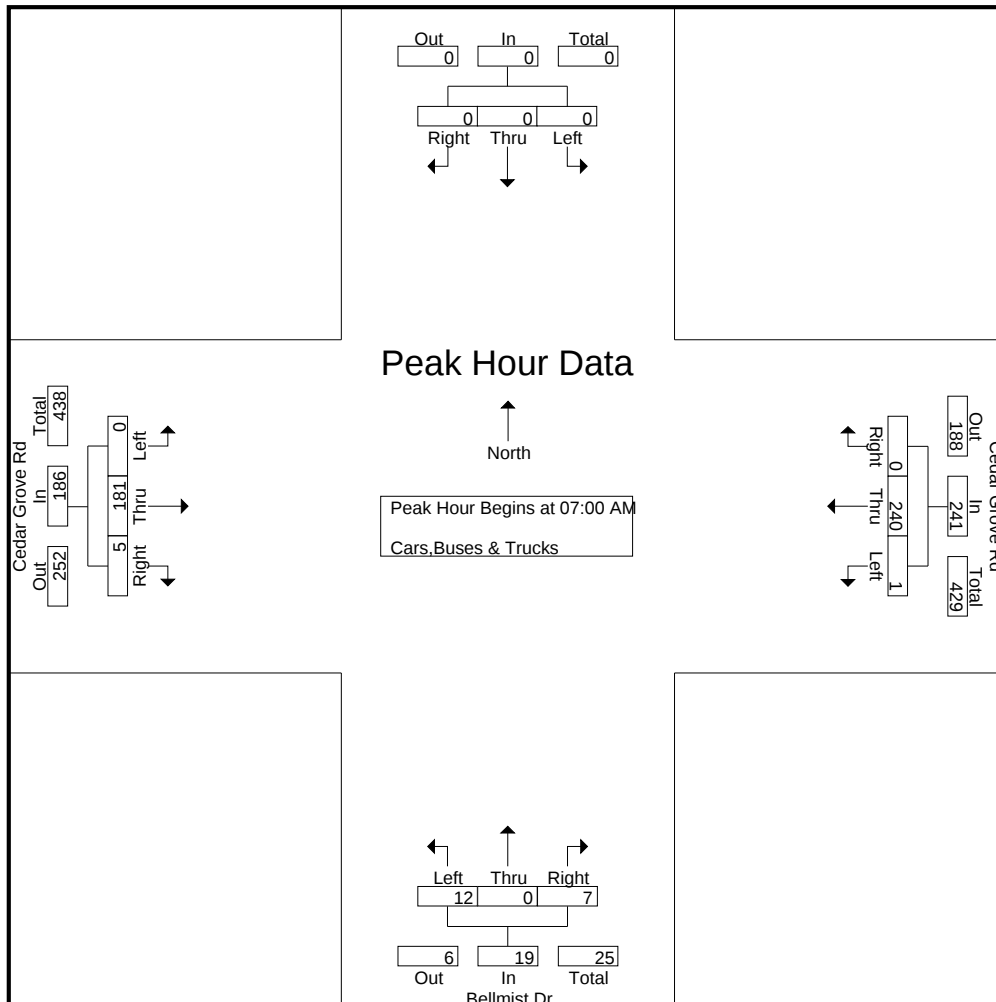
A & R Engineering, Inc.

2160 Kinston Court Suite 'o'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ Bellmist Dr
7-9 am I 4-6 pm

File Name : 20220356
Site Code : 20220356
Start Date : 8/4/2022
Page No : 2

	Bellmist Dr Northbound				Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd 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 07:00 AM																	
07:00 AM	2	0	2	4	0	0	0	0	0	29	0	29	0	67	0	67	100
07:15 AM	4	0	1	5	0	0	0	0	0	47	2	49	0	53	0	53	107
07:30 AM	6	0	3	9	0	0	0	0	0	44	1	45	1	59	0	60	114
07:45 AM	0	0	1	1	0	0	0	0	0	61	2	63	0	61	0	61	125
Total Volume	12	0	7	19	0	0	0	0	0	181	5	186	1	240	0	241	446
% App. Total	63.2	0	36.8		0	0	0		0	97.3	2.7		0.4	99.6	0		
PHF	.500	.000	.583	.528	.000	.000	.000	.000	.000	.742	.625	.738	.250	.896	.000	.899	.892



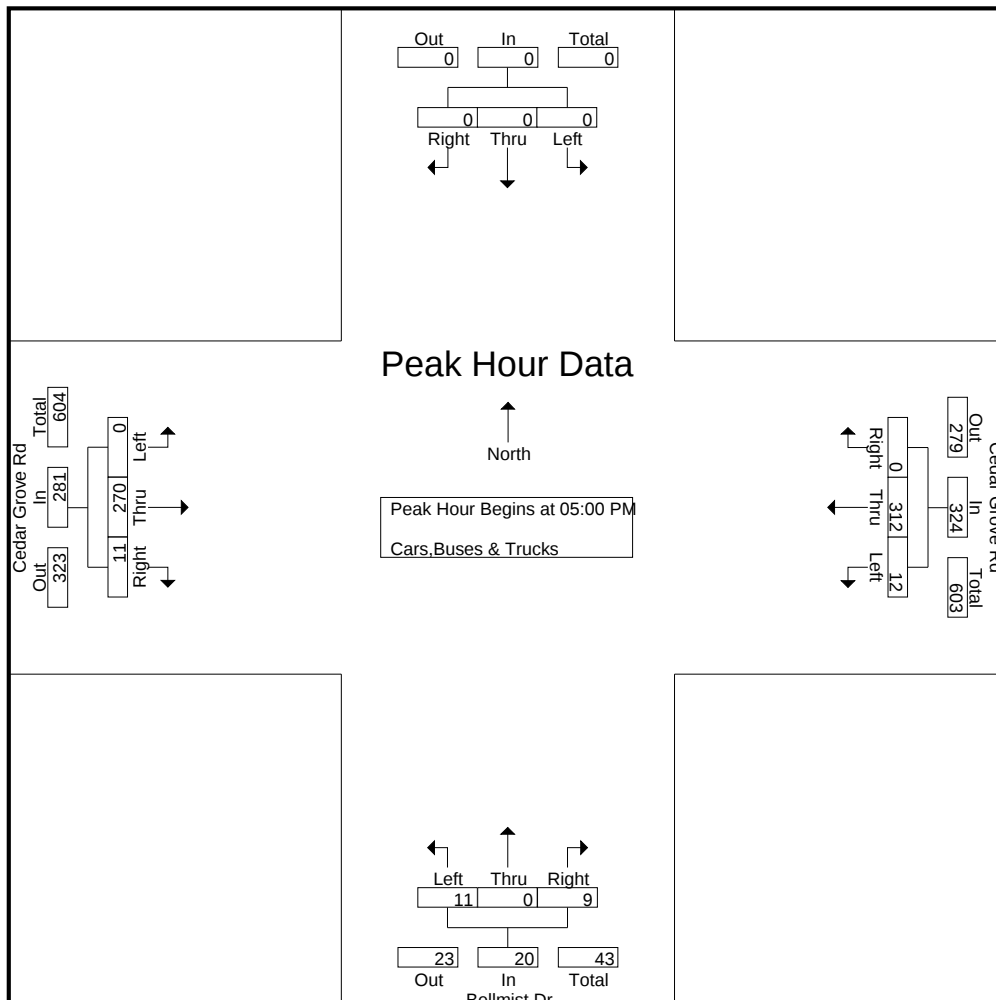
A & R Engineering, Inc.

2160 Kinston Court Suite 'o'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ Bellmist Dr
7-9 am | 4-6 pm

File Name : 20220356
Site Code : 20220356
Start Date : 8/4/2022
Page No : 3

	Bellmist Dr Northbound				Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd 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	1	0	4	5	0	0	0	0	0	63	4	67	4	81	0	85	157
05:15 PM	5	0	0	5	0	0	0	0	0	70	4	74	2	67	0	69	148
05:30 PM	4	0	2	6	0	0	0	0	0	77	1	78	1	90	0	91	175
05:45 PM	1	0	3	4	0	0	0	0	0	60	2	62	5	74	0	79	145
Total Volume	11	0	9	20	0	0	0	0	0	270	11	281	12	312	0	324	625
% App. Total	55	0	45		0	0	0		0	96.1	3.9		3.7	96.3	0		
PHF	.550	.000	.563	.833	.000	.000	.000	.000	.000	.877	.688	.901	.600	.867	.000	.890	.893



A & R Engineering, Inc.

2160 Kinston court Suite 'O'
Marietta,GA 30067

TMC DATA
Cedar Grove Road and Lynmark Way
7-9 am | 4-6 pm

File Name : 20220357
Site Code : 20220357
Start Date : 08-04-2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

Start Time	Lynmark Way Northbound				Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	16	0	3	19	0	0	0	0	0	24	13	37	8	50	0	58	114
07:15 AM	20	0	3	23	0	0	0	0	0	43	10	53	5	53	0	58	134
07:30 AM	23	0	5	28	0	0	0	0	0	50	19	69	6	54	0	60	157
07:45 AM	13	0	6	19	0	0	0	0	0	51	16	67	8	63	0	71	157
Total	72	0	17	89	0	0	0	0	0	168	58	226	27	220	0	247	562
08:00 AM	23	0	6	29	0	0	0	0	0	46	17	63	15	43	0	58	150
08:15 AM	20	0	4	24	0	0	0	0	0	41	23	64	3	51	0	54	142
08:30 AM	21	0	3	24	0	0	0	0	0	33	14	47	7	44	0	51	122
08:45 AM	18	0	6	24	0	0	0	0	0	28	14	42	15	47	0	62	128
Total	82	0	19	101	0	0	0	0	0	148	68	216	40	185	0	225	542
*** BREAK ***																	
04:00 PM	18	0	12	30	0	0	0	0	0	66	28	94	14	73	0	87	211
04:15 PM	25	0	9	34	0	0	0	0	0	79	23	102	11	56	0	67	203
04:30 PM	23	0	14	37	0	0	0	0	0	73	31	104	9	65	0	74	215
04:45 PM	16	0	12	28	0	0	0	0	0	59	44	103	9	56	0	65	196
Total	82	0	47	129	0	0	0	0	0	277	126	403	43	250	0	293	825
05:00 PM	26	0	9	35	0	0	0	0	0	53	34	87	20	65	0	85	207
05:15 PM	26	0	18	44	0	0	0	0	0	65	29	94	11	68	0	79	217
05:30 PM	23	0	12	35	0	0	0	0	0	61	38	99	14	85	0	99	233
05:45 PM	25	0	13	38	0	0	0	0	0	59	23	82	22	57	0	79	199
Total	100	0	52	152	0	0	0	0	0	238	124	362	67	275	0	342	856
Grand Total	336	0	135	471	0	0	0	0	0	831	376	1207	177	930	0	1107	2785
Apprch %	71.3	0	28.7		0	0	0		0	68.8	31.2		16	84	0		
Total %	12.1	0	4.8	16.9	0	0	0	0	0	29.8	13.5	43.3	6.4	33.4	0	39.7	

A & R Engineering, Inc.

2160 Kinston court Suite 'O'
Marietta,GA 30067

TMC DATA

Cedar Grove Road and Lynmark Way

7-9 am | 4-6 pm

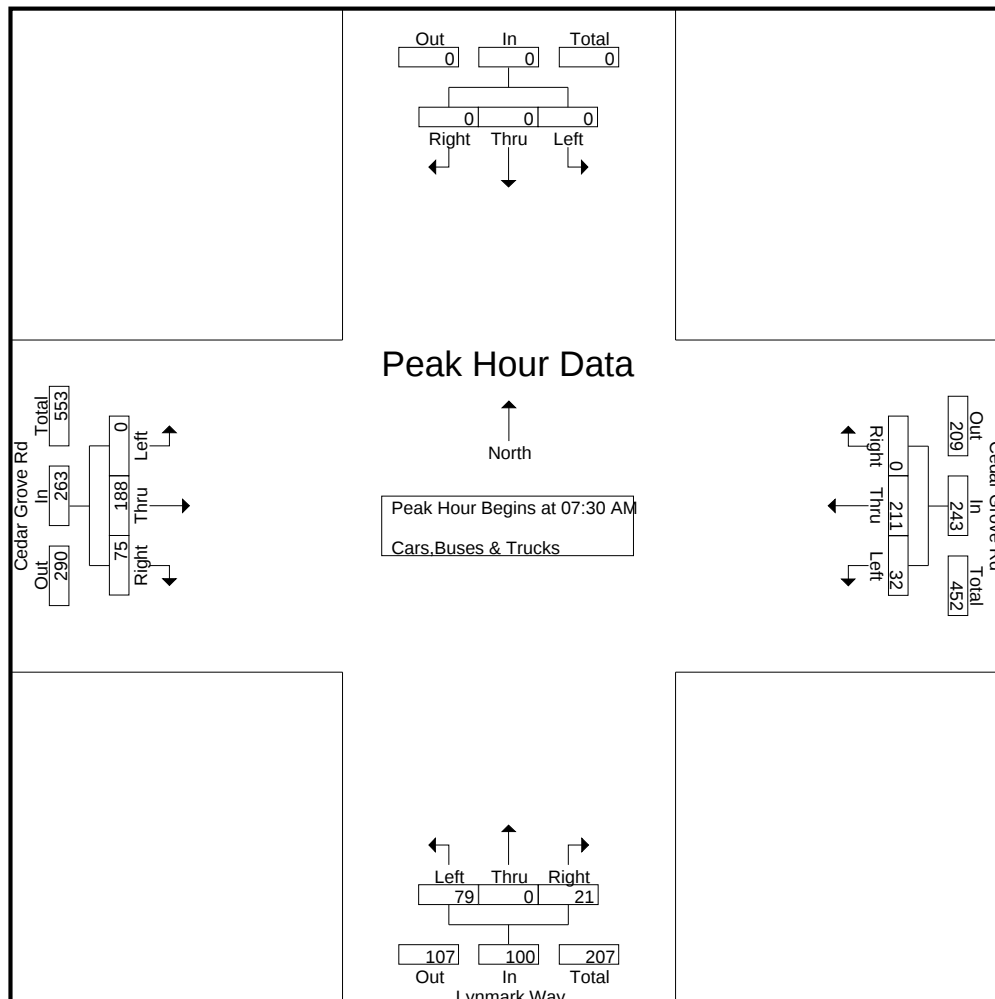
File Name : 20220357

Site Code : 20220357

Start Date : 08-04-2022

Page No : 2

	Lynmark Way Northbound				Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd 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 07:30 AM																	
07:30 AM	23	0	5	28	0	0	0	0	0	50	19	69	6	54	0	60	157
07:45 AM	13	0	6	19	0	0	0	0	0	51	16	67	8	63	0	71	157
08:00 AM	23	0	6	29	0	0	0	0	0	46	17	63	15	43	0	58	150
08:15 AM	20	0	4	24	0	0	0	0	0	41	23	64	3	51	0	54	142
Total Volume	79	0	21	100	0	0	0	0	0	188	75	263	32	211	0	243	606
% App. Total	79	0	21		0	0	0		0	71.5	28.5		13.2	86.8	0		
PHF	.859	.000	.875	.862	.000	.000	.000	.000	.000	.922	.815	.953	.533	.837	.000	.856	.965



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2160 Kinston court Suite 'O'
Marietta,GA 30067

TMC DATA

Cedar Grove Road and Lynmark Way

7-9 am | 4-6 pm

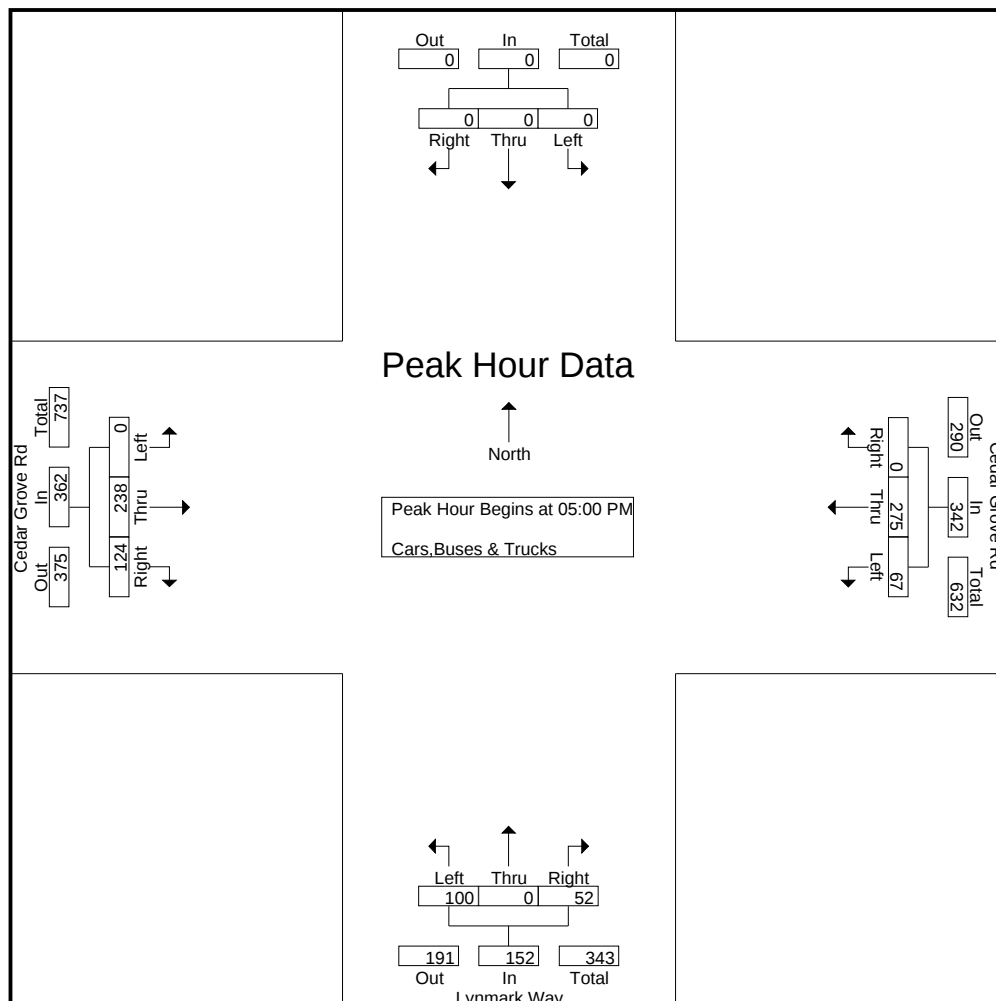
File Name : 20220357

Site Code : 20220357

Start Date : 08-04-2022

Page No : 3

	Lynmark Way Northbound				Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd 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	26	0	9	35	0	0	0	0	0	53	34	87	20	65	0	85	207
05:15 PM	26	0	18	44	0	0	0	0	0	65	29	94	11	68	0	79	217
05:30 PM	23	0	12	35	0	0	0	0	0	61	38	99	14	85	0	99	233
05:45 PM	25	0	13	38	0	0	0	0	0	59	23	82	22	57	0	79	199
Total Volume	100	0	52	152	0	0	0	0	0	238	124	362	67	275	0	342	856
% App. Total	65.8	0	34.2		0	0	0		0	65.7	34.3		19.6	80.4	0		
PHF	.962	.000	.722	.864	.000	.000	.000	.000	.000	.915	.816	.914	.761	.809	.000	.864	.918



A & R Engineering, Inc.

2160 Kinston Court Suite 'o'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ McClure Rd
7-9 am I 4-6 pm

File Name : 20220358
Site Code : 20220358
Start Date : 8/4/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

Start Time	Northbound				McClure Rd Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	2	2	0	31	0	31	0	65	0	65	98
07:15 AM	0	0	0	0	0	0	0	0	1	47	0	48	0	53	0	53	101
07:30 AM	0	0	0	0	0	0	1	1	0	47	0	47	0	59	0	59	107
07:45 AM	0	0	0	0	0	0	0	0	0	62	0	62	0	61	0	61	123
Total	0	0	0	0	0	0	3	3	1	187	0	188	0	238	0	238	429
08:00 AM	0	0	0	0	0	0	1	1	1	44	0	45	0	50	1	51	97
08:15 AM	0	0	0	0	1	0	2	3	0	43	0	43	0	52	0	52	98
08:30 AM	0	0	0	0	0	0	1	1	1	41	0	42	0	51	0	51	94
08:45 AM	0	0	0	0	0	0	1	1	1	28	0	29	0	54	0	54	84
Total	0	0	0	0	1	0	5	6	3	156	0	159	0	207	1	208	373
*** BREAK ***																	
04:00 PM	0	0	0	0	1	0	2	3	1	79	0	80	0	73	0	73	156
04:15 PM	0	0	0	0	0	0	1	1	2	88	0	90	0	55	0	55	146
04:30 PM	0	0	0	0	0	0	3	3	1	65	0	66	0	78	0	78	147
04:45 PM	0	0	0	0	0	0	2	2	0	70	0	70	0	60	1	61	133
Total	0	0	0	0	1	0	8	9	4	302	0	306	0	266	1	267	582
05:00 PM	0	0	0	0	1	0	2	3	1	66	0	67	0	83	0	83	153
05:15 PM	0	0	0	0	0	0	1	1	2	68	0	70	0	68	0	68	139
05:30 PM	0	0	0	0	0	0	2	2	1	78	0	79	0	89	0	89	170
05:45 PM	0	0	0	0	0	0	1	1	2	61	0	63	0	78	1	79	143
Total	0	0	0	0	1	0	6	7	6	273	0	279	0	318	1	319	605
Grand Total	0	0	0	0	3	0	22	25	14	918	0	932	0	1029	3	1032	1989
Apprch %	0	0	0		12	0	88		1.5	98.5	0		0	99.7	0.3		
Total %	0	0	0	0	0.2	0	1.1	1.3	0.7	46.2	0	46.9	0	51.7	0.2	51.9	

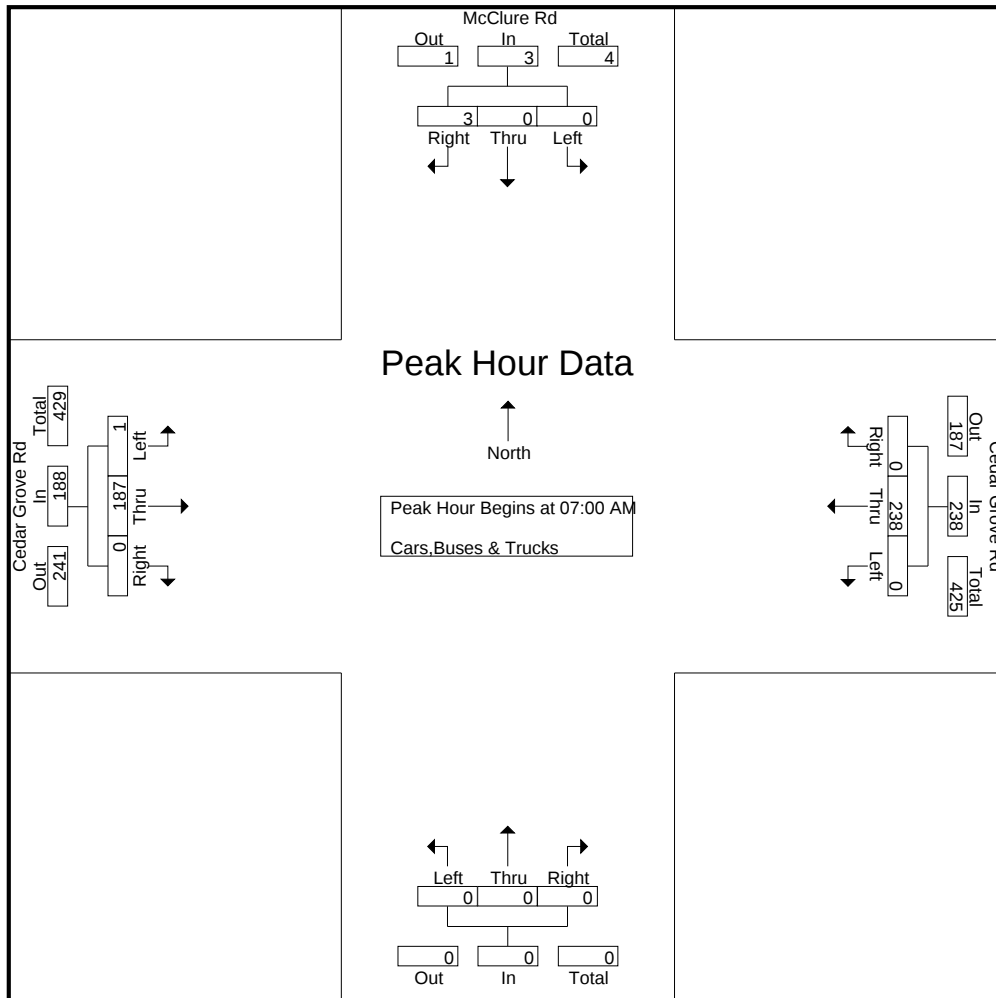
A & R Engineering, Inc.

2160 Kinston Court Suite 'o'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ McClure Rd
7-9 am I 4-6 pm

File Name : 20220358
Site Code : 20220358
Start Date : 8/4/2022
Page No : 2

	Northbound				McClure Rd Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd 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 07:00 AM																	
07:00 AM	0	0	0	0	0	0	2	2	0	31	0	31	0	65	0	65	98
07:15 AM	0	0	0	0	0	0	0	0	1	47	0	48	0	53	0	53	101
07:30 AM	0	0	0	0	0	0	1	1	0	47	0	47	0	59	0	59	107
07:45 AM	0	0	0	0	0	0	0	0	0	62	0	62	0	61	0	61	123
Total Volume	0	0	0	0	0	0	3	3	1	187	0	188	0	238	0	238	429
% App. Total	0	0	0	0	0	0	100		0.5	99.5	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.375	.375	.250	.754	.000	.758	.000	.915	.000	.915	.872



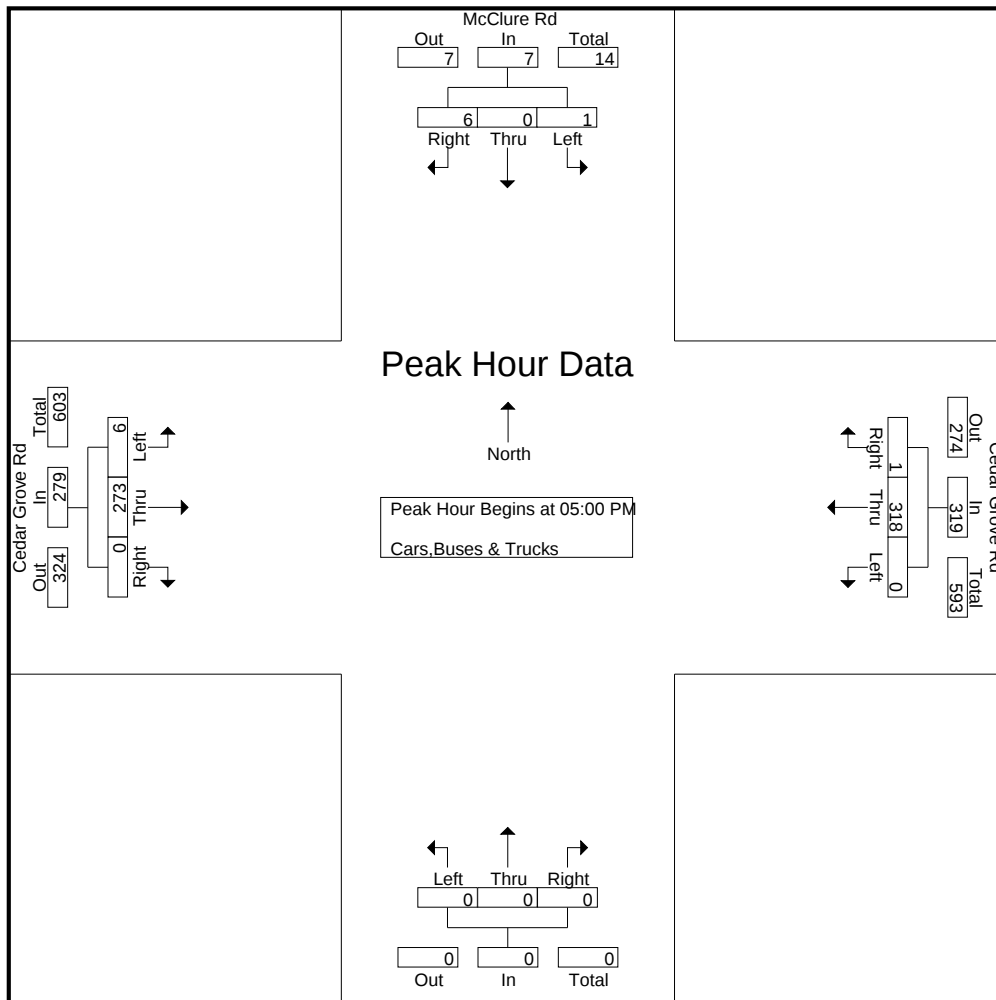
A & R Engineering, Inc.

2160 Kinston Court Suite 'o'
Marietta, GA 30067

TMC Data
Cedar Grove Rd @ McClure Rd
7-9 am | 4-6 pm

File Name : 20220358
Site Code : 20220358
Start Date : 8/4/2022
Page No : 3

	Northbound				McClure Rd Southbound				Cedar Grove Rd Eastbound				Cedar Grove Rd 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	0	0	0	0	1	0	2	3	1	66	0	67	0	83	0	83	153
05:15 PM	0	0	0	0	0	0	1	1	2	68	0	70	0	68	0	68	139
05:30 PM	0	0	0	0	0	0	2	2	1	78	0	79	0	89	0	89	170
05:45 PM	0	0	0	0	0	0	1	1	2	61	0	63	0	78	1	79	143
Total Volume	0	0	0	0	1	0	6	7	6	273	0	279	0	318	1	319	605
% App. Total	0	0	0		14.3	0	85.7		2.2	97.8	0		0	99.7	0.3		
PHF	.000	.000	.000	.000	.250	.000	.750	.583	.750	.875	.000	.883	.000	.893	.250	.896	.890



A & R Engineering, Inc.

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

TMC DATA

S Fulton Pkwy @ Rosewood PI

7-9 am | 4-6 pm

File Name : 20220414

Site Code : 20220414

Start Date : 9/8/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Rosewood PI Northbound				Southbound				S Fulton Pkwy Eastbound				S Fulton Pkwy 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
07:00 AM	6	0	29	35	0	0	0	0	0	317	2	319	1	112	0	113	467
07:15 AM	7	0	52	59	0	0	0	0	0	326	4	330	10	130	0	140	529
07:30 AM	15	0	26	41	0	0	0	0	0	321	2	323	11	208	0	219	583
07:45 AM	10	0	26	36	0	0	0	0	0	295	6	301	9	180	0	189	526
Total	38	0	133	171	0	0	0	0	0	1259	14	1273	31	630	0	661	2105
08:00 AM	12	0	13	25	0	0	0	0	0	300	7	307	9	171	0	180	512
08:15 AM	10	0	13	23	0	0	0	0	0	291	5	296	11	167	0	178	497
08:30 AM	11	0	11	22	0	0	0	0	0	286	6	292	8	164	0	172	486
08:45 AM	9	0	14	23	0	0	0	0	0	277	4	281	6	158	0	164	468
Total	42	0	51	93	0	0	0	0	0	1154	22	1176	34	660	0	694	1963
*** BREAK ***																	
04:00 PM	3	0	9	12	0	0	0	0	0	160	9	169	24	317	0	341	522
04:15 PM	6	0	10	16	0	0	0	0	0	165	5	170	15	339	0	354	540
04:30 PM	3	0	12	15	0	0	0	0	0	156	12	168	19	328	0	347	530
04:45 PM	8	0	11	19	0	0	0	0	0	130	11	141	17	369	0	386	546
Total	20	0	42	62	0	0	0	0	0	611	37	648	75	1353	0	1428	2138
05:00 PM	11	0	9	20	0	0	0	0	0	171	5	176	21	356	0	377	573
05:15 PM	7	0	10	17	0	0	0	0	0	163	4	167	9	362	0	371	555
05:30 PM	5	0	14	19	0	0	0	0	0	147	7	154	29	377	0	406	579
05:45 PM	2	0	12	14	0	0	0	0	0	151	6	157	25	349	0	374	545
Total	25	0	45	70	0	0	0	0	0	632	22	654	84	1444	0	1528	2252
Grand Total	125	0	271	396	0	0	0	0	0	3656	95	3751	224	4087	0	4311	8458
Apprch %	31.6	0	68.4		0	0	0		0	97.5	2.5		5.2	94.8	0		
Total %	1.5	0	3.2	4.7	0	0	0	0	0	43.2	1.1	44.3	2.6	48.3	0	51	

A & R Engineering, Inc.

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

TMC DATA

S Fulton Pkwy @ Rosewood PI

7-9 am | 4-6 pm

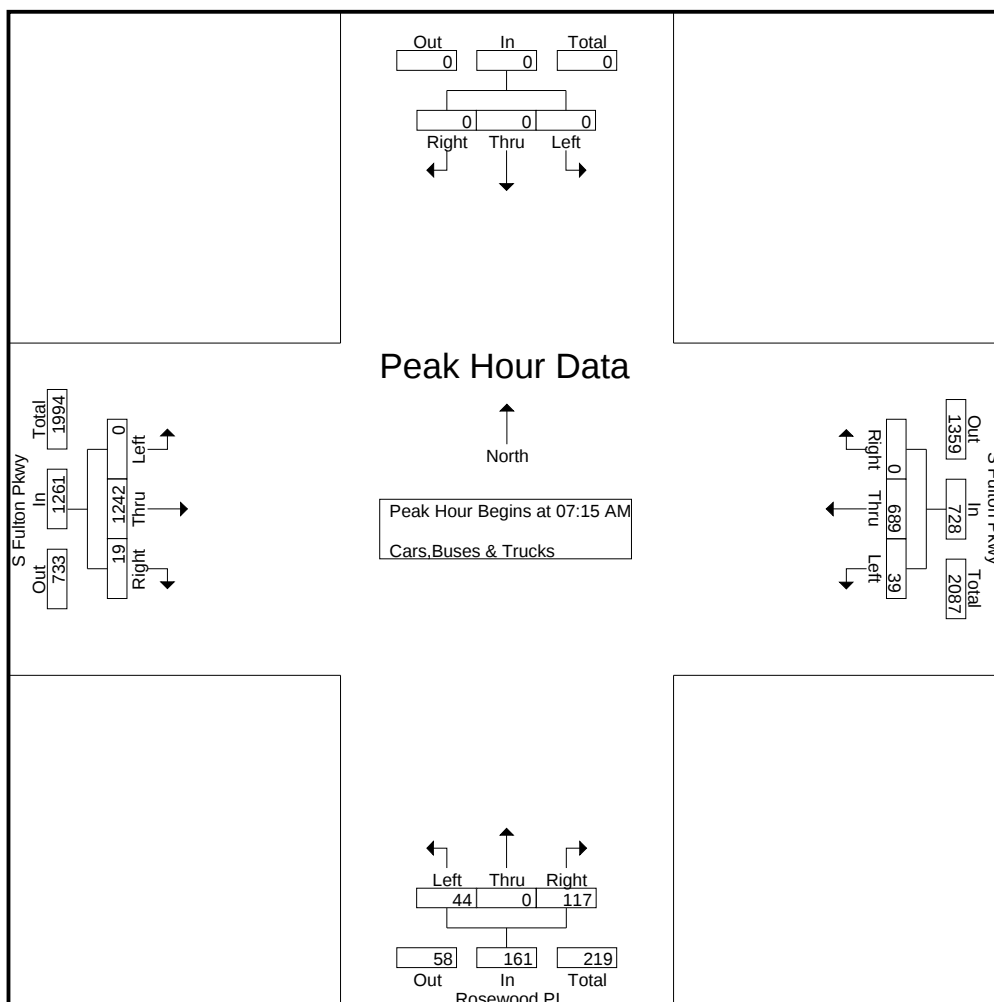
File Name : 20220414

Site Code : 20220414

Start Date : 9/8/2022

Page No : 2

	Rosewood PI Northbound				Southbound				S Fulton Pkwy Eastbound				S Fulton Pkwy 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 07:15 AM																	
07:15 AM	7	0	52	59	0	0	0	0	0	326	4	330	10	130	0	140	529
07:30 AM	15	0	26	41	0	0	0	0	0	321	2	323	11	208	0	219	583
07:45 AM	10	0	26	36	0	0	0	0	0	295	6	301	9	180	0	189	526
08:00 AM	12	0	13	25	0	0	0	0	0	300	7	307	9	171	0	180	512
Total Volume	44	0	117	161	0	0	0	0	0	1242	19	1261	39	689	0	728	2150
% App. Total	27.3	0	72.7		0	0	0		0	98.5	1.5		5.4	94.6	0		
PHF	.733	.000	.563	.682	.000	.000	.000	.000	.000	.952	.679	.955	.886	.828	.000	.831	.922



A & R Engineering, Inc.

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

TMC DATA

S Fulton Pkwy @ Rosewood PI

7-9 am | 4-6 pm

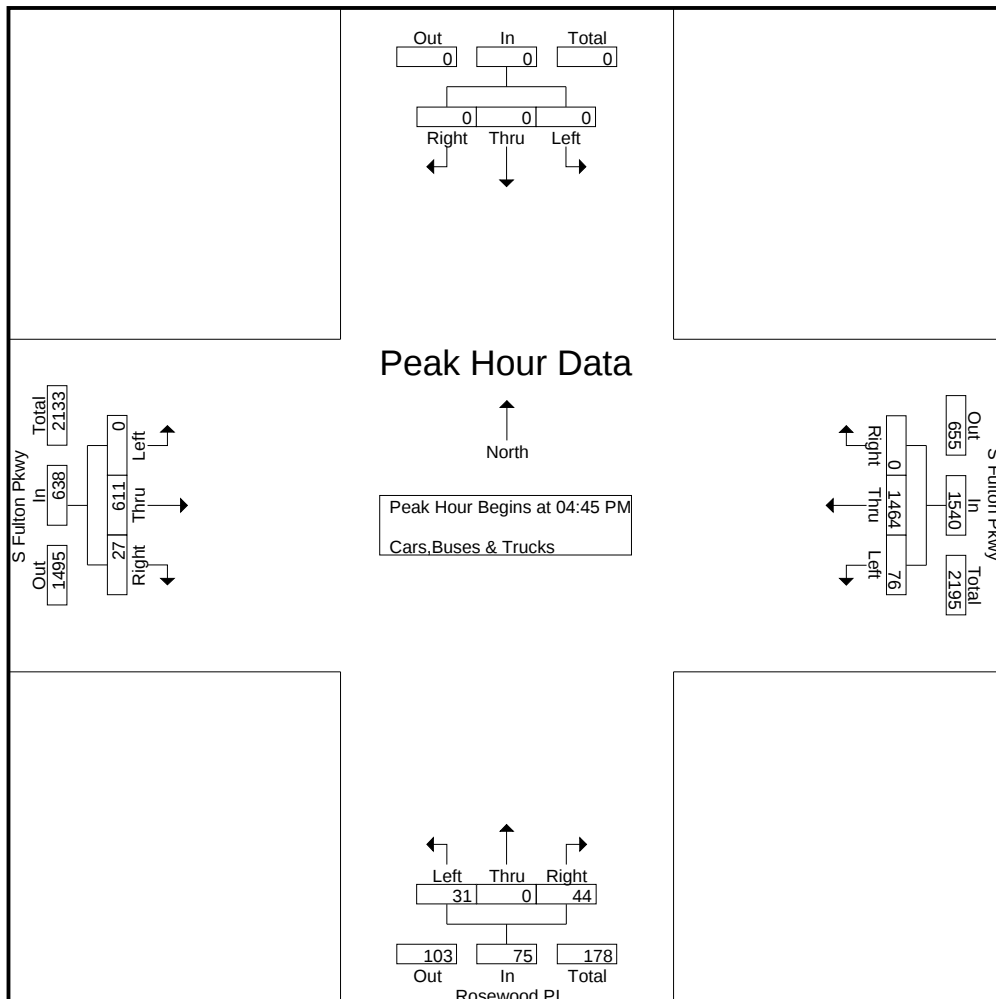
File Name : 20220414

Site Code : 20220414

Start Date : 9/8/2022

Page No : 3

	Rosewood PI Northbound				Southbound				S Fulton Pkwy Eastbound				S Fulton Pkwy 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 04:45 PM																	
04:45 PM	8	0	11	19	0	0	0	0	0	130	11	141	17	369	0	386	546
05:00 PM	11	0	9	20	0	0	0	0	0	171	5	176	21	356	0	377	573
05:15 PM	7	0	10	17	0	0	0	0	0	163	4	167	9	362	0	371	555
05:30 PM	5	0	14	19	0	0	0	0	0	147	7	154	29	377	0	406	579
Total Volume	31	0	44	75	0	0	0	0	0	611	27	638	76	1464	0	1540	2253
% App. Total	41.3	0	58.7		0	0	0		0	95.8	4.2		4.9	95.1	0		
PHF	.705	.000	.786	.938	.000	.000	.000	.000	.000	.893	.614	.906	.655	.971	.000	.948	.973



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC Data
Cedar Grove Road @ Parks Trail
7-9 am I 4-6 pm

File Name : 20220415
Site Code : 20220415
Start Date : 9/8/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Cedar Grove Road Northbound				Cedar Grove Road Southbound				Eastbound				Parks 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
07:00 AM	0	57	1	58	1	29	0	30	0	0	0	0	1	0	9	10	98
07:15 AM	0	70	0	70	2	50	0	52	0	0	0	0	2	0	12	14	136
07:30 AM	0	62	0	62	4	63	0	67	0	0	0	0	3	0	21	24	153
07:45 AM	0	59	3	62	3	59	0	62	0	0	0	0	2	0	14	16	140
Total	0	248	4	252	10	201	0	211	0	0	0	0	8	0	56	64	527
08:00 AM	0	73	4	77	5	57	0	62	0	0	0	0	2	0	11	13	152
08:15 AM	0	58	5	63	8	47	0	55	0	0	0	0	4	0	11	15	133
08:30 AM	0	46	0	46	4	56	0	60	0	0	0	0	2	0	15	17	123
08:45 AM	0	45	0	45	7	31	0	38	0	0	0	0	4	0	10	14	97
Total	0	222	9	231	24	191	0	215	0	0	0	0	12	0	47	59	505
*** BREAK ***																	
04:00 PM	0	67	8	75	11	72	0	83	0	0	0	0	3	0	5	8	166
04:15 PM	0	82	1	83	15	77	0	92	0	0	0	0	1	0	7	8	183
04:30 PM	0	67	0	67	14	72	0	86	0	0	0	0	2	0	6	8	161
04:45 PM	0	62	2	64	10	50	0	60	0	0	0	0	3	0	7	10	134
Total	0	278	11	289	50	271	0	321	0	0	0	0	9	0	25	34	644
05:00 PM	0	81	10	91	14	80	0	94	0	0	0	0	4	0	6	10	195
05:15 PM	0	86	6	92	9	65	0	74	0	0	0	0	6	0	8	14	180
05:30 PM	0	75	11	86	12	76	0	88	0	0	0	0	4	0	6	10	184
05:45 PM	0	71	1	72	6	78	0	84	0	0	0	0	2	0	11	13	169
Total	0	313	28	341	41	299	0	340	0	0	0	0	16	0	31	47	728
Grand Total	0	1061	52	1113	125	962	0	1087	0	0	0	0	45	0	159	204	2404
Apprch %	0	95.3	4.7		11.5	88.5	0		0	0	0		22.1	0	77.9		
Total %	0	44.1	2.2	46.3	5.2	40	0	45.2	0	0	0	0	1.9	0	6.6	8.5	

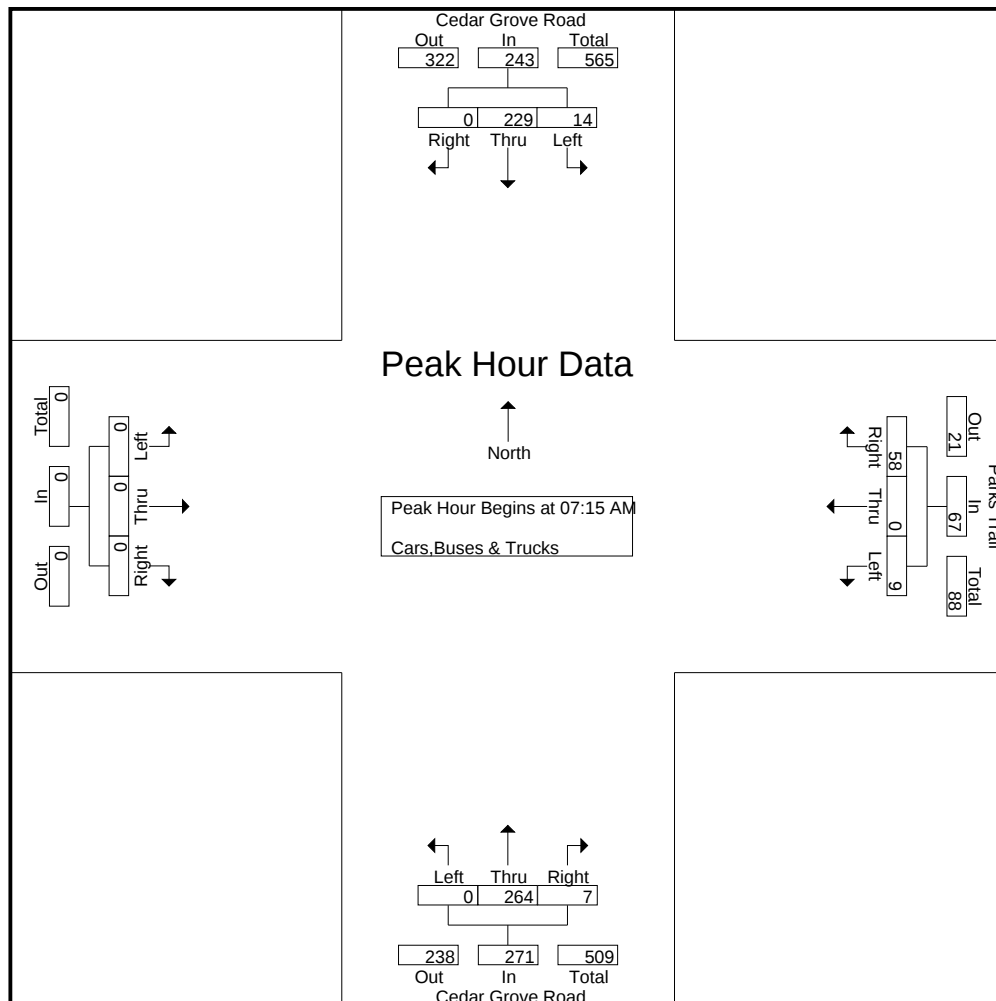
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TMC Data
Cedar Grove Road @ Parks Trail
7-9 am | 4-6 pm

File Name : 20220415
Site Code : 20220415
Start Date : 9/8/2022
Page No : 2

	Cedar Grove Road Northbound				Cedar Grove Road Southbound				Eastbound				Parks 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 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	70	0	70	2	50	0	52	0	0	0	0	2	0	12	14	136
07:30 AM	0	62	0	62	4	63	0	67	0	0	0	0	3	0	21	24	153
07:45 AM	0	59	3	62	3	59	0	62	0	0	0	0	2	0	14	16	140
08:00 AM	0	73	4	77	5	57	0	62	0	0	0	0	2	0	11	13	152
Total Volume	0	264	7	271	14	229	0	243	0	0	0	0	9	0	58	67	581
% App. Total	0	97.4	2.6		5.8	94.2	0		0	0	0		13.4	0	86.6		
PHF	.000	.904	.438	.880	.700	.909	.000	.907	.000	.000	.000	.000	.750	.000	.690	.698	.949



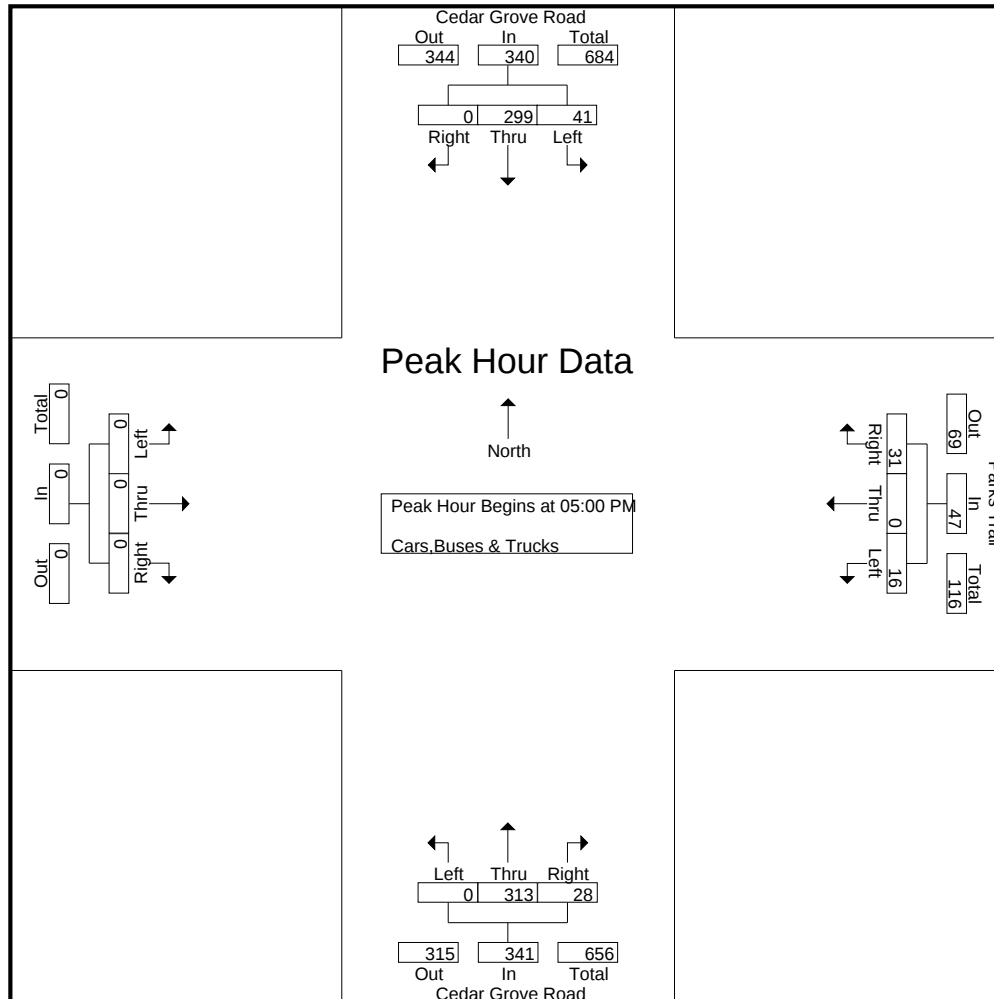
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	Cedar Grove Road Northbound				Cedar Grove Road Southbound				Eastbound				Parks Trail Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	81	10	91	14	80	0	94	0	0	0	0	4	0	6	10	195
05:15 PM	0	86	6	92	9	65	0	74	0	0	0	0	6	0	8	14	180
05:30 PM	0	75	11	86	12	76	0	88	0	0	0	0	4	0	6	10	184
05:45 PM	0	71	1	72	6	78	0	84	0	0	0	0	2	0	11	13	169
Total Volume	0	313	28	341	41	299	0	340	0	0	0	0	16	0	31	47	728
% App. Total	0	91.8	8.2		12.1	87.9	0		0	0	0		34	0	66		
PHF	.000	.910	.636	.927	.732	.934	.000	.904	.000	.000	.000	.000	.667	.000	.705	.839	.933



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TMC DATA

Cedar Grove Rd @ The Lakes Dr
7-9 am | 4-6 pm

File Name : 20220416

Site Code : 20220416

Start Date : 9/8/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Cedar Grove Rd Northbound				Cedar Grove Rd Southbound				The Lakes Dr Eastbound				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
07:00 AM	1	46	0	47	0	43	3	46	10	0	4	14	0	0	0	0	107
07:15 AM	4	46	0	50	0	54	3	57	6	0	4	10	0	0	0	0	117
07:30 AM	1	45	0	46	0	57	5	62	10	0	2	12	0	0	0	0	120
07:45 AM	4	61	0	65	0	49	1	50	8	0	8	16	0	0	0	0	131
Total	10	198	0	208	0	203	12	215	34	0	18	52	0	0	0	0	475
08:00 AM	3	50	0	53	0	52	5	57	13	0	4	17	0	0	0	0	127
08:15 AM	2	40	0	42	0	47	2	49	2	0	10	12	0	0	0	0	103
08:30 AM	3	36	0	39	0	34	1	35	4	0	5	9	0	0	0	0	83
08:45 AM	1	41	0	42	0	40	2	42	4	0	4	8	0	0	0	0	92
Total	9	167	0	176	0	173	10	183	23	0	23	46	0	0	0	0	405
*** BREAK ***																	
04:00 PM	5	71	0	76	0	60	5	65	4	0	8	12	0	0	0	0	153
04:15 PM	8	67	0	75	0	63	6	69	8	0	8	16	0	0	0	0	160
04:30 PM	10	58	0	68	0	55	3	58	1	0	8	9	0	0	0	0	135
04:45 PM	9	82	0	91	0	66	9	75	6	0	3	9	0	0	0	0	175
Total	32	278	0	310	0	244	23	267	19	0	27	46	0	0	0	0	623
05:00 PM	6	79	0	85	0	63	6	69	2	0	12	14	0	0	0	0	168
05:15 PM	5	76	0	81	0	59	7	66	6	0	4	10	0	0	0	0	157
05:30 PM	11	71	0	82	0	61	6	67	4	0	13	17	0	0	0	0	166
05:45 PM	7	55	0	62	0	66	5	71	1	0	10	11	0	0	0	0	144
Total	29	281	0	310	0	249	24	273	13	0	39	52	0	0	0	0	635
Grand Total	80	924	0	1004	0	869	69	938	89	0	107	196	0	0	0	0	2138
Apprch %	8	92	0		0	92.6	7.4		45.4	0	54.6		0	0	0		
Total %	3.7	43.2	0	47	0	40.6	3.2	43.9	4.2	0	5	9.2	0	0	0	0	

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TMC DATA

Cedar Grove Rd @ The Lakes Dr
7-9 am | 4-6 pm

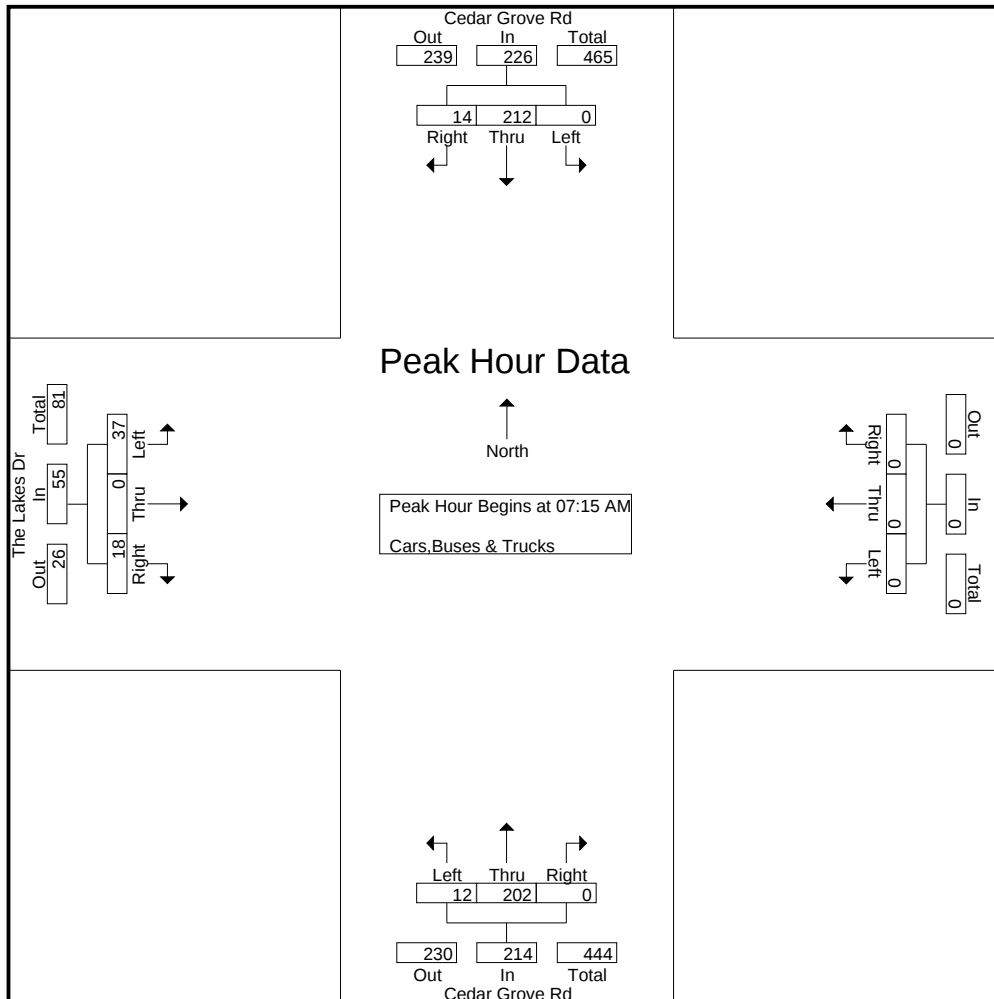
File Name : 20220416

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	Cedar Grove Rd Northbound				Cedar Grove Rd Southbound				The Lakes Dr Eastbound				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 07:15 AM																	
07:15 AM	4	46	0	50	0	54	3	57	6	0	4	10	0	0	0	0	117
07:30 AM	1	45	0	46	0	57	5	62	10	0	2	12	0	0	0	0	120
07:45 AM	4	61	0	65	0	49	1	50	8	0	8	16	0	0	0	0	131
08:00 AM	3	50	0	53	0	52	5	57	13	0	4	17	0	0	0	0	127
Total Volume	12	202	0	214	0	212	14	226	37	0	18	55	0	0	0	0	495
% App. Total	5.6	94.4	0		0	93.8	6.2		67.3	0	32.7		0	0	0		
PHF	.750	.828	.000	.823	.000	.930	.700	.911	.712	.000	.563	.809	.000	.000	.000	.000	.945



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TMC DATA

Cedar Grove Rd @ The Lakes Dr
7-9 am | 4-6 pm

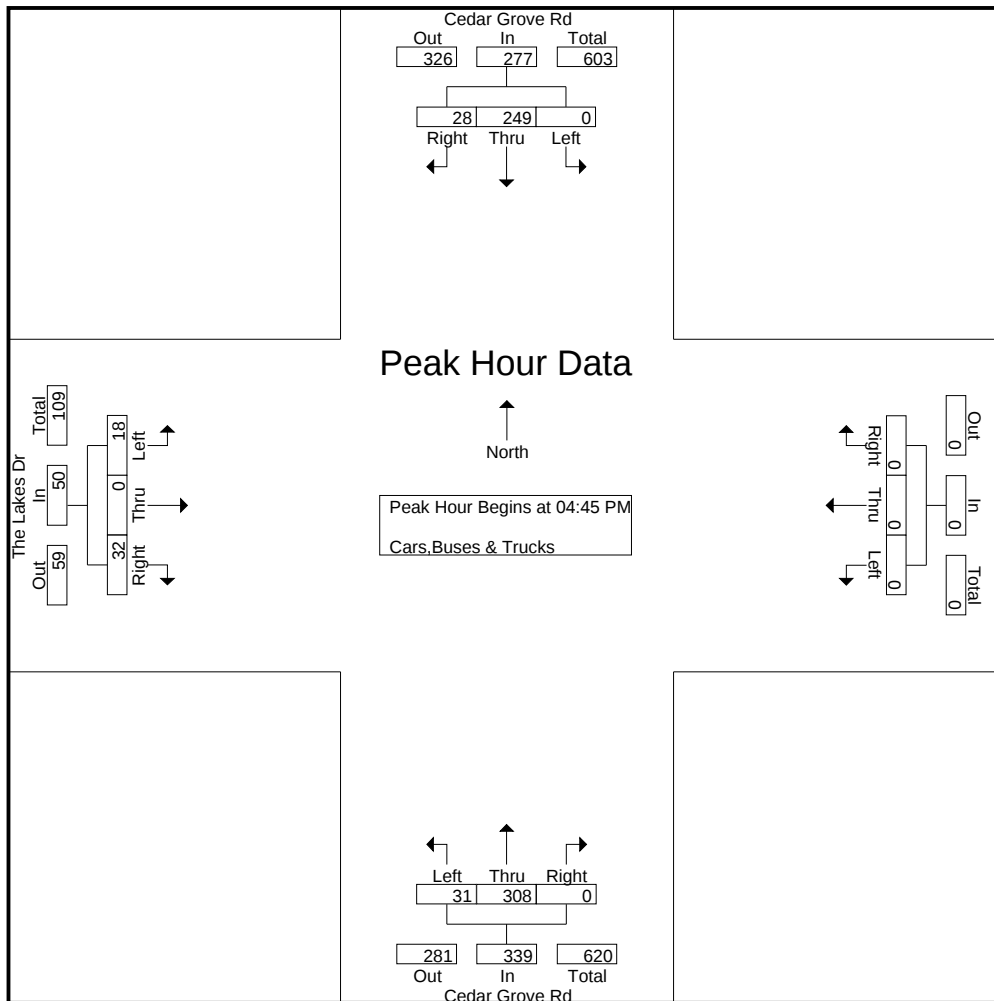
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	Cedar Grove Rd Northbound				Cedar Grove Rd Southbound				The Lakes Dr Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	9	82	0	91	0	66	9	75	6	0	3	9	0	0	0	0	175
05:00 PM	6	79	0	85	0	63	6	69	2	0	12	14	0	0	0	0	168
05:15 PM	5	76	0	81	0	59	7	66	6	0	4	10	0	0	0	0	157
05:30 PM	11	71	0	82	0	61	6	67	4	0	13	17	0	0	0	0	166
Total Volume	31	308	0	339	0	249	28	277	18	0	32	50	0	0	0	0	666
% App. Total	9.1	90.9	0		0	89.9	10.1		36	0	64		0	0	0		
PHF	.705	.939	.000	.931	.000	.943	.778	.923	.750	.000	.615	.735	.000	.000	.000	.000	.951



GRTA Letter of Understanding



LETTER OF UNDERSTANDING

September 19, 2022

William Harrison Merrill
WHM Chattahoochee Hills Investment, LLC
8000 Capps Ferry Road
Douglasville, GA 30135

RE: **Cedar Grove Village Center, DRI #3739**

Dear William Merrill:

The purpose of this Letter of Understanding is to document the discussions during the Methodology Meeting held virtually on August 18, 2022 regarding **Cedar Grove Village Center DRI#3739** Development of Regional Impact (DRI). The *GRTA DRI Review Procedures*, as well as the inputs and parameters documented in this Letter of Understanding and the revised Methodology Meeting Packet, shall be adhered to in preparing the GRTA required Transportation Study.

PROJECT OVERVIEW

- The proposed site is located at between South Fulton Parkway and McClure Road to the north of Cedar Grove Road.
- The proposed development includes 16 single-family detached housing units, 344 single-family attached housing units, 436 multifamily housing (mid-rise) units, 35,240 square feet of general office building space, 14,000 square feet of strip retail plaza, and 16,080 square feet of fast-casual restaurant space.
- The projected build-out is one phase to be completed by 2030.
- The proposed development includes (3) full site accesses along Cedar Grove Road.
- The DRI trigger for this development is a rezoning.
- The vehicular trip generation is estimated to be 6,794 net daily trips based on the *ITE Trip Generation Manual 11th edition*.
- The applicant is applying for approval under GRTA's non-expedited Traffic Impact Study review process.

STUDY NETWORK

1. South Fulton Parkway and Rosewood Place
2. South Fulton Parkway and SR 92
3. South Fulton Parkway and Cedar Grove Road
4. Cedar Grove Road and Lynmark Way
5. Cedar Grove Road and Bellmist Drive
6. Cedar Grove Road and McClure Road
7. Cedar Grove Road and Parks Trail
8. Cedar Grove Road and The Lakes Drive

9. Cedar Grove Road and Rivertown Road
10. Rivertown Road and John Rivers Road
11. Rivertown Road and Virlyn B Smith Road

METHODOLOGY MEETING PACKET INPUTS & PARAMETERS

- The Site Plan shall meet all the applicable requirements in Section 7.1 of the *GRTA DRI Review Procedures*.
- All Study Network intersections shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future “no-build” conditions, and (3) future “build” conditions as specified in the *GRTA DRI Review Procedures*.
- This DRI shall be modeled and reviewed in one phase to be completed by 2030.
- The Level of Service (LOS) standard for all analysis shall be LOS D unless specified otherwise in Section 3.2.2.1. For example, a LOS E standard is allowed if the existing LOS for the intersection or approach is a LOS F.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account as required in Section 3.2.2.
- The trip generation calculations in the revised Methodology Meeting Packet shall be used in the Transportation Study. Alternative mode and mixed-use reductions are allowed for this site. Pass-by reductions shall not exceed 15% of a roadway’s traffic volume standard established in Appendix 7.2.
- The trip assignment approach in the revised Methodology Meeting Packet shall be utilized for all Study Network intersection movements.
- The applicant shall research TIP, STIP, RTP and GDOT’s construction work program, as well as any local government and transit operator plans (SPLOST, CIP, etc.), to determine the open date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. Programmed transportation projects anticipated to open on or before the Build Out year of the DRI Project shall be modeled as completed in the No-Build and Build conditions unless approved otherwise.
- A 4.8% annual traffic Background Growth Rate shall be used for all roadways.
- 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, unless specified otherwise. As specified in Section 2.3, turning movement counts shall be collected while local schools are in session, on a Tuesday, Wednesday or Thursday (unless approved otherwise) and not during holiday periods (weeks of July 4th, Thanksgiving and +/- 5 days of Christmas).
- If the *GRTA DRI Review Procedures* requires an Enhanced Focus Area for Heavy Vehicles or an Enhanced Focus Area for Dense Urban Environments, the Transportation Study shall incorporate the inputs and parameters agreed to at the Methodology Meeting and documented in the revised Methodology Meeting Packet. These inputs may include a Heavy Vehicle modeling percentages, a Heavy Vehicle route map, a pedestrian crosswalk delay adjustment and a bus blockage adjustment factor.

ADDITIONAL REQUIREMENTS

All applicable requirements of the *GRTA DRI Review Procedures* must be met for the Transportation Study to be considered complete. The *GRTA DRI Review Procedures* are located on GRTA's DRI website: <https://www.srta.ga.gov/programs-projects/dev-of-regional-impact/> Contact GRTA staff if you have any questions on these requirements.

The Transportation Study shall also include as attachments the native LOS modeling file (i.e., Synchro modeling files) as well as the modeling reports (PDFs) for all Study Network intersections for the Existing, No-Build and Build conditions for all phases. The PDF reports shall be numbered (in page headers) and organized in order according to the Study Network numbering sequence in this Letter of Understanding. The reports shall also be organized in the following sequence: *Existing condition AM, Existing condition PM, No-build condition AM, No-Build condition PM, Build condition AM, Build condition PM*. If improvements are modeled, those PDFs shall be labeled as such and follow the appropriate condition's applicable peak period.

The Transportation Study appendices shall also include all turning movement count data, regardless of if using historic data or newly collected turning movement counts.

When documenting any Queue Length impacts required in Section 3.2.3.6, the TIS Executive Summary shall also note any individual *movements* not meeting the LOS standard where the DRI Project adds trips in the Build condition and exceeds available storage capacity for that movement.

When identifying mitigations in the existing, no-build and build conditions, the mitigations identified in preceding conditions shall not be modeled as complete when conducting the LOS analysis. The same mitigation may still be proposed as mitigation in the subsequent condition but it shall not be included as completed in the default analysis. For example, a turn lane may be identified as a needed improvement in the no-build condition. The turn lane should not be modeled as completed in the build condition. The turn lane should only be modeled as complete in the no-build with improvements condition and the build with improvements condition.

DRI REVIEW PACKAGE SUBMITTAL

GRTA will begin reviewing the DRI once the DRI Review Package is submitted and deemed complete. The DRI Review Package includes: the permitting Local Government inputting both Department of Community Affairs (DCA) forms into the DCA DRI website; and the **Traffic Engineer submittal of the GRTA Transportation Study (including LOS appendices, traffic count data and any other required attachments) and Site Plan to GRTA staff and ALL stakeholders included in the CC list of this Letter of Understanding.**

All DRI Review Packages shall be submitted electronically via email to all stakeholders in the CC list of the Letter of Understanding. If the DRI Review Package total file size is greater than 10 MB, the DRI Review Package shall be submitted via email with a FTP link provided for downloading the files.

Please contact me if you have any questions about the Letter of Understanding or the *GRTA DRI Review Procedures*.

Sincerely,

Elizabeth Davis
Senior Transit Planner
Georgia Regional Transportation Authority

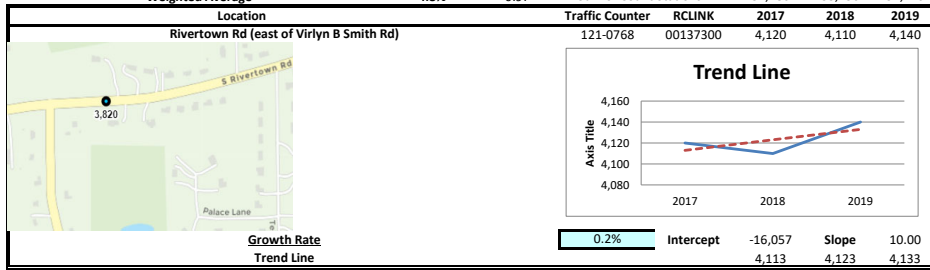
Cc:

Donald Shockey, ARC
Aries Little, ARC
Marissa Jackson, City of South Fulton
Megan R Wilson, GDOT
Natavis Harris, MARTA
Corentin Auguin, MARTA
Emma Polhemus, MARTA
David Nussr, MARTA
Ken Hildebrandt, Tucker, GA
December Weir, GRTA/ATL

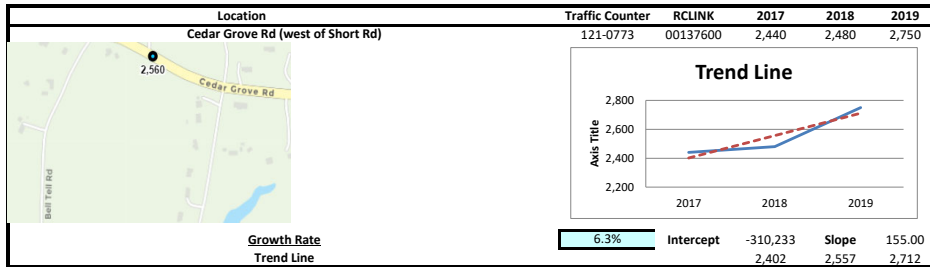
Naila Amer, A&R Engineering
Abdul Amer, A&R Engineering
Justin Purucker, Prime Engineering
Rob MacPherson, Prime Engineering
Jia Li, TSW Design
Ryan Snodgrass, TSW Design

Linear Regression of Daily Traffic

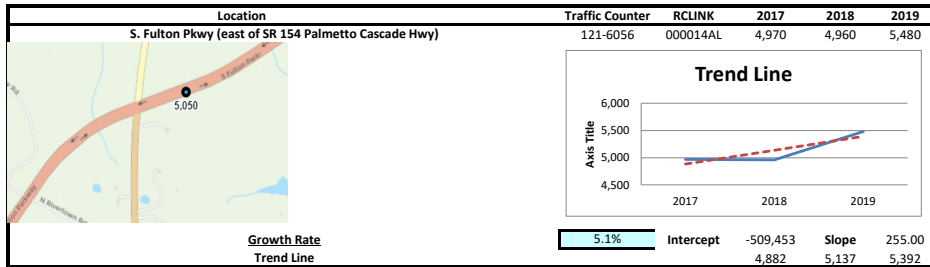
Location	Growth Rate	R Squared	Station ID	Route	2017	2018	2019	2020
Rivertown Rd (east of Virlyn B Smith Rd)	0.2%	0.43	121-0768	00137300	4,120	4,110	4,140	3,820
Cedar Grove Rd (west of Short Rd)	6.3%	0.84	121-0773	00137600	2,440	2,480	2,750	2,560
S. Fulton Pkwy (east of SR 154 Palmetto Cascade Hwy)	5.1%	0.74	121-6056	000014AL	4,970	4,960	5,480	5,050
SR 92 (south of S. Fulton Pkwy)	5.4%	0.82	121-0292	00009200	17,900	19,700	19,900	17,300
Rivertown Rd (north of Hobgood Rd)	6.8%	0.81	121-0766	00137300	1,750	1,980	2,000	2,150
Weighted Average	4.8%	0.97	Sum of Count Stations =		31,180	33,230	34,270	



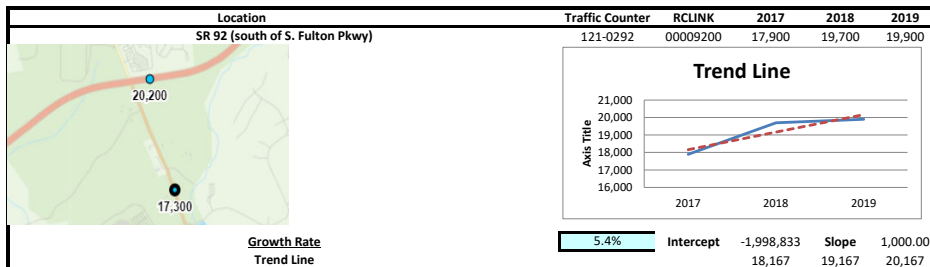
2020
3,820



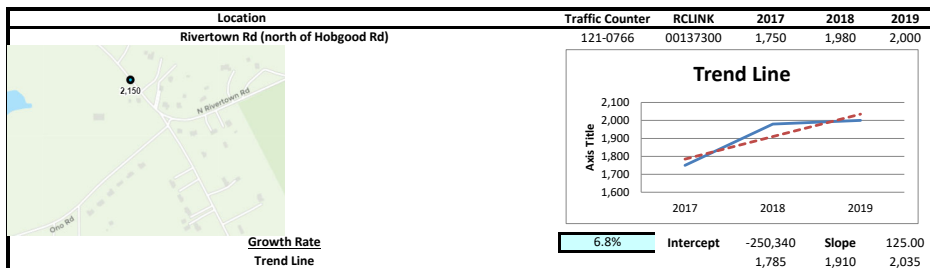
2020
2,560



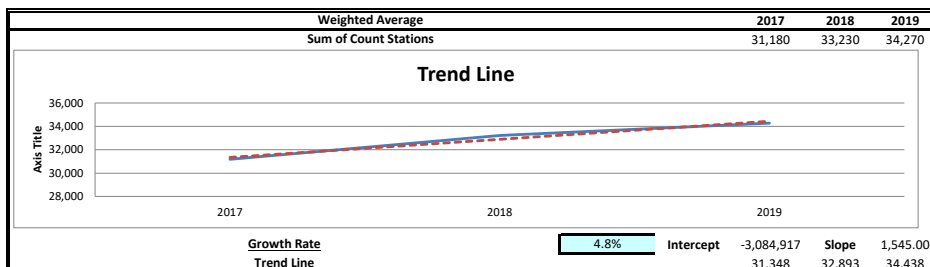
2020
5,050



2020
17,300



2020
2,150



2020
0

**Fact Sheets for Planned and Programmed
Improvements**

Short Title

SOUTH FULTON SCENIC BYWAY MULTI-USE TRAIL -
PHASE I FROM COCHRAN MILL PARK TO PHILLIPS
ROAD

GDOT Project No.

0009643

Federal ID No.

STP00-0002-00(308)

Status

Programmed

Service Type

Last Mile Connectivity / Sidepaths and Trails

Sponsor

Chattahoochee Hills

Jurisdiction

Fulton County (South)

Analysis Level

Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane

N/A

LCI

☐

Planned Thru Lane

N/A

Flex

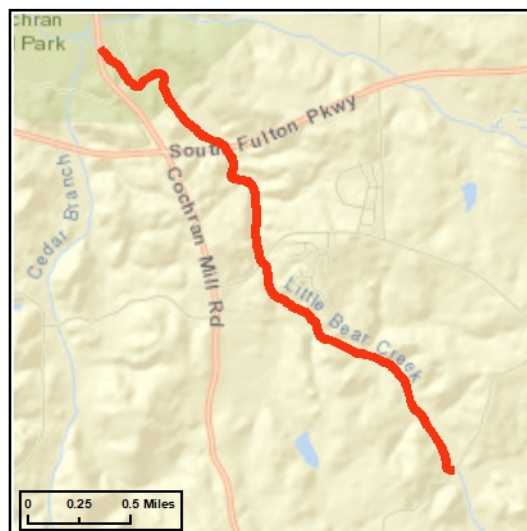
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Network Year

TBD

Corridor Length

3.1 miles



Detailed Description and Justification

This project consists of the design of a bicycle/pedestrian trail from Cochran Mill Park following the Little Bear Creek corridor approximately 2.2 miles, then shifting southward towards Phillips Road approximately 0.5 miles, ending at an existing gravel path just north of Phillips Road. The typical section is 10' wide concrete with 4' wide graded shoulders. A bridge will be required to cross a tributary to Little Bear Creek approximately 0.25 miles south of the creek. Funding shown for this line item is supplemental to an existing Transportation Enhancement project.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
ROW	Local Jurisdiction/Municipality Funds	AUTH	2017	\$25,000	\$0,000	\$0,000	\$0,000	\$25,000
CST	Federal Earmark Funding		2020	\$562,437	\$449,950	\$0,000	\$0,000	\$112,487
				\$587,437	\$449,950	\$0,000	\$0,000	\$137,487

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.



Existing Intersection Analysis

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	1242	19	39	689	44	117
Future Vol, veh/h	1242	19	39	689	44	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	295	290	-	0	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1350	21	42	749	48	127
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	-	1350	0	1809	675
Stage 1	-	-	-	-	1350	-
Stage 2	-	-	-	-	459	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	506	-	70	396
Stage 1	-	0	-	-	206	-
Stage 2	-	0	-	-	603	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	506	-	64	396
Mov Cap-2 Maneuver	-	-	-	-	64	-
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	553	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.7		55.2		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT	
Capacity (veh/h)	64	396	-	506	-	
HCM Lane V/C Ratio	0.747	0.321	-	0.084	-	
HCM Control Delay (s)	153.2	18.3	-	12.8	-	
HCM Lane LOS	F	C	-	B	-	
HCM 95th %tile Q(veh)	3.3	1.4	-	0.3	-	

Timings
2: SR 92 & South Fulton Pkwy

1a. Existing AM
10/04/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	153	581	114	125	317	332	32	636	360	540	65
Future Volume (vph)	153	581	114	125	317	332	32	636	360	540	65
Lane Group Flow (vph)	163	618	121	133	337	353	34	762	383	574	69
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases	6		6	2		2					4
Detector Phase	1	6	6	5	2	2	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	37.5	37.5	15.0	39.5	39.5	15.0	53.5	15.0	53.5	53.5
Total Split (s)	15.0	38.5	38.5	16.0	39.5	39.5	15.0	53.5	22.0	60.5	60.5
Total Split (%)	11.5%	29.6%	29.6%	12.3%	30.4%	30.4%	11.5%	41.2%	16.9%	46.5%	46.5%
Yellow Time (s)	3.5	3.5	3.5	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	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	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.34	0.50	0.18	0.39	0.28	0.48	0.32	0.81	0.89	0.44	0.11
Control Delay	23.0	36.7	2.8	24.3	33.9	9.9	66.3	50.8	78.7	32.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	36.7	2.8	24.3	33.9	9.9	66.3	50.8	78.7	32.3	1.2
Queue Length 50th (ft)	77	214	0	62	109	34	28	312	165	202	0
Queue Length 95th (ft)	138	313	22	114	167	132	63	358	#252	240	7
Internal Link Dist (ft)		5265			2332			419		789	
Turn Bay Length (ft)	270		110	215		110	420		385		190
Base Capacity (vph)	485	1241	658	352	1204	733	129	1292	435	1497	734
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.50	0.18	0.38	0.28	0.48	0.26	0.59	0.88	0.38	0.09

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

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

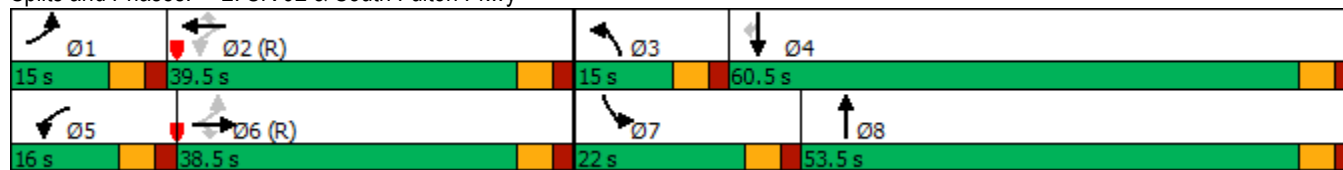
Natural Cycle: 125

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 92 & South Fulton Pkwy



HCM 6th Signalized Intersection Summary

2: SR 92 & South Fulton Pkwy

1a. Existing AM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	581	114	125	317	332	32	636	80	360	540	65
Future Volume (veh/h)	153	581	114	125	317	332	32	636	80	360	540	65
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	618	121	133	337	353	34	677	85	383	574	69
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	423	1410	629	357	1375	613	48	791	99	431	1232	549
Arrive On Green	0.07	0.40	0.40	0.06	0.39	0.39	0.03	0.25	0.25	0.12	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3177	398	3456	3554	1585
Grp Volume(v), veh/h	163	618	121	133	337	353	34	378	384	383	574	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1799	1728	1777	1585
Q Serve(g_s), s	7.1	16.5	6.5	5.8	8.3	22.8	2.5	26.4	26.5	14.2	16.4	3.9
Cycle Q Clear(g_c), s	7.1	16.5	6.5	5.8	8.3	22.8	2.5	26.4	26.5	14.2	16.4	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	423	1410	629	357	1375	613	48	442	448	431	1232	549
V/C Ratio(X)	0.39	0.44	0.19	0.37	0.25	0.58	0.70	0.86	0.86	0.89	0.47	0.13
Avail Cap(c_a), veh/h	429	1410	629	393	1375	613	130	656	664	439	1503	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	28.6	25.6	22.6	27.0	31.4	62.7	46.6	46.6	56.0	33.1	29.0
Incr Delay (d2), s/veh	0.6	1.0	0.7	0.6	0.4	3.9	16.8	7.3	7.3	19.2	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.8	2.4	2.4	3.5	8.9	1.3	12.0	12.2	7.1	6.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	29.6	26.3	23.2	27.4	35.3	79.5	53.8	53.9	75.1	33.4	29.1
LnGrp LOS	C	C	C	C	C	D	E	D	D	E	C	C
Approach Vol, veh/h	902				823				796			
Approach Delay, s/veh	27.8				30.1				55.0			
Approach LOS	C				C				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	55.8	9.0	50.6	13.3	57.1	21.7	37.9				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	34.0	9.5	55.0	10.5	33.0	16.5	48.0				
Max Q Clear Time (g_c+I1), s	9.1	24.8	4.5	18.4	7.8	18.5	16.2	28.5				
Green Ext Time (p_c), s	0.0	3.8	0.0	3.8	0.1	6.1	0.1	3.9				

Intersection Summary

HCM 6th Ctrl Delay 40.5
HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

Timings 3: South Fulton Pkwy & Cedar Grove Rd

1a. Existing AM
10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	144	161	7	110	22	431	25	118	148	31
Future Volume (vph)	144	161	7	110	22	431	25	118	148	31
Lane Group Flow (vph)	153	185	7	352	23	459	27	126	157	33
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	17.0	51.0	15.0	49.0	15.0	37.0	37.0	17.0	39.0	39.0
Total Split (%)	14.2%	42.5%	12.5%	40.8%	12.5%	30.8%	30.8%	14.2%	32.5%	32.5%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.58	0.30	0.02	0.83	0.04	0.30	0.04	0.26	0.09	0.04
Control Delay	35.5	30.1	22.0	48.4	15.4	25.0	0.1	15.9	19.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	30.1	22.0	48.4	15.4	25.0	0.1	15.9	19.4	0.1
Queue Length 50th (ft)	83	100	4	196	8	120	0	44	35	0
Queue Length 95th (ft)	118	164	12	279	24	196	0	92	67	0
Internal Link Dist (ft)		528		399		1119			5242	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	266	703	390	668	665	1530	754	504	1761	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.26	0.02	0.53	0.03	0.30	0.04	0.25	0.09	0.04

Intersection Summary

Cycle Length: 120

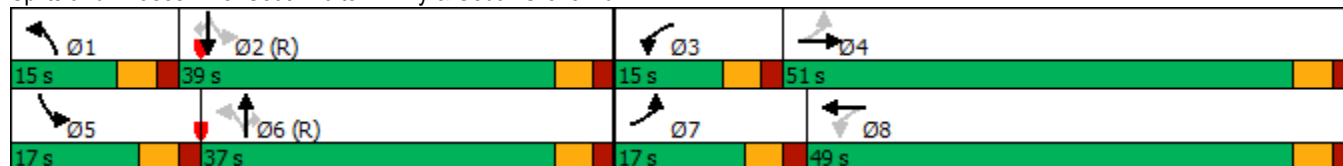
Actuated Cycle Length: 120

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

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary

3: South Fulton Pkwy & Cedar Grove Rd

1a. Existing AM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	161	13	7	110	221	22	431	25	118	148	31
Future Volume (veh/h)	144	161	13	7	110	221	22	431	25	118	148	31
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	171	14	7	117	235	23	459	0	126	157	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	523	43	351	131	263	649	1587		497	1701	
Arrive On Green	0.08	0.31	0.31	0.01	0.24	0.24	0.02	0.45	0.00	0.05	0.48	0.00
Sat Flow, veh/h	1781	1706	140	1781	555	1115	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	153	0	185	7	0	352	23	459	0	126	157	0
Grp Sat Flow(s),veh/h/ln	1781	0	1845	1781	0	1670	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.5	0.0	9.3	0.4	0.0	24.5	0.8	9.9	0.0	4.5	2.9	0.0
Cycle Q Clear(g_c), s	7.5	0.0	9.3	0.4	0.0	24.5	0.8	9.9	0.0	4.5	2.9	0.0
Prop In Lane	1.00		0.08	1.00		0.67	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	0	566	351	0	394	649	1587		497	1701	
V/C Ratio(X)	0.65	0.00	0.33	0.02	0.00	0.89	0.04	0.29		0.25	0.09	
Avail Cap(c_a), veh/h	264	0	700	476	0	605	750	1587		571	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	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.7	0.0	32.0	34.4	0.0	44.4	17.1	21.1	0.0	16.4	17.1	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.3	0.0	0.0	10.7	0.0	0.5	0.0	0.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	4.2	0.2	0.0	10.9	0.3	3.9	0.0	1.7	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	0.0	32.4	34.4	0.0	55.1	17.2	21.6	0.0	16.6	17.2	0.0
LnGrp LOS	D	A	C	C	A	E	B	C		B	B	
Approach Vol, veh/h		338			359			482			283	
Approach Delay, s/veh		34.7			54.7			21.4			16.9	
Approach LOS		C			D			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	63.0	6.5	42.3	12.0	59.1	15.0	33.8				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	33.5	9.5	45.5	11.5	31.5	11.5	43.5				
Max Q Clear Time (g_c+I1), s	2.8	4.9	2.4	11.3	6.5	11.9	9.5	26.5				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.1	0.1	4.6	0.1	1.8				

Intersection Summary

HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	188	75	32	211	79	21
Future Vol, veh/h	188	75	32	211	79	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	85	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	78	33	220	82	22
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	274	0	482	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1289	-	543	845
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1289	-	529	845
Mov Cap-2 Maneuver	-	-	-	-	529	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	743	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1		12.3	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	529	845	-	-	1289	-
HCM Lane V/C Ratio	0.156	0.026	-	-	0.026	-
HCM Control Delay (s)	13.1	9.4	-	-	7.9	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	181	5	1	240	12	7
Future Vol, veh/h	181	5	1	240	12	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	203	6	1	270	13	8

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	209	0	475	203
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	272	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1362	-	548	838
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1362	-	547	838
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	773	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	627	-	-	1362	-
HCM Lane V/C Ratio	0.034	-	-	0.001	-
HCM Control Delay (s)	10.9	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	187	238	0	0	3
Future Vol, veh/h	1	187	238	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	215	274	0	0	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	274	0	-	0	491	274
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1289	-	-	-	537	765
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1289	-	-	-	536	765
Mov Cap-2 Maneuver	-	-	-	-	536	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	819	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1289	-	-	-	-	765
HCM Lane V/C Ratio	0.001	-	-	-	-	0.005
HCM Control Delay (s)	7.8	0	-	-	-	9.7
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↑	↔	↑
Traffic Vol, veh/h	9	58	264	7	14	229
Future Vol, veh/h	9	58	264	7	14	229
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	61	278	7	15	241
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	549	278	0	0	285	0
Stage 1	278	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	497	761	-	-	1277	-
Stage 1	769	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	491	761	-	-	1277	-
Mov Cap-2 Maneuver	491	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.6	0		0.5		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	709	1277	-	
HCM Lane V/C Ratio	-	-	0.099	0.012	-	
HCM Control Delay (s)	-	-	10.6	7.9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.3	0	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	18	12	202	212	14
Future Vol, veh/h	37	18	12	202	212	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	19	13	215	226	15

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	467	226	241
Stage 1	226	-	-
Stage 2	241	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	554	813	1326
Stage 1	812	-	-
Stage 2	799	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	548	813	1326
Mov Cap-2 Maneuver	548	-	-
Stage 1	804	-	-
Stage 2	799	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1326	-	613	-	-
HCM Lane V/C Ratio	0.01	-	0.095	-	-
HCM Control Delay (s)	7.7	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection						
Int Delay, s/veh	7.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	121	59	156	242	58
Future Vol, veh/h	36	121	59	156	242	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	134	66	173	269	64
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	239	0	-	0	367	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	214	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1328	-	-	-	633	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1328	-	-	-	612	893
Mov Cap-2 Maneuver	-	-	-	-	612	-
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	822	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.8	0		16.2		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1328	-	-	-	652	
HCM Lane V/C Ratio	0.03	-	-	-	0.511	
HCM Control Delay (s)	7.8	0	-	-	16.2	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	2.9	

Intersection						
Int Delay, s/veh	9.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	311	88	155	143	84	140
Future Vol, veh/h	311	88	155	143	84	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	366	104	182	168	99	165
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	470	0	950	418
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	532	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1092	-	289	635
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	589	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1092	-	236	635
Mov Cap-2 Maneuver	-	-	-	-	236	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	481	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.7		31.6	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	389	-	-	1092	-	
HCM Lane V/C Ratio	0.677	-	-	0.167	-	
HCM Control Delay (s)	31.6	-	-	9	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	4.8	-	-	0.6	-	

Intersection						
Int Delay, s/veh	3.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	109	195	13	82	127	39
Future Vol, veh/h	109	195	13	82	127	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	197	13	83	128	39
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	307	0	318	209
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	109	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1254	-	675	831
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1254	-	668	831
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	906	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.1		11.8	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	700	-	-	1254	-	
HCM Lane V/C Ratio	0.24	-	-	0.01	-	
HCM Control Delay (s)	11.8	-	-	7.9	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.9	-	-	0	-	

Intersection							
Int Delay, s/veh	1.4						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗	
Traffic Vol, veh/h	611	27	76	1464	31	44	
Future Vol, veh/h	611	27	76	1464	31	44	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	Free	-	None	-	Yield	
Storage Length	-	295	290	-	0	175	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	97	97	97	97	97	97	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	630	28	78	1509	32	45	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	-	630	0	1541	315	
Stage 1	-	-	-	-	630	-	
Stage 2	-	-	-	-	911	-	
Critical Hdwy	-	-	4.14	-	6.84	6.94	
Critical Hdwy Stg 1	-	-	-	-	5.84	-	
Critical Hdwy Stg 2	-	-	-	-	5.84	-	
Follow-up Hdwy	-	-	2.22	-	3.52	3.32	
Pot Cap-1 Maneuver	-	0	948	-	106	681	
Stage 1	-	0	-	-	493	-	
Stage 2	-	0	-	-	352	-	
Platoon blocked, %	-			-			
Mov Cap-1 Maneuver	-	-	948	-	97	681	
Mov Cap-2 Maneuver	-	-	-	-	97	-	
Stage 1	-	-	-	-	493	-	
Stage 2	-	-	-	-	323	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.5		30.8		
HCM LOS	D						
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	WBL	WBT
Capacity (veh/h)	97		681		-	948	-
HCM Lane V/C Ratio	0.329		0.067		-	0.083	-
HCM Control Delay (s)	59.4		10.7		-	9.1	-
HCM Lane LOS	F		B		-	A	-
HCM 95th %tile Q(veh)	1.3		0.2		-	0.3	-

Timings
2: SR 92 & South Fulton Pkwy

1b. Existing PM

10/04/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	120	253	69	119	644	597	107	674	275	567	163
Future Volume (vph)	120	253	69	119	644	597	107	674	275	567	163
Lane Group Flow (vph)	126	266	73	125	678	628	113	791	289	597	172
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8	7	4	
Permitted Phases	6		6	2		2					4
Detector Phase	1	6	6	5	2	2	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	37.5	37.5	15.0	39.5	39.5	15.0	53.5	15.0	53.5	53.5
Total Split (s)	15.0	39.0	39.0	15.0	39.0	39.0	21.0	58.0	18.0	55.0	55.0
Total Split (%)	11.5%	30.0%	30.0%	11.5%	30.0%	30.0%	16.2%	44.6%	13.8%	42.3%	42.3%
Yellow Time (s)	3.5	3.5	3.5	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	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	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.38	0.20	0.11	0.23	0.52	0.80	0.65	0.80	0.88	0.61	0.31
Control Delay	22.7	30.1	2.0	20.5	35.1	27.9	72.8	49.3	84.2	43.5	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	30.1	2.0	20.5	35.1	27.9	72.8	49.3	84.2	43.5	6.2
Queue Length 50th (ft)	56	78	0	55	231	253	93	323	126	233	0
Queue Length 95th (ft)	105	130	12	105	336	#545	156	367	#204	278	52
Internal Link Dist (ft)		5265			2332			419		789	
Turn Bay Length (ft)	270		110	215		110	420		385		190
Base Capacity (vph)	343	1317	660	548	1315	784	211	1413	330	1347	709
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.20	0.11	0.23	0.52	0.80	0.54	0.56	0.88	0.44	0.24

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

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

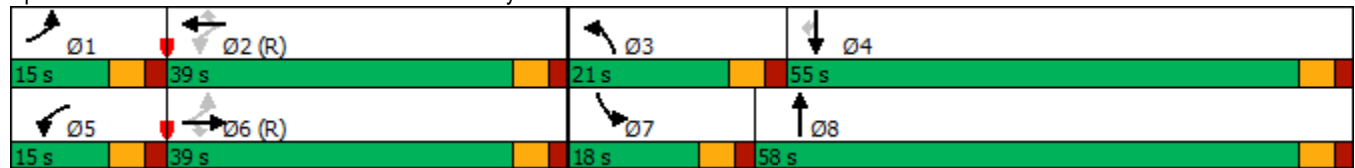
Natural Cycle: 125

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 92 & South Fulton Pkwy



HCM 6th Signalized Intersection Summary 2: SR 92 & South Fulton Pkwy

1b. Existing PM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	253	69	119	644	597	107	674	78	275	567	163
Future Volume (veh/h)	120	253	69	119	644	597	107	674	78	275	567	163
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	266	73	125	678	628	113	709	82	289	597	172
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	273	1497	668	543	1496	667	138	830	96	332	986	440
Arrive On Green	0.06	0.42	0.42	0.05	0.42	0.42	0.08	0.26	0.26	0.10	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3209	371	3456	3554	1585
Grp Volume(v), veh/h	126	266	73	125	678	628	113	392	399	289	597	172
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1804	1728	1777	1585
Q Serve(g_s), s	5.2	6.1	3.6	5.1	17.7	49.4	8.1	27.3	27.4	10.7	19.0	11.4
Cycle Q Clear(g_c), s	5.2	6.1	3.6	5.1	17.7	49.4	8.1	27.3	27.4	10.7	19.0	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	273	1497	668	543	1496	667	138	459	466	332	986	440
V/C Ratio(X)	0.46	0.18	0.11	0.23	0.45	0.94	0.82	0.85	0.85	0.87	0.61	0.39
Avail Cap(c_a), veh/h	305	1497	668	575	1496	667	212	718	728	332	1353	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	23.5	22.8	19.4	26.9	36.1	59.1	45.9	45.9	57.9	40.8	38.1
Incr Delay (d2), s/veh	1.2	0.3	0.3	0.2	1.0	23.1	13.6	6.1	6.0	21.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.5	1.4	2.0	7.3	21.9	4.1	12.2	12.4	5.5	8.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	23.8	23.2	19.6	27.9	59.2	72.7	51.9	51.9	79.1	41.4	38.6
LnGrp LOS	C	C	C	B	C	E	E	D	D	E	D	D
Approach Vol, veh/h		465			1431			904			1058	
Approach Delay, s/veh		23.2			40.9			54.5			51.2	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	60.2	15.6	41.6	12.6	60.3	18.0	39.1				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	33.5	15.5	49.5	9.5	33.5	12.5	52.5				
Max Q Clear Time (g_c+I1), s	7.2	51.4	10.1	21.0	7.1	8.1	12.7	29.4				
Green Ext Time (p_c), s	0.1	0.0	0.1	4.2	0.1	3.3	0.0	4.3				
Intersection Summary												
HCM 6th Ctrl Delay			44.8									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 3: South Fulton Pkwy & Cedar Grove Rd

1b. Existing PM
10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	96	157	21	172	25	253	40	271	492	142
Future Volume (vph)	96	157	21	172	25	253	40	271	492	142
Lane Group Flow (vph)	98	177	21	373	26	258	41	277	502	145
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	16.0	49.0	16.0	49.0	15.0	29.0	29.0	26.0	40.0	40.0
Total Split (%)	13.3%	40.8%	13.3%	40.8%	12.5%	24.2%	24.2%	21.7%	33.3%	33.3%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.39	0.30	0.05	0.83	0.06	0.20	0.06	0.44	0.30	0.17
Control Delay	28.0	30.5	21.5	52.0	17.8	30.6	0.2	19.2	22.4	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	30.5	21.5	52.0	17.8	30.6	0.2	19.2	22.4	4.8
Queue Length 50th (ft)	50	91	10	239	9	72	0	114	132	0
Queue Length 95th (ft)	77	155	24	320	28	131	0	203	205	44
Internal Link Dist (ft)		528		399		1119			5242	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	260	673	442	655	454	1275	681	658	1694	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.26	0.05	0.57	0.06	0.20	0.06	0.42	0.30	0.17

Intersection Summary

Cycle Length: 120

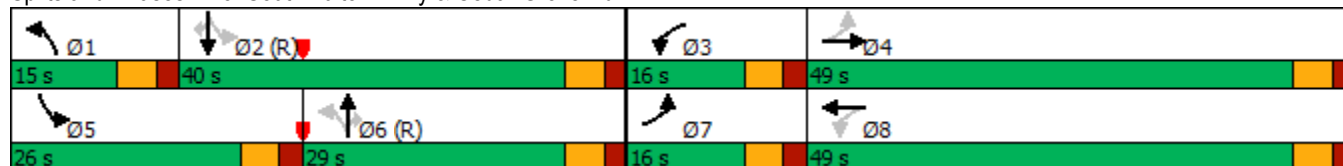
Actuated Cycle Length: 120

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

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary 3: South Fulton Pkwy & Cedar Grove Rd

1b. Existing PM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	157	17	21	172	193	25	253	40	271	492	142
Future Volume (veh/h)	96	157	17	21	172	193	25	253	40	271	492	142
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	160	17	21	176	197	26	258	0	277	502	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	192	463	49	341	196	220	470	1460		659	1753	
Arrive On Green	0.06	0.28	0.28	0.02	0.24	0.24	0.02	0.41	0.00	0.11	0.49	0.00
Sat Flow, veh/h	1781	1662	177	1781	806	902	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	98	0	177	21	0	373	26	258	0	277	502	0
Grp Sat Flow(s),veh/h/ln	1781	0	1839	1781	0	1708	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.9	0.0	9.2	1.1	0.0	25.4	1.0	5.5	0.0	10.3	10.0	0.0
Cycle Q Clear(g_c), s	4.9	0.0	9.2	1.1	0.0	25.4	1.0	5.5	0.0	10.3	10.0	0.0
Prop In Lane	1.00		0.10	1.00		0.53	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	0	512	341	0	416	470	1460		659	1753	
V/C Ratio(X)	0.51	0.00	0.35	0.06	0.00	0.90	0.06	0.18		0.42	0.29	
Avail Cap(c_a), veh/h	249	0	666	459	0	619	568	1460		773	1753	
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	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.8	0.0	34.6	32.9	0.0	43.9	19.4	22.4	0.0	15.7	17.9	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.4	0.1	0.0	11.3	0.0	0.3	0.0	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	4.2	0.5	0.0	11.6	0.4	2.2	0.0	3.8	3.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	0.0	35.0	33.0	0.0	55.2	19.5	22.7	0.0	16.2	18.4	0.0
LnGrp LOS	D	A	C	C	A	E	B	C		B	B	
Approach Vol, veh/h		275			394			284			779	
Approach Delay, s/veh		35.3			54.0			22.4			17.6	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	64.7	8.0	38.9	18.3	54.8	12.2	34.8				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	34.5	10.5	43.5	20.5	23.5	10.5	43.5				
Max Q Clear Time (g_c+I1), s	3.0	12.0	3.1	11.2	12.3	7.5	6.9	27.4				
Green Ext Time (p_c), s	0.0	5.3	0.0	1.0	0.5	2.1	0.1	1.9				

Intersection Summary

HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	238	124	67	275	100	52
Future Vol, veh/h	238	124	67	275	100	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	85	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	259	135	73	299	109	57
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	394	0	704	259
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	445	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1165	-	403	780
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1165	-	378	780
Mov Cap-2 Maneuver	-	-	-	-	378	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	605	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		15.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	780	-	-	1165	-
HCM Lane V/C Ratio	0.288	0.072	-	-	0.063	-
HCM Control Delay (s)	18.3	10	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.2	0.2	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	
Traffic Vol, veh/h	270	11	12	312	11	9
Future Vol, veh/h	270	11	12	312	11	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	303	12	13	351	12	10
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	315	0	680	303
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	377	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1245	-	417	737
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1245	-	412	737
Mov Cap-2 Maneuver	-	-	-	-	412	-
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	685	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		12.3	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	514	-	-	1245	-	
HCM Lane V/C Ratio	0.044	-	-	0.011	-	
HCM Control Delay (s)	12.3	-	-	7.9	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	273	318	1	1	6
Future Vol, veh/h	6	273	318	1	1	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	307	357	1	1	7

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	358	0	0 679 358
Stage 1	-	-	- - 358 -
Stage 2	-	-	- - 321 -
Critical Hdwy	4.12	-	- - 6.42 6.22
Critical Hdwy Stg 1	-	-	- - 5.42 -
Critical Hdwy Stg 2	-	-	- - 5.42 -
Follow-up Hdwy	2.218	-	- - 3.518 3.318
Pot Cap-1 Maneuver	1201	-	- - 417 686
Stage 1	-	-	- - 707 -
Stage 2	-	-	- - 735 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1201	-	- - 414 686
Mov Cap-2 Maneuver	-	-	- - 414 -
Stage 1	-	-	- - 702 -
Stage 2	-	-	- - 735 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1201	-	-	-	627
HCM Lane V/C Ratio	0.006	-	-	-	0.013
HCM Control Delay (s)	8	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↑	↔	↑
Traffic Vol, veh/h	16	31	313	28	41	299
Future Vol, veh/h	16	31	313	28	41	299
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	33	337	30	44	322
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	747	337	0	0	367	0
Stage 1	337	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	381	705	-	-	1192	-
Stage 1	723	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	367	705	-	-	1192	-
Mov Cap-2 Maneuver	367	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.4	0	1			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	537	1192	-	
HCM Lane V/C Ratio	-	-	0.094	0.037	-	
HCM Control Delay (s)	-	-	12.4	8.1	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-	

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	32	31	308	249	28
Future Vol, veh/h	18	32	31	308	249	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	34	33	324	262	29
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	652	262	291	0	-	0
Stage 1	262	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	433	777	1271	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	777	1271	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.6	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1271	-	596	-	-	
HCM Lane V/C Ratio	0.026	-	0.088	-	-	
HCM Control Delay (s)	7.9	-	11.6	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	84	140	303	245	31
Future Vol, veh/h	30	84	140	303	245	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	91	152	329	266	34
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	481	0	-	0	474	317
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1082	-	-	-	549	724
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1082	-	-	-	531	724
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	871	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.2	0		19.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1082	-	-	-	547	
HCM Lane V/C Ratio	0.03	-	-	-	0.548	
HCM Control Delay (s)	8.4	0	-	-	19.3	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	3.3	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	308	41	44	423	67	64
Future Vol, veh/h	308	41	44	423	67	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	314	42	45	432	68	65
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	356	0	857	335
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	522	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1203	-	328	707
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1203	-	312	707
Mov Cap-2 Maneuver	-	-	-	-	312	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	566	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		17.1	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	429	-	-	1203	-	
HCM Lane V/C Ratio	0.312	-	-	0.037	-	
HCM Control Delay (s)	17.1	-	-	8.1	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-	

Intersection						
Int Delay, s/veh	9.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	147	270	19	91	359	32
Future Vol, veh/h	147	270	19	91	359	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	150	276	19	93	366	33
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	426	0	419	288
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1133	-	591	751
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	895	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1133	-	580	751
Mov Cap-2 Maneuver	-	-	-	-	580	-
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	879	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		22.8	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	591	-	-	1133	-	
HCM Lane V/C Ratio	0.675	-	-	0.017	-	
HCM Control Delay (s)	22.8	-	-	8.2	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	5.1	-	-	0.1	-	

Future “No-Build” Intersection Analysis

Intersection						
Int Delay, s/veh	34.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	1719	26	54	954	61	162
Future Vol, veh/h	1719	26	54	954	61	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	295	290	-	0	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1868	28	59	1037	66	176

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	- 1868	0 2505 934
Stage 1	-	-	- 1868 -
Stage 2	-	-	- 637 -
Critical Hdwy	-	- 4.14	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	-	- 2.22	- 3.52 3.32
Pot Cap-1 Maneuver	-	0 319	- ~ 23 267
Stage 1	-	0	- 108 -
Stage 2	-	0	- 489 -
Platoon blocked, %	-		-
Mov Cap-1 Maneuver	-	- 319	- ~ 19 267
Mov Cap-2 Maneuver	-	-	- ~ 19 -
Stage 1	-	-	- 108 -
Stage 2	-	-	- 399 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1	\$ 450.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (veh/h)	19	267	-	319	-
HCM Lane V/C Ratio	3.49	0.66	-	0.184	-
HCM Control Delay (s)	\$ 1536.5	41.2	-	18.8	-
HCM Lane LOS	F	E	-	C	-
HCM 95th %tile Q(veh)	8.8	4.2	-	0.7	-

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

Timings
2: SR 92 & South Fulton Pkwy

2a. No Build 2030 AM
10/04/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	804	158	173	439	459	44	880	111	498	747	90
Future Volume (vph)	212	804	158	173	439	459	44	880	111	498	747	90
Lane Group Flow (vph)	226	855	168	184	467	488	47	936	118	530	795	96
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	37.5	37.5	15.0	39.5	39.5	15.0	53.5	53.5	15.0	53.5	53.5
Total Split (s)	16.0	48.5	48.5	18.0	50.5	50.5	15.0	53.5	53.5	30.0	68.5	68.5
Total Split (%)	10.7%	32.3%	32.3%	12.0%	33.7%	33.7%	10.0%	35.7%	35.7%	20.0%	45.7%	45.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	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	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.64	0.81	0.29	0.83	0.42	0.69	0.47	0.89	0.21	0.95	0.53	0.13
Control Delay	41.0	55.8	11.2	63.3	42.9	21.9	84.0	61.1	4.2	88.6	34.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	55.8	11.2	63.3	42.9	21.9	84.0	61.1	4.2	88.6	34.3	4.9
Queue Length 50th (ft)	147	416	21	119	194	158	45	452	0	268	307	0
Queue Length 95th (ft)	219	501	82	#270	249	299	91	535	32	#380	367	35
Internal Link Dist (ft)		5265			2332			419			778	
Turn Bay Length (ft)	270		110	215		110	420			385		190
Base Capacity (vph)	355	1062	571	221	1100	705	112	1132	600	560	1509	731
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.81	0.29	0.83	0.42	0.69	0.42	0.83	0.20	0.95	0.53	0.13

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

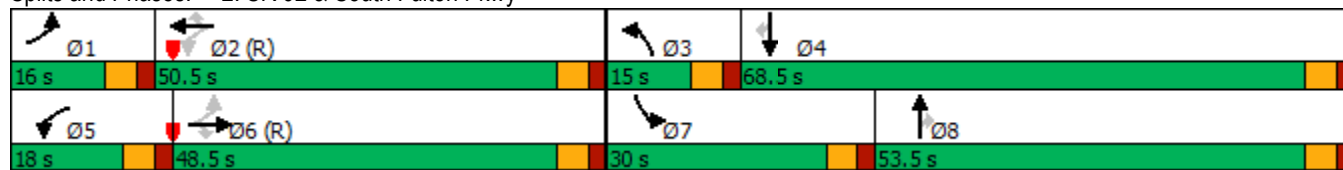
Natural Cycle: 125

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 92 & South Fulton Pkwy



HCM 6th Signalized Intersection Summary 2: SR 92 & South Fulton Pkwy

2a. No Build 2030 AM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	804	158	173	439	459	44	880	111	498	747	90
Future Volume (veh/h)	212	804	158	173	439	459	44	880	111	498	747	90
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	855	168	184	467	488	47	936	118	530	795	96
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	306	1124	501	250	1168	521	61	1035	462	564	1495	667
Arrive On Green	0.07	0.32	0.32	0.08	0.33	0.33	0.03	0.29	0.29	0.16	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	226	855	168	184	467	488	47	936	118	530	795	96
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	10.5	32.5	12.2	10.4	15.2	44.8	3.9	38.0	8.6	22.7	25.0	5.6
Cycle Q Clear(g_c), s	10.5	32.5	12.2	10.4	15.2	44.8	3.9	38.0	8.6	22.7	25.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	1124	501	250	1168	521	61	1035	462	564	1495	667
V/C Ratio(X)	0.74	0.76	0.34	0.74	0.40	0.94	0.78	0.90	0.26	0.94	0.53	0.14
Avail Cap(c_a), veh/h	306	1124	501	251	1168	521	113	1137	507	564	1495	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	46.2	39.2	35.5	38.9	48.8	71.9	51.1	40.7	62.0	32.4	26.8
Incr Delay (d2), s/veh	9.1	4.9	1.8	10.7	1.0	26.5	18.7	9.7	0.3	23.8	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	14.5	4.9	5.1	6.6	20.7	2.1	17.6	3.3	11.5	10.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	51.1	41.0	46.2	39.9	75.3	90.6	60.8	41.0	85.8	32.8	26.9
LnGrp LOS	D	D	D	D	D	E	F	E	D	F	C	C
Approach Vol, veh/h	1249		1139				1101		1421			
Approach Delay, s/veh	48.8		56.1				60.0		52.2			
Approach LOS	D		E				E		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	54.8	10.6	68.6	17.9	52.9	30.0	49.2				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	10.5	45.0	9.5	63.0	12.5	43.0	24.5	48.0				
Max Q Clear Time (g_c+I1), s	12.5	46.8	5.9	27.0	12.4	34.5	24.7	40.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.6	0.0	5.5	0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay	54.0											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 3: South Fulton Pkwy & Cedar Grove Rd

2a. No Build 2030 AM
10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	199	223	10	152	30	597	35	163	205	43
Future Volume (vph)	199	223	10	152	30	597	35	163	205	43
Lane Group Flow (vph)	212	256	11	488	32	635	37	173	218	46
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	17.0	51.0	19.0	53.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (%)	14.2%	42.5%	15.8%	44.2%	12.5%	29.2%	29.2%	12.5%	29.2%	29.2%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.77	0.33	0.03	0.86	0.07	0.55	0.06	0.55	0.15	0.06
Control Delay	39.4	23.9	16.0	46.3	21.6	37.3	0.2	28.8	26.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	23.9	16.0	46.3	21.6	37.3	0.2	28.8	26.8	0.2
Queue Length 50th (ft)	103	124	5	292	13	215	0	77	59	0
Queue Length 95th (ft)	#137	192	13	377	37	306	0	#154	105	0
Internal Link Dist (ft)		528		399		1119			5242	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	275	786	530	723	515	1160	601	320	1434	714
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.33	0.02	0.67	0.06	0.55	0.06	0.54	0.15	0.06

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

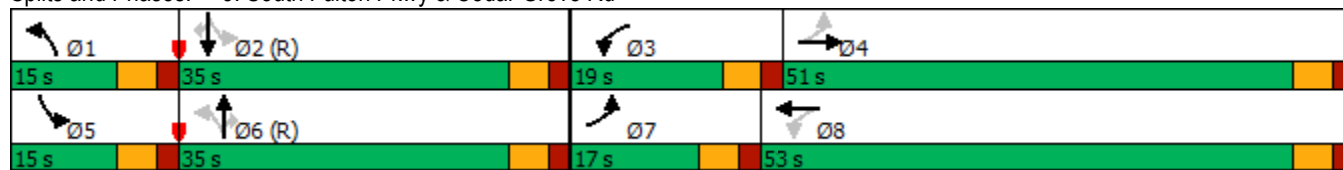
Natural Cycle: 100

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary

3: South Fulton Pkwy & Cedar Grove Rd

2a. No Build 2030 AM

10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	223	18	10	152	306	30	597	35	163	205	43
Future Volume (veh/h)	199	223	18	10	152	306	30	597	35	163	205	43
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	237	19	11	162	326	32	635	0	173	218	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	682	55	422	176	354	488	1160		343	1342	
Arrive On Green	0.09	0.40	0.40	0.01	0.32	0.32	0.03	0.33	0.00	0.08	0.38	0.00
Sat Flow, veh/h	1781	1709	137	1781	554	1115	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	212	0	256	11	0	488	32	635	0	173	218	0
Grp Sat Flow(s),veh/h/ln	1781	0	1846	1781	0	1670	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.3	0.0	11.6	0.5	0.0	33.8	1.4	17.6	0.0	7.5	4.9	0.0
Cycle Q Clear(g_c), s	9.3	0.0	11.6	0.5	0.0	33.8	1.4	17.6	0.0	7.5	4.9	0.0
Prop In Lane	1.00		0.07	1.00		0.67	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	736	422	0	531	488	1160		343	1342	
V/C Ratio(X)	0.82	0.00	0.35	0.03	0.00	0.92	0.07	0.55		0.51	0.16	
Avail Cap(c_a), veh/h	263	0	736	600	0	661	581	1160		343	1342	
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	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.6	0.0	25.2	27.1	0.0	39.5	25.5	33.2	0.0	24.3	24.8	0.0
Incr Delay (d2), s/veh	17.5	0.0	0.3	0.0	0.0	15.9	0.1	1.9	0.0	1.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	5.1	0.2	0.0	15.6	0.6	7.4	0.0	3.0	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	0.0	25.4	27.1	0.0	55.4	25.6	35.0	0.0	25.5	25.0	0.0
LnGrp LOS	D	A	C	C	A	E	C	D		C	C	
Approach Vol, veh/h	468			499			667			391		
Approach Delay, s/veh	34.8			54.7			34.6			25.2		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	50.8	7.0	53.4	14.9	44.7	16.8	43.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	29.5	13.5	45.5	9.5	29.5	11.5	47.5				
Max Q Clear Time (g_c+I1), s	3.4	6.9	2.5	13.6	9.5	19.6	11.3	35.8				
Green Ext Time (p_c), s	0.0	2.1	0.0	1.5	0.0	4.3	0.0	2.3				

Intersection Summary

HCM 6th Ctrl Delay 37.8

HCM 6th LOS D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	260	104	44	292	109	29
Future Vol, veh/h	260	104	44	292	109	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	85	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	271	108	46	304	114	30
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	379	0	667	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1179	-	424	768
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1179	-	407	768
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	653	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.1		15.7	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	407	768	-	-	1179	-
HCM Lane V/C Ratio	0.279	0.039	-	-	0.039	-
HCM Control Delay (s)	17.2	9.9	-	-	8.2	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	251	7	1	332	17	10
Future Vol, veh/h	251	7	1	332	17	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	282	8	1	373	19	11

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	290	0	657	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1272	-	430	757
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1272	-	430	757
Mov Cap-2 Maneuver	-	-	-	-	430	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	694	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	512	-	-	1272	-
HCM Lane V/C Ratio	0.059	-	-	0.001	-
HCM Control Delay (s)	12.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	259	329	0	0	4
Future Vol, veh/h	1	259	329	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	298	378	0	0	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	378	0	-	0	678	378
Stage 1	-	-	-	-	378	-
Stage 2	-	-	-	-	300	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1180	-	-	-	418	669
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1180	-	-	-	418	669
Mov Cap-2 Maneuver	-	-	-	-	418	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	752	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.4		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1180	-	-	-	669	
HCM Lane V/C Ratio	0.001	-	-	-	0.007	
HCM Control Delay (s)	8.1	0	-	-	10.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	80	365	10	19	317
Future Vol, veh/h	12	80	365	10	19	317
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	84	384	11	20	334
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	758	384	0	0	395	0
Stage 1	384	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	375	664	-	-	1164	-
Stage 1	688	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	369	664	-	-	1164	-
Mov Cap-2 Maneuver	369	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.1	0	0.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	601	1164	-	
HCM Lane V/C Ratio	-	-	0.161	0.017	-	
HCM Control Delay (s)	-	-	12.1	8.1	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	51	25	17	280	293	19
Future Vol, veh/h	51	25	17	280	293	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	27	18	298	312	20

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	646	312	332	0	-	0
Stage 1	312	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	436	728	1227	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	429	728	1227	-	-	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1227	-	496	-	-
HCM Lane V/C Ratio	0.015	-	0.163	-	-
HCM Control Delay (s)	8	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection						
Int Delay, s/veh	18					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	167	82	216	335	80
Future Vol, veh/h	50	167	82	216	335	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	186	91	240	372	89
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	331	0	-	0	509	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	298	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1228	-	-	-	524	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1228	-	-	-	497	829
Mov Cap-2 Maneuver	-	-	-	-	497	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	753	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.9	0		39.4		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1228	-	-	-	539	
HCM Lane V/C Ratio	0.045	-	-	-	0.855	
HCM Control Delay (s)	8.1	0	-	-	39.4	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.1	-	-	-	9.2	

Intersection						
Int Delay, s/veh	79.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	430	122	215	198	116	194
Future Vol, veh/h	430	122	215	198	116	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	506	144	253	233	136	228
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	650	0	1317	578
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	739	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	936	-	174	516
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	472	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	936	-	~ 120	516
Mov Cap-2 Maneuver	-	-	-	-	~ 120	-
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	326	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	5.3		\$ 318.2		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	231	-	-	936	-	
HCM Lane V/C Ratio	1.579	-	-	0.27	-	
HCM Control Delay (s)	\$ 318.2	-	-	10.3	0	
HCM Lane LOS	F	-	-	B	A	
HCM 95th %tile Q(veh)	22.7	-	-	1.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	4.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	151	270	18	113	176	54
Future Vol, veh/h	151	270	18	113	176	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	153	273	18	114	178	55
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	426	0	440	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1133	-	574	749
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1133	-	564	749
Mov Cap-2 Maneuver	-	-	-	-	564	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	863	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.1		14.8	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	599	-	-	1133	-	
HCM Lane V/C Ratio	0.388	-	-	0.016	-	
HCM Control Delay (s)	14.8	-	-	8.2	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	1.8	-	-	0	-	

Intersection						
Int Delay, s/veh	6.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	846	37	105	2026	43	61
Future Vol, veh/h	846	37	105	2026	43	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	295	290	-	0	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	872	38	108	2089	44	63
Major/Minor	Major1		Major2	Minor1		
Conflicting Flow All	0	-	872	0	2133	436
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	1261	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	769	-	~ 42	568
Stage 1	-	0	-	-	369	-
Stage 2	-	0	-	-	230	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	769	-	~ 36	568
Mov Cap-2 Maneuver	-	-	-	-	~ 36	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	198	-
Approach	EB		WB	NB		
HCM Control Delay, s	0		0.5	171.7		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT	
Capacity (veh/h)	36	568	-	769	-	
HCM Lane V/C Ratio	1.231	0.111	-	0.141	-	
HCM Control Delay (s)	\$ 398.1	12.1	-	10.4	-	
HCM Lane LOS	F	B	-	B	-	
HCM 95th %tile Q(veh)	4.6	0.4	-	0.5	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Timings
2: SR 92 & South Fulton Pkwy

2b. No Build 2030 PM
10/04/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	350	95	165	891	826	148	933	108	381	785	226
Future Volume (vph)	166	350	95	165	891	826	148	933	108	381	785	226
Lane Group Flow (vph)	175	368	100	174	938	869	156	982	114	401	826	238
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	37.5	37.5	15.0	39.5	39.5	15.0	53.5	53.5	15.0	53.5	53.5
Total Split (s)	15.0	60.5	60.5	16.0	61.5	61.5	19.0	53.5	53.5	20.0	54.5	54.5
Total Split (%)	10.0%	40.3%	40.3%	10.7%	41.0%	41.0%	12.7%	35.7%	35.7%	13.3%	36.3%	36.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	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	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.77	0.27	0.15	0.38	0.70	1.16	0.98	0.91	0.21	1.21	0.74	0.39
Control Delay	48.3	33.4	6.0	25.4	42.7	115.4	133.1	62.1	9.9	174.4	50.7	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	33.4	6.0	25.4	42.7	115.4	133.1	62.1	9.9	174.4	50.7	13.7
Queue Length 50th (ft)	99	133	0	98	410	~858	155	476	11	~245	374	48
Queue Length 95th (ft)	#193	176	41	149	491	#1119	#307	569	58	#355	452	123
Internal Link Dist (ft)		5265			2332			419			778	
Turn Bay Length (ft)	270		110	215		110	420			385		190
Base Capacity (vph)	226	1343	662	466	1349	752	159	1132	573	331	1156	630
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.27	0.15	0.37	0.70	1.16	0.98	0.87	0.20	1.21	0.71	0.38

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

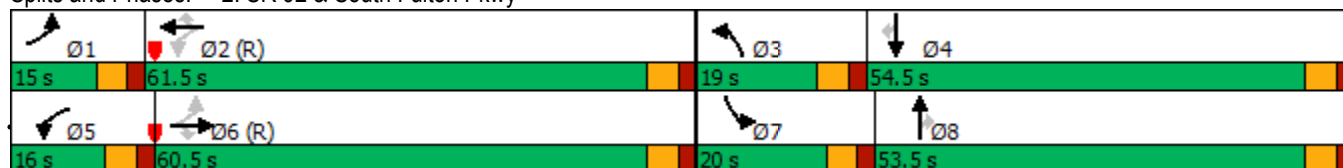
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 92 & South Fulton Pkwy



HCM 6th Signalized Intersection Summary 2: SR 92 & South Fulton Pkwy

2b. No Build 2030 PM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	350	95	165	891	826	148	933	108	381	785	226
Future Volume (veh/h)	166	350	95	165	891	826	148	933	108	381	785	226
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	368	100	174	938	869	156	982	114	401	826	238
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	206	1371	612	464	1395	622	160	1069	477	334	1093	487
Arrive On Green	0.06	0.39	0.39	0.07	0.39	0.39	0.09	0.30	0.30	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	175	368	100	174	938	869	156	982	114	401	826	238
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.0	10.6	6.2	8.8	32.7	58.9	13.1	40.0	8.1	14.5	31.5	18.4
Cycle Q Clear(g_c), s	9.0	10.6	6.2	8.8	32.7	58.9	13.1	40.0	8.1	14.5	31.5	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	206	1371	612	464	1395	622	160	1069	477	334	1093	487
V/C Ratio(X)	0.85	0.27	0.16	0.38	0.67	1.40	0.97	0.92	0.24	1.20	0.76	0.49
Avail Cap(c_a), veh/h	206	1371	612	464	1395	622	160	1137	507	334	1161	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	31.6	30.2	25.1	37.6	45.6	68.1	50.7	39.5	67.8	46.9	42.3
Incr Delay (d2), s/veh	26.8	0.5	0.6	0.5	2.6	188.3	62.8	11.4	0.3	115.4	2.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	4.5	2.4	3.7	14.1	54.3	8.6	18.7	3.1	11.6	13.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	32.0	30.8	25.6	40.2	233.8	130.9	62.0	39.8	183.2	49.6	43.1
LnGrp LOS	E	C	C	C	D	F	F	E	D	F	D	D
Approach Vol, veh/h	643			1981			1252			1465		
Approach Delay, s/veh	39.4			123.9			68.6			85.1		
Approach LOS	D			F			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	64.4	19.0	51.6	16.0	63.4	20.0	50.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	56.0	13.5	49.0	10.5	55.0	14.5	48.0				
Max Q Clear Time (g_c+I1), s	11.0	60.9	15.1	33.5	10.8	12.6	16.5	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.2	0.0	5.4	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay	90.1											
HCM 6th LOS	F											

Timings 3: South Fulton Pkwy & Cedar Grove Rd

2b. No Build 2030 PM
10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	133	217	29	238	35	350	55	375	681	197
Future Volume (vph)	133	217	29	238	35	350	55	375	681	197
Lane Group Flow (vph)	136	245	30	515	36	357	56	383	695	201
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	19.0	47.0	24.0	52.0	15.0	34.0	34.0	15.0	34.0	34.0
Total Split (%)	15.8%	39.2%	20.0%	43.3%	12.5%	28.3%	28.3%	12.5%	28.3%	28.3%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.49	0.33	0.07	0.88	0.13	0.42	0.12	0.83	0.52	0.28
Control Delay	23.0	25.1	15.3	50.9	24.5	40.7	0.5	46.9	34.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	25.1	15.3	50.9	24.5	40.7	0.5	46.9	34.4	8.1
Queue Length 50th (ft)	58	132	12	338	16	124	0	212	236	11
Queue Length 95th (ft)	83	180	25	442	42	171	0	#570	342	74
Internal Link Dist (ft)		528		399		1119			5242	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	295	742	623	698	309	840	469	460	1328	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.33	0.05	0.74	0.12	0.42	0.12	0.83	0.52	0.28

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

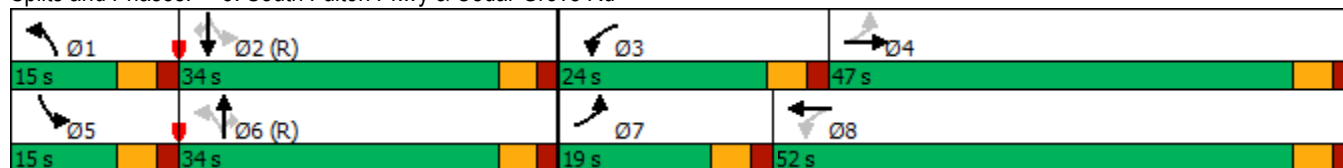
Natural Cycle: 100

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary 3: South Fulton Pkwy & Cedar Grove Rd

2b. No Build 2030 PM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	217	24	29	238	267	35	350	55	375	681	197
Future Volume (veh/h)	133	217	24	29	238	267	35	350	55	375	681	197
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	221	24	30	243	272	36	357	0	383	695	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	209	607	66	412	263	294	298	1227		480	1404	
Arrive On Green	0.07	0.37	0.37	0.03	0.33	0.33	0.03	0.35	0.00	0.08	0.40	0.00
Sat Flow, veh/h	1781	1658	180	1781	806	902	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	136	0	245	30	0	515	36	357	0	383	695	0
Grp Sat Flow(s),veh/h/ln	1781	0	1838	1781	0	1708	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.9	0.0	11.7	1.3	0.0	34.9	1.5	8.8	0.0	9.5	17.6	0.0
Cycle Q Clear(g_c), s	5.9	0.0	11.7	1.3	0.0	34.9	1.5	8.8	0.0	9.5	17.6	0.0
Prop In Lane	1.00		0.10	1.00		0.53	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	0	673	412	0	557	298	1227		480	1404	
V/C Ratio(X)	0.65	0.00	0.36	0.07	0.00	0.93	0.12	0.29		0.80	0.49	
Avail Cap(c_a), veh/h	291	0	673	639	0	662	387	1227		480	1404	
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	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.5	0.0	27.8	25.8	0.0	39.0	24.6	28.6	0.0	30.7	27.3	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.3	0.1	0.0	17.3	0.2	0.6	0.0	9.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	5.2	0.6	0.0	16.6	0.6	3.6	0.0	6.1	7.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	28.2	25.9	0.0	56.3	24.7	29.2	0.0	40.0	28.5	0.0
LnGrp LOS	C	A	C	C	A	E	C	C		D	C	
Approach Vol, veh/h	381				545				393			
Approach Delay, s/veh	29.8				54.6				28.8			
Approach LOS	C				D				C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	52.9	8.7	49.4	15.0	46.9	13.5	44.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	28.5	18.5	41.5	9.5	28.5	13.5	46.5				
Max Q Clear Time (g_c+I1), s	3.5	19.6	3.3	13.7	11.5	10.8	7.9	36.9				
Green Ext Time (p_c), s	0.0	4.3	0.0	1.4	0.0	3.3	0.1	2.2				

Intersection Summary

HCM 6th Ctrl Delay 36.5
HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	5.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	329	172	93	381	138	72
Future Vol, veh/h	329	172	93	381	138	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	85	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	187	101	414	150	78
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	545	0	974	358
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	616	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1024	-	279	686
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1024	-	251	686
Mov Cap-2 Maneuver	-	-	-	-	251	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	486	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		29.1	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	251	686	-	-	1024	-
HCM Lane V/C Ratio	0.598	0.114	-	-	0.099	-
HCM Control Delay (s)	38.6	10.9	-	-	8.9	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	3.5	0.4	-	-	0.3	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	
Traffic Vol, veh/h	374	15	17	432	15	12
Future Vol, veh/h	374	15	17	432	15	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	420	17	19	485	17	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	437	0	943	420
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	523	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1123	-	291	633
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1123	-	284	633
Mov Cap-2 Maneuver	-	-	-	-	284	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	581	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		15.4	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	376	-	-	1123	-	
HCM Lane V/C Ratio	0.081	-	-	0.017	-	
HCM Control Delay (s)	15.4	-	-	8.3	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	378	440	1	1	8
Future Vol, veh/h	8	378	440	1	1	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	425	494	1	1	9

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	495	0	938
Stage 1	-	-	495
Stage 2	-	-	443
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1069	-	293
Stage 1	-	-	613
Stage 2	-	-	647
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1069	-	290
Mov Cap-2 Maneuver	-	-	290
Stage 1	-	-	606
Stage 2	-	-	647

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.1
HCM LOS	B		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1069	-	-	-	518
HCM Lane V/C Ratio	0.008	-	-	-	0.02
HCM Control Delay (s)	8.4	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	43	433	39	57	414
Future Vol, veh/h	22	43	433	39	57	414
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	46	466	42	61	445

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1033	466	0	0	508
Stage 1	466	-	-	-	-
Stage 2	567	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	258	597	-	-	1057
Stage 1	632	-	-	-	-
Stage 2	568	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	243	597	-	-	1057
Mov Cap-2 Maneuver	243	-	-	-	-
Stage 1	632	-	-	-	-
Stage 2	535	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	400	1057
HCM Lane V/C Ratio	-	-	0.175	0.058
HCM Control Delay (s)	-	-	15.9	8.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	44	43	426	345	39
Future Vol, veh/h	25	44	43	426	345	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	46	45	448	363	41

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	901	363	404
Stage 1	363	-	-
Stage 2	538	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	309	682	1155
Stage 1	704	-	-
Stage 2	585	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	297	682	1155
Mov Cap-2 Maneuver	297	-	-
Stage 1	677	-	-
Stage 2	585	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1155	-	464	-	-
HCM Lane V/C Ratio	0.039	-	0.157	-	-
HCM Control Delay (s)	8.2	-	14.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection						
Int Delay, s/veh	23.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	116	194	419	339	43
Future Vol, veh/h	42	116	194	419	339	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	126	211	455	368	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	666	0	-	0	657	439
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	923	-	-	-	430	618
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	923	-	-	-	407	618
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	818	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.4	0		70.8		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	923	-	-	-	423	
HCM Lane V/C Ratio	0.049	-	-	-	0.982	
HCM Control Delay (s)	9.1	0	-	-	70.8	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.2	-	-	-	12	

Intersection						
Int Delay, s/veh	5.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	426	57	61	585	93	89
Future Vol, veh/h	426	57	61	585	93	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	435	58	62	597	95	91
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	493	0	1185	464
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	721	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1071	-	209	598
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1071	-	191	598
Mov Cap-2 Maneuver	-	-	-	-	191	-
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	440	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		38.2	
HCM LOS					E	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	286	-	-	1071	-	
HCM Lane V/C Ratio	0.649	-	-	0.058	-	
HCM Control Delay (s)	38.2	-	-	8.6	0	
HCM Lane LOS	E	-	-	A	A	
HCM 95th %tile Q(veh)	4.2	-	-	0.2	-	

Intersection						
Int Delay, s/veh	52.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	203	374	26	126	497	44
Future Vol, veh/h	203	374	26	126	497	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	207	382	27	129	507	45
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	589	0	581	398
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	986	-	~ 476	652
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	986	-	~ 462	652
Mov Cap-2 Maneuver	-	-	-	-	~ 462	-
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	823	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.5		123.8		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	473	-	-	986	-	
HCM Lane V/C Ratio	1.167	-	-	0.027	-	
HCM Control Delay (s)	123.8	-	-	8.8	0	
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	20.2	-	-	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Future “No-Build” Intersection Analysis with Improvements

Intersection						
Int Delay, s/veh	34.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	1719	26	54	954	61	162
Future Vol, veh/h	1719	26	54	954	61	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	295	290	-	0	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1868	28	59	1037	66	176
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	-	1868	0	2505	934
Stage 1	-	-	-	-	1868	-
Stage 2	-	-	-	-	637	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	319	-	~ 23	267
Stage 1	-	0	-	-	108	-
Stage 2	-	0	-	-	489	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	319	-	~ 19	267
Mov Cap-2 Maneuver	-	-	-	-	~ 19	-
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	399	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1		\$ 450.2		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBL	WBT	
Capacity (veh/h)	19	267	-	319	-	
HCM Lane V/C Ratio	3.49	0.66	-	0.184	-	
HCM Control Delay (s)	\$ 1536.5	41.2	-	18.8	-	
HCM Lane LOS	F	E	-	C	-	
HCM 95th %tile Q(veh)	8.8	4.2	-	0.7	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th Signalized Intersection Summary

2: SR 92 & South Fulton Pkwy

2a. No Build 2030 AM - Improved

11/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	804	158	173	439	459	44	880	111	498	747	90
Future Volume (veh/h)	212	804	158	173	439	459	44	880	111	498	747	90
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	855	168	184	467	0	47	936	118	530	795	96
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	366	1091	486	227	1091		61	1068	476	550	1513	675
Arrive On Green	0.07	0.31	0.31	0.07	0.31	0.00	0.03	0.30	0.30	0.16	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	226	855	168	184	467	0	47	936	118	530	795	96
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.5	29.6	11.1	9.5	14.2	0.0	3.5	33.8	7.6	20.6	22.3	5.0
Cycle Q Clear(g_c), s	9.5	29.6	11.1	9.5	14.2	0.0	3.5	33.8	7.6	20.6	22.3	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	366	1091	486	227	1091		61	1068	476	550	1513	675
V/C Ratio(X)	0.62	0.78	0.35	0.81	0.43		0.77	0.88	0.25	0.96	0.53	0.14
Avail Cap(c_a), veh/h	366	1091	486	227	1091		165	1264	564	550	1513	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	42.7	36.3	34.5	37.3	0.0	64.7	44.8	35.7	56.4	28.7	23.7
Incr Delay (d2), s/veh	3.1	5.7	1.9	19.5	1.2	0.0	18.4	6.4	0.3	29.2	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	13.2	4.4	5.2	6.1	0.0	1.9	15.1	2.9	10.8	9.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	48.4	38.2	54.0	38.6	0.0	83.1	51.2	36.0	85.5	29.0	23.8
LnGrp LOS	D	D	D	D	D		F	D	D	F	C	C
Approach Vol, veh/h	1249			651			1101			1421		
Approach Delay, s/veh	44.9			42.9			50.9			49.7		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	46.9	10.1	63.0	15.0	46.9	27.0	46.1				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	34.0	12.5	57.0	9.5	34.0	21.5	48.0				
Max Q Clear Time (g_c+I1), s	11.5	16.2	5.5	24.3	11.5	31.6	22.6	35.8				
Green Ext Time (p_c), s	0.0	4.4	0.0	5.6	0.0	1.7	0.0	4.8				

Intersection Summary

HCM 6th Ctrl Delay 47.7

HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings 3: South Fulton Pkwy & Cedar Grove Rd

2a. No Build 2030 AM - Improved
10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	199	223	10	152	30	597	35	163	205	43
Future Volume (vph)	199	223	10	152	30	597	35	163	205	43
Lane Group Flow (vph)	212	256	11	488	32	635	37	173	218	46
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	17.0	51.0	19.0	53.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (%)	14.2%	42.5%	15.8%	44.2%	12.5%	29.2%	29.2%	12.5%	29.2%	29.2%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.77	0.33	0.03	0.86	0.07	0.55	0.06	0.55	0.15	0.06
Control Delay	39.4	23.9	16.0	46.3	21.6	37.3	0.2	28.8	26.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	23.9	16.0	46.3	21.6	37.3	0.2	28.8	26.8	0.2
Queue Length 50th (ft)	103	124	5	292	13	215	0	77	59	0
Queue Length 95th (ft)	#137	192	13	377	37	306	0	#154	105	0
Internal Link Dist (ft)		528		399		1119			5242	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	275	786	530	723	515	1160	601	320	1434	714
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.33	0.02	0.67	0.06	0.55	0.06	0.54	0.15	0.06

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

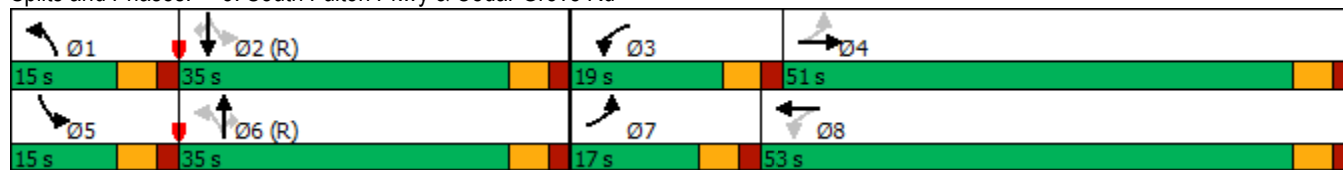
Natural Cycle: 100

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary

3: South Fulton Pkwy & Cedar Grove Rd

2a. No Build 2030 AM - Improved

10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	223	18	10	152	306	30	597	35	163	205	43
Future Volume (veh/h)	199	223	18	10	152	306	30	597	35	163	205	43
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	237	19	11	162	326	32	635	0	173	218	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	682	55	422	176	354	488	1160		343	1342	
Arrive On Green	0.09	0.40	0.40	0.01	0.32	0.32	0.03	0.33	0.00	0.08	0.38	0.00
Sat Flow, veh/h	1781	1709	137	1781	554	1115	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	212	0	256	11	0	488	32	635	0	173	218	0
Grp Sat Flow(s),veh/h/ln	1781	0	1846	1781	0	1670	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.3	0.0	11.6	0.5	0.0	33.8	1.4	17.6	0.0	7.5	4.9	0.0
Cycle Q Clear(g_c), s	9.3	0.0	11.6	0.5	0.0	33.8	1.4	17.6	0.0	7.5	4.9	0.0
Prop In Lane	1.00		0.07	1.00		0.67	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	736	422	0	531	488	1160		343	1342	
V/C Ratio(X)	0.82	0.00	0.35	0.03	0.00	0.92	0.07	0.55		0.51	0.16	
Avail Cap(c_a), veh/h	263	0	736	600	0	661	581	1160		343	1342	
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.6	0.0	25.2	27.1	0.0	39.5	25.5	33.2	0.0	24.3	24.8	0.0
Incr Delay (d2), s/veh	17.5	0.0	0.3	0.0	0.0	15.9	0.1	1.9	0.0	1.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	5.1	0.2	0.0	15.6	0.6	7.4	0.0	3.0	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	0.0	25.4	27.1	0.0	55.4	25.6	35.0	0.0	25.5	25.0	0.0
LnGrp LOS	D	A	C	C	A	E	C	D		C	C	
Approach Vol, veh/h	468			499			667			391		
Approach Delay, s/veh	34.8			54.7			34.6			25.2		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	50.8	7.0	53.4	14.9	44.7	16.8	43.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	29.5	13.5	45.5	9.5	29.5	11.5	47.5				
Max Q Clear Time (g_c+I1), s	3.4	6.9	2.5	13.6	9.5	19.6	11.3	35.8				
Green Ext Time (p_c), s	0.0	2.1	0.0	1.5	0.0	4.3	0.0	2.3				

Intersection Summary

HCM 6th Ctrl Delay 37.8

HCM 6th LOS D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection								
Int Delay, s/veh	3							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑	↖	↗		
Traffic Vol, veh/h	260	104	44	292	109	29		
Future Vol, veh/h	260	104	44	292	109	29		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	100	85	-	0	100		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	96	96	96	96	96	96		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	271	108	46	304	114	30		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	379	0	667	271		
Stage 1	-	-	-	-	271	-		
Stage 2	-	-	-	-	396	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1179	-	424	768		
Stage 1	-	-	-	-	775	-		
Stage 2	-	-	-	-	680	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	1179	-	407	768		
Mov Cap-2 Maneuver	-	-	-	-	407	-		
Stage 1	-	-	-	-	775	-		
Stage 2	-	-	-	-	653	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		1.1		15.7			
HCM LOS	C							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	407		768		-	-	1179	-
HCM Lane V/C Ratio	0.279		0.039		-	-	0.039	-
HCM Control Delay (s)	17.2		9.9		-	-	8.2	-
HCM Lane LOS	C		A		-	-	A	-
HCM 95th %tile Q(veh)	1.1		0.1		-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	
Traffic Vol, veh/h	251	7	1	332	17	10
Future Vol, veh/h	251	7	1	332	17	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	282	8	1	373	19	11
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	290	0	657	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1272	-	430	757
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1272	-	430	757
Mov Cap-2 Maneuver	-	-	-	-	430	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	694	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		12.5	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	512	-	-	1272	-	
HCM Lane V/C Ratio	0.059	-	-	0.001	-	
HCM Control Delay (s)	12.5	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	259	329	0	0	4
Future Vol, veh/h	1	259	329	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	298	378	0	0	5
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	378	0	-	0	678	378
Stage 1	-	-	-	-	378	-
Stage 2	-	-	-	-	300	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1180	-	-	-	418	669
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1180	-	-	-	418	669
Mov Cap-2 Maneuver	-	-	-	-	418	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	752	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		10.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1180	-	-	-	-	669
HCM Lane V/C Ratio	0.001	-	-	-	-	0.007
HCM Control Delay (s)	8.1	0	-	-	-	10.4
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	80	365	10	19	317
Future Vol, veh/h	12	80	365	10	19	317
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	84	384	11	20	334
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	758	384	0	0	395	0
Stage 1	384	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	375	664	-	-	1164	-
Stage 1	688	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	369	664	-	-	1164	-
Mov Cap-2 Maneuver	369	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.1	0	0.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	601	1164	-	
HCM Lane V/C Ratio	-	-	0.161	0.017	-	
HCM Control Delay (s)	-	-	12.1	8.1	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	51	25	17	280	293	19
Future Vol, veh/h	51	25	17	280	293	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	27	18	298	312	20

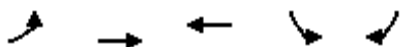
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	646	312	332	0	-	0
Stage 1	312	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	436	728	1227	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	429	728	1227	-	-	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1227	-	496	-	-
HCM Lane V/C Ratio	0.015	-	0.163	-	-
HCM Control Delay (s)	8	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Timings
9: Rivertown Rd & Cedar Grove Rd

2a. No Build 2030 AM - Improved
10/04/2022



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations		↰	↰	↰	↰
Traffic Volume (vph)	50	167	82	335	80
Future Volume (vph)	50	167	82	335	80
Lane Group Flow (vph)	0	242	331	372	89
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	4	
Permitted Phases	6				4
Detector Phase	6	6	2	4	4
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	42.0	42.0	42.0	48.0	48.0
Total Split (%)	46.7%	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio		0.25	0.31	0.76	0.18
Control Delay		10.7	5.9	39.1	5.5
Queue Delay		0.0	0.0	0.0	0.0
Total Delay		10.7	5.9	39.1	5.5
Queue Length 50th (ft)		60	59	193	0
Queue Length 95th (ft)		126	121	256	29
Internal Link Dist (ft)		1033	2267	1772	
Turn Bay Length (ft)					175
Base Capacity (vph)		965	1077	835	794
Starvation Cap Reductn		0	0	0	0
Spillback Cap Reductn		0	0	0	0
Storage Cap Reductn		0	0	0	0
Reduced v/c Ratio		0.25	0.31	0.45	0.11

Intersection Summary

Cycle Length: 90

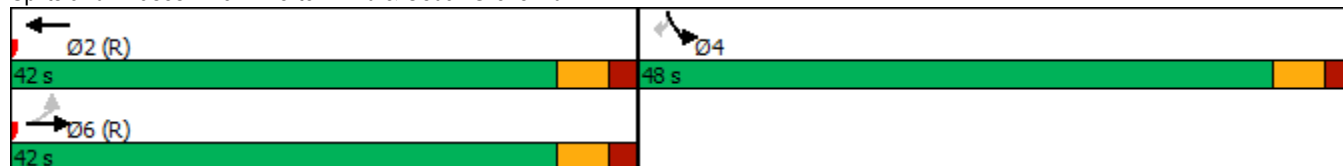
Actuated Cycle Length: 90

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

Natural Cycle: 50

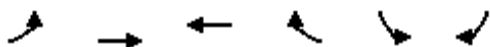
Control Type: Actuated-Coordinated

Splits and Phases: 9: Rivertown Rd & Cedar Grove Rd



HCM 6th Signalized Intersection Summary
9: Rivertown Rd & Cedar Grove Rd

2a. No Build 2030 AM - Improved
10/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	↰
Traffic Volume (veh/h)	50	167	82	216	335	80
Future Volume (veh/h)	50	167	82	216	335	80
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	186	91	240	372	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	252	811	292	770	420	
Arrive On Green	0.64	0.64	0.64	0.64	0.24	0.00
Sat Flow, veh/h	315	1262	455	1200	1781	1585
Grp Volume(v), veh/h	242	0	0	331	372	0
Grp Sat Flow(s),veh/h/ln	1578	0	0	1654	1781	1585
Q Serve(g_s), s	0.3	0.0	0.0	8.1	18.2	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	8.1	18.2	0.0
Prop In Lane	0.23			0.73	1.00	1.00
Lane Grp Cap(c), veh/h	1062	0	0	1062	420	
V/C Ratio(X)	0.23	0.00	0.00	0.31	0.89	
Avail Cap(c_a), veh/h	1062	0	0	1062	841	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.6	0.0	0.0	7.2	33.2	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.8	6.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	2.8	8.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	0.0	0.0	8.0	39.6	0.0
LnGrp LOS	A	A	A	A	D	
Approach Vol, veh/h		242	331		372	
Approach Delay, s/veh		7.1	8.0		39.6	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		63.3		26.7		63.3
Change Period (Y+Rc), s		5.5		5.5		5.5
Max Green Setting (Gmax), s		36.5		42.5		36.5
Max Q Clear Time (g_c+l1), s		10.1		20.2		10.3
Green Ext Time (p_c), s		4.3		1.1		2.6

Intersection Summary

HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	22					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	430	122	215	198	116	194
Future Vol, veh/h	430	122	215	198	116	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	160	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	506	144	253	233	136	228
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	650	0	1317	578
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	739	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	936	-	174	516
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	472	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	936	- ~	120	516
Mov Cap-2 Maneuver	-	-	-	- ~	120	-
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	326	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		5.3		83.3	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	120	516	-	-	936	-
HCM Lane V/C Ratio	1.137	0.442	-	-	0.27	-
HCM Control Delay (s)	193.6	17.4	-	-	10.3	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	8.3	2.2	-	-	1.1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Timings
11: Virlyn B Smith Rd & Rivertown Rd

2a. No Build 2030 AM - Improved
10/04/2022

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↱
Traffic Volume (vph)	151	18	113	176	54
Future Volume (vph)	151	18	113	176	54
Lane Group Flow (vph)	426	0	132	178	55
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	6		2	8	
Permitted Phases		2			8
Detector Phase	6	2	2	8	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	57.0	57.0	57.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	36.7%	36.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.34		0.11	0.63	0.18
Control Delay	8.2		4.8	44.8	10.2
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	8.2		4.8	44.8	10.2
Queue Length 50th (ft)	83		19	96	0
Queue Length 95th (ft)	158		45	152	30
Internal Link Dist (ft)	1043		686	597	
Turn Bay Length (ft)				235	175
Base Capacity (vph)	1268		1249	540	521
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.34		0.11	0.33	0.11

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 11: Virlyn B Smith Rd & Rivertown Rd



HCM 6th Signalized Intersection Summary
11: Virlyn B Smith Rd & Rivertown Rd

2a. No Build 2030 AM - Improved
10/04/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↱	↱
Traffic Volume (veh/h)	151	270	18	113	176	54
Future Volume (veh/h)	151	270	18	113	176	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	273	18	114	178	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	455	812	184	1142	218	
Arrive On Green	0.76	0.76	0.76	0.76	0.12	0.00
Sat Flow, veh/h	602	1075	184	1512	1781	1585
Grp Volume(v), veh/h	0	426	132	0	178	0
Grp Sat Flow(s),veh/h/ln	0	1677	1696	0	1781	1585
Q Serve(g_s), s	0.0	7.5	0.0	0.0	8.8	0.0
Cycle Q Clear(g_c), s	0.0	7.5	1.7	0.0	8.8	0.0
Prop In Lane		0.64	0.14		1.00	1.00
Lane Grp Cap(c), veh/h	0	1266	1326	0	218	
V/C Ratio(X)	0.00	0.34	0.10	0.00	0.82	
Avail Cap(c_a), veh/h	0	1266	1326	0	544	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	3.6	2.9	0.0	38.5	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.0	7.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	0.4	0.0	4.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.3	3.1	0.0	45.7	0.0
LnGrp LOS	A	A	A	A	D	
Approach Vol, veh/h	426			132	178	
Approach Delay, s/veh	4.3			3.1	45.7	
Approach LOS	A			A	D	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	73.5		73.5		16.5	
Change Period (Y+Rc), s	5.5		5.5		5.5	
Max Green Setting (Gmax), s	51.5		51.5		27.5	
Max Q Clear Time (g_c+I1), s	3.7		9.5		10.8	
Green Ext Time (p_c), s	1.5		6.7		0.4	
Intersection Summary						
HCM 6th Ctrl Delay			14.1			
HCM 6th LOS			B			
Notes						

Intersection						
Int Delay, s/veh	6.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	846	37	105	2026	43	61
Future Vol, veh/h	846	37	105	2026	43	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	295	290	-	0	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	872	38	108	2089	44	63
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	872	0	2133	436
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	1261	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	769	-	~ 42	568
Stage 1	-	0	-	-	369	-
Stage 2	-	0	-	-	230	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	769	-	~ 36	568
Mov Cap-2 Maneuver	-	-	-	-	~ 36	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	198	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		171.7	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	WBL	WBT
Capacity (veh/h)	36		568	-	769	-
HCM Lane V/C Ratio	1.231		0.111	-	0.141	-
HCM Control Delay (s)	\$ 398.1		12.1	-	10.4	-
HCM Lane LOS	F		B	-	B	-
HCM 95th %tile Q(veh)	4.6		0.4	-	0.5	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th Signalized Intersection Summary 2: SR 92 & South Fulton Pkwy

2b. No Build 2030 PM - Improved

11/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	350	95	165	891	826	148	933	108	381	785	226
Future Volume (veh/h)	166	350	95	165	891	826	148	933	108	381	785	226
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	175	368	100	174	938	0	156	982	114	401	826	238
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	227	1179	526	408	1179		181	1131	505	432	1214	541
Arrive On Green	0.07	0.33	0.33	0.07	0.33	0.00	0.10	0.32	0.32	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	175	368	100	174	938	0	156	982	114	401	826	238
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.2	10.8	6.3	9.1	33.6	0.0	12.1	36.4	7.4	16.1	27.9	16.3
Cycle Q Clear(g_c), s	9.2	10.8	6.3	9.1	33.6	0.0	12.1	36.4	7.4	16.1	27.9	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	1179	526	408	1179		181	1131	505	432	1214	541
V/C Ratio(X)	0.77	0.31	0.19	0.43	0.80		0.86	0.87	0.23	0.93	0.68	0.44
Avail Cap(c_a), veh/h	227	1179	526	408	1179		274	1434	640	432	1333	594
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(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	34.9	33.4	28.5	42.5	0.0	61.9	45.0	35.1	60.6	39.5	35.7
Incr Delay (d2), s/veh	14.8	0.7	0.8	0.7	5.6	0.0	16.0	4.9	0.2	26.4	1.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	4.6	2.5	3.8	14.9	0.0	6.1	16.0	2.8	8.4	11.8	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	35.6	34.2	29.2	48.1	0.0	77.9	49.8	35.3	87.0	40.8	36.3
LnGrp LOS	D	D	C	C	D		E	D	D	F	D	D
Approach Vol, veh/h	643			1112			1252			1465		
Approach Delay, s/veh	38.9			45.1			52.0			52.7		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	51.9	19.7	53.3	15.0	51.9	23.0	50.1				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	34.5	21.5	52.5	9.5	34.5	17.5	56.5				
Max Q Clear Time (g_c+I1), s	11.2	35.6	14.1	29.9	11.1	12.8	18.1	38.4				
Green Ext Time (p_c), s	0.0	0.0	0.2	5.9	0.0	4.5	0.0	6.1				

Intersection Summary

HCM 6th Ctrl Delay 48.6

HCM 6th LOS D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings 3: South Fulton Pkwy & Cedar Grove Rd

2b. No Build 2030 PM - Improved

10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	133	217	29	238	35	350	55	375	681	197
Future Volume (vph)	133	217	29	238	35	350	55	375	681	197
Lane Group Flow (vph)	136	245	30	515	36	357	56	383	695	201
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	19.0	47.0	24.0	52.0	15.0	34.0	34.0	15.0	34.0	34.0
Total Split (%)	15.8%	39.2%	20.0%	43.3%	12.5%	28.3%	28.3%	12.5%	28.3%	28.3%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.49	0.33	0.07	0.88	0.13	0.42	0.12	0.83	0.52	0.28
Control Delay	23.0	25.1	15.3	50.9	24.5	40.7	0.5	46.9	34.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	25.1	15.3	50.9	24.5	40.7	0.5	46.9	34.4	8.1
Queue Length 50th (ft)	58	132	12	338	16	124	0	212	236	11
Queue Length 95th (ft)	83	180	25	442	42	171	0	#570	342	74
Internal Link Dist (ft)		528		399		1119			5242	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	295	742	623	698	309	840	469	460	1328	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.33	0.05	0.74	0.12	0.42	0.12	0.83	0.52	0.28

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

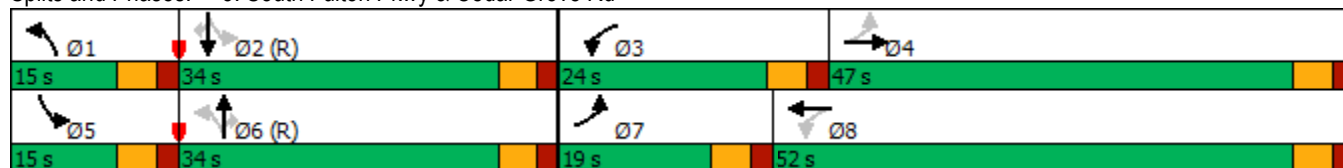
Natural Cycle: 100

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

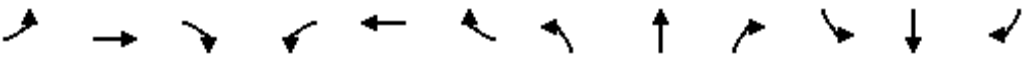
Queue shown is maximum after two cycles.

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary 3: South Fulton Pkwy & Cedar Grove Rd

2b. No Build 2030 PM - Improved
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	217	24	29	238	267	35	350	55	375	681	197
Future Volume (veh/h)	133	217	24	29	238	267	35	350	55	375	681	197
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
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	221	24	30	243	272	36	357	0	383	695	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	209	607	66	412	263	294	298	1227		480	1404	
Arrive On Green	0.07	0.37	0.37	0.03	0.33	0.33	0.03	0.35	0.00	0.08	0.40	0.00
Sat Flow, veh/h	1781	1658	180	1781	806	902	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	136	0	245	30	0	515	36	357	0	383	695	0
Grp Sat Flow(s),veh/h/ln	1781	0	1838	1781	0	1708	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.9	0.0	11.7	1.3	0.0	34.9	1.5	8.8	0.0	9.5	17.6	0.0
Cycle Q Clear(g_c), s	5.9	0.0	11.7	1.3	0.0	34.9	1.5	8.8	0.0	9.5	17.6	0.0
Prop In Lane	1.00		0.10	1.00		0.53	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	0	673	412	0	557	298	1227		480	1404	
V/C Ratio(X)	0.65	0.00	0.36	0.07	0.00	0.93	0.12	0.29		0.80	0.49	
Avail Cap(c_a), veh/h	291	0	673	639	0	662	387	1227		480	1404	
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	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.5	0.0	27.8	25.8	0.0	39.0	24.6	28.6	0.0	30.7	27.3	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.3	0.1	0.0	17.3	0.2	0.6	0.0	9.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	5.2	0.6	0.0	16.6	0.6	3.6	0.0	6.1	7.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	28.2	25.9	0.0	56.3	24.7	29.2	0.0	40.0	28.5	0.0
LnGrp LOS	C	A	C	C	A	E	C	C		D	C	
Approach Vol, veh/h	381				545				393			
Approach Delay, s/veh	29.8				54.6				28.8			
Approach LOS	C				D				C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	52.9	8.7	49.4	15.0	46.9	13.5	44.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	28.5	18.5	41.5	9.5	28.5	13.5	46.5				
Max Q Clear Time (g_c+I1), s	3.5	19.6	3.3	13.7	11.5	10.8	7.9	36.9				
Green Ext Time (p_c), s	0.0	4.3	0.0	1.4	0.0	3.3	0.1	2.2				

Intersection Summary

HCM 6th Ctrl Delay 36.5

HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	5.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	329	172	93	381	138	72
Future Vol, veh/h	329	172	93	381	138	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	85	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	187	101	414	150	78
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	545	0	974	358
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	616	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1024	-	279	686
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1024	-	251	686
Mov Cap-2 Maneuver	-	-	-	-	251	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	486	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		29.1	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	251	686	-	-	1024	-
HCM Lane V/C Ratio	0.598	0.114	-	-	0.099	-
HCM Control Delay (s)	38.6	10.9	-	-	8.9	-
HCM Lane LOS	E	B	-	-	A	-
HCM 95th %tile Q(veh)	3.5	0.4	-	-	0.3	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	
Traffic Vol, veh/h	374	15	17	432	15	12
Future Vol, veh/h	374	15	17	432	15	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	420	17	19	485	17	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	437	0	943	420
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	523	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1123	-	291	633
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1123	-	284	633
Mov Cap-2 Maneuver	-	-	-	-	284	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	581	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		15.4	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	376	-	-	1123	-	
HCM Lane V/C Ratio	0.081	-	-	0.017	-	
HCM Control Delay (s)	15.4	-	-	8.3	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	378	440	1	1	8
Future Vol, veh/h	8	378	440	1	1	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	425	494	1	1	9
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	495	0	-	0	938	495
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1069	-	-	-	293	575
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	647	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1069	-	-	-	290	575
Mov Cap-2 Maneuver	-	-	-	-	290	-
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	647	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		12.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1069	-	-	-	518	
HCM Lane V/C Ratio	0.008	-	-	-	0.02	
HCM Control Delay (s)	8.4	0	-	-	12.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	43	433	39	57	414
Future Vol, veh/h	22	43	433	39	57	414
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	46	466	42	61	445
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1033	466	0	0	508	0
Stage 1	466	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	258	597	-	-	1057	-
Stage 1	632	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	243	597	-	-	1057	-
Mov Cap-2 Maneuver	243	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15.9	0	1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	400	1057	-	
HCM Lane V/C Ratio	-	-	0.175	0.058	-	
HCM Control Delay (s)	-	-	15.9	8.6	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	44	43	426	345	39
Future Vol, veh/h	25	44	43	426	345	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	46	45	448	363	41

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	901	363	404	0	-	0
Stage 1	363	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	309	682	1155	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	297	682	1155	-	-	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	585	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1155	-	464	-	-
HCM Lane V/C Ratio	0.039	-	0.157	-	-
HCM Control Delay (s)	8.2	-	14.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Timings
9: Rivertown Rd & Cedar Grove Rd

2b. No Build 2030 PM - Improved
10/04/2022



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations		↰	↰	↰	↰
Traffic Volume (vph)	42	116	194	339	43
Future Volume (vph)	42	116	194	339	43
Lane Group Flow (vph)	0	172	666	368	47
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	4	
Permitted Phases	6				4
Detector Phase	6	6	2	4	4
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	53.0	53.0	53.0	37.0	37.0
Total Split (%)	58.9%	58.9%	58.9%	41.1%	41.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio		0.19	0.60	0.78	0.10
Control Delay		9.7	23.9	42.1	7.1
Queue Delay		0.0	0.0	0.0	0.0
Total Delay		9.7	23.9	42.1	7.1
Queue Length 50th (ft)		39	323	193	0
Queue Length 95th (ft)		86	443	263	22
Internal Link Dist (ft)		1033	2267	1772	
Turn Bay Length (ft)					175
Base Capacity (vph)		886	1105	619	584
Starvation Cap Reductn		0	0	0	0
Spillback Cap Reductn		0	0	0	0
Storage Cap Reductn		0	0	0	0
Reduced v/c Ratio		0.19	0.60	0.59	0.08

Intersection Summary

Cycle Length: 90

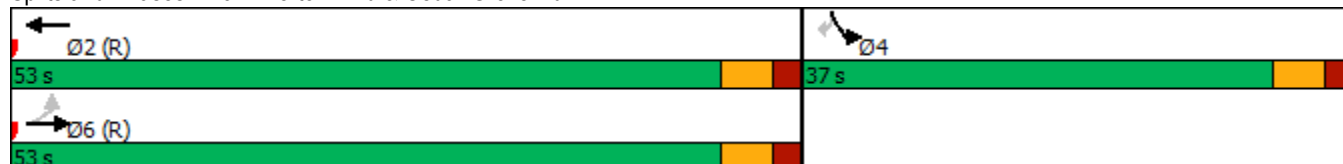
Actuated Cycle Length: 90

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

Natural Cycle: 55

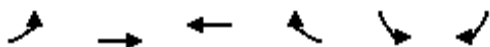
Control Type: Actuated-Coordinated

Splits and Phases: 9: Rivertown Rd & Cedar Grove Rd



HCM 6th Signalized Intersection Summary
9: Rivertown Rd & Cedar Grove Rd

2b. No Build 2030 PM - Improved
10/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	↰
Traffic Volume (veh/h)	42	116	194	419	339	43
Future Volume (veh/h)	42	116	194	419	339	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	126	211	455	368	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	199	521	341	735	413	
Arrive On Green	0.65	0.65	0.65	0.65	0.23	0.00
Sat Flow, veh/h	230	806	528	1138	1781	1585
Grp Volume(v), veh/h	172	0	0	666	368	0
Grp Sat Flow(s),veh/h/ln	1035	0	0	1666	1781	1585
Q Serve(g_s), s	2.3	0.0	0.0	21.2	18.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	0.0	21.2	18.0	0.0
Prop In Lane	0.27			0.68	1.00	1.00
Lane Grp Cap(c), veh/h	720	0	0	1076	413	
V/C Ratio(X)	0.24	0.00	0.00	0.62	0.89	
Avail Cap(c_a), veh/h	720	0	0	1076	623	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	9.4	33.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.7	10.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	7.7	8.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.6	0.0	0.0	12.1	44.0	0.0
LnGrp LOS	A	A	A	B	D	
Approach Vol, veh/h		172	666		368	
Approach Delay, s/veh		8.6	12.1		44.0	
Approach LOS		A	B		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		63.6		26.4		63.6
Change Period (Y+Rc), s		5.5		5.5		5.5
Max Green Setting (Gmax), s		47.5		31.5		47.5
Max Q Clear Time (g_c+I1), s		23.2		20.0		25.5
Green Ext Time (p_c), s		9.8		0.9		1.8
Intersection Summary						
HCM 6th Ctrl Delay			21.3			
HCM 6th LOS			C			

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection								
Int Delay, s/veh	4.1							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	426	57	61	585	93	89		
Future Vol, veh/h	426	57	61	585	93	89		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	Yield		
Storage Length	-	-	-	-	160	-		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	98	98	98	98	98	98		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	435	58	62	597	95	91		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	493	0	1185	464		
Stage 1	-	-	-	-	464	-		
Stage 2	-	-	-	-	721	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1071	-	209	598		
Stage 1	-	-	-	-	633	-		
Stage 2	-	-	-	-	482	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	1071	-	191	598		
Mov Cap-2 Maneuver	-	-	-	-	191	-		
Stage 1	-	-	-	-	633	-		
Stage 2	-	-	-	-	440	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.8		26.9			
HCM LOS	D							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	191		598		-	-	1071	-
HCM Lane V/C Ratio	0.497		0.152		-	-	0.058	-
HCM Control Delay (s)	41.1		12.1		-	-	8.6	0
HCM Lane LOS	E		B		-	-	A	A
HCM 95th %tile Q(veh)	2.5		0.5		-	-	0.2	-

Timings
11: Virlyn B Smith Rd & Rivertown Rd

2b. No Build 2030 PM - Improved
10/04/2022

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰		↰	↰	↰
Traffic Volume (vph)	203	26	126	497	44
Future Volume (vph)	203	26	126	497	44
Lane Group Flow (vph)	589	0	156	507	45
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	6		2	8	
Permitted Phases		2			8
Detector Phase	6	2	2	8	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	47.0	47.0	47.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	47.8%	47.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.61		0.18	0.84	0.08
Control Delay	21.5		12.9	39.8	5.5
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	21.5		12.9	39.8	5.5
Queue Length 50th (ft)	272		44	259	0
Queue Length 95th (ft)	394		90	346	20
Internal Link Dist (ft)	1043		686	597	
Turn Bay Length (ft)				235	175
Base Capacity (vph)	973		873	737	685
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.61		0.18	0.69	0.07

Intersection Summary

Cycle Length: 90

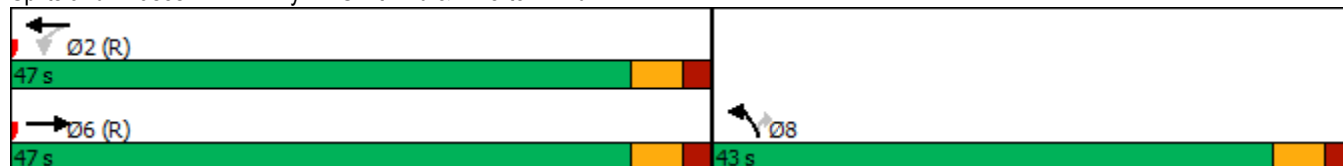
Actuated Cycle Length: 90

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

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 11: Virlyn B Smith Rd & Rivertown Rd



HCM 6th Signalized Intersection Summary
11: Virlyn B Smith Rd & Rivertown Rd

2b. No Build 2030 PM - Improved
10/04/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↰	↰
Traffic Volume (veh/h)	203	374	26	126	497	44
Future Volume (veh/h)	203	374	26	126	497	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	382	27	129	507	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	334	616	135	619	553	
Arrive On Green	0.57	0.57	0.57	0.57	0.31	0.00
Sat Flow, veh/h	589	1086	156	1092	1781	1585
Grp Volume(v), veh/h	0	589	156	0	507	0
Grp Sat Flow(s),veh/h/ln	0	1675	1247	0	1781	1585
Q Serve(g_s), s	0.0	21.1	1.3	0.0	24.7	0.0
Cycle Q Clear(g_c), s	0.0	21.1	22.4	0.0	24.7	0.0
Prop In Lane		0.65	0.17		1.00	1.00
Lane Grp Cap(c), veh/h	0	950	755	0	553	
V/C Ratio(X)	0.00	0.62	0.21	0.00	0.92	
Avail Cap(c_a), veh/h	0	950	755	0	742	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.0	10.0	0.0	29.9	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.6	0.0	13.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.2	1.4	0.0	11.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	16.0	10.7	0.0	43.2	0.0
LnGrp LOS	A	B	B	A	D	
Approach Vol, veh/h	589			156	507	
Approach Delay, s/veh	16.0			10.7	43.2	
Approach LOS	B			B	D	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	56.6		56.6		33.4	
Change Period (Y+Rc), s	5.5		5.5		5.5	
Max Green Setting (Gmax), s	41.5		41.5		37.5	
Max Q Clear Time (g_c+I1), s	24.4		23.1		26.7	
Green Ext Time (p_c), s	1.3		7.2		1.3	
Intersection Summary						
HCM 6th Ctrl Delay			26.4			
HCM 6th LOS			C			

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Future “Build” Intersections Analysis

Intersection							
Int Delay, s/veh	43.1						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑	
Traffic Vol, veh/h	1817	26	54	1015	61	162	
Future Vol, veh/h	1817	26	54	1015	61	162	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	Free	-	None	-	Yield	
Storage Length	-	295	290	-	0	175	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	1975	28	59	1103	66	176	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	-	1975	0	2645	988	
Stage 1	-	-	-	-	1975	-	
Stage 2	-	-	-	-	670	-	
Critical Hdwy	-	-	4.14	-	6.84	6.94	
Critical Hdwy Stg 1	-	-	-	-	5.84	-	
Critical Hdwy Stg 2	-	-	-	-	5.84	-	
Follow-up Hdwy	-	-	2.22	-	3.52	3.32	
Pot Cap-1 Maneuver	-	0	289	-	~ 19	246	
Stage 1	-	0	-	-	94	-	
Stage 2	-	0	-	-	470	-	
Platoon blocked, %	-			-			
Mov Cap-1 Maneuver	-	-	289	-	~ 15	246	
Mov Cap-2 Maneuver	-	-	-	-	~ 15	-	
Stage 1	-	-	-	-	94	-	
Stage 2	-	-	-	-	374	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		1		\$ 596.4		
HCM LOS	F						
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	WBL	WBT
Capacity (veh/h)	15		246		-	289	-
HCM Lane V/C Ratio	4.42		0.716		-	0.203	-
HCM Control Delay (s)	\$ 2048.8		49.5		-	20.6	-
HCM Lane LOS	F		E		-	C	-
HCM 95th %tile Q(veh)	9.1		4.9		-	0.7	-
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon	

Timings 2: SR 92 & South Fulton Pkwy

3a. Build 2030 AM
10/04/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	902	172	173	500	459	53	880	111	498	747	108
Future Volume (vph)	240	902	172	173	500	459	53	880	111	498	747	108
Lane Group Flow (vph)	255	960	183	184	532	488	56	936	118	530	795	115
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	39.5	39.5	15.0	39.5	39.5	15.0	53.5	53.5	15.0	53.5	53.5
Total Split (s)	15.0	41.5	41.5	15.0	41.5	41.5	15.0	53.5	53.5	25.0	63.5	63.5
Total Split (%)	11.1%	30.7%	30.7%	11.1%	30.7%	30.7%	11.1%	39.6%	39.6%	18.5%	47.0%	47.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	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	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.77	0.99	0.34	0.76	0.54	0.79	0.50	0.84	0.20	1.07	0.54	0.16
Control Delay	47.9	76.0	10.7	52.0	44.5	32.0	76.7	50.6	2.5	114.5	31.7	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	76.0	10.7	52.0	44.5	32.0	76.7	50.6	2.5	114.5	31.7	5.0
Queue Length 50th (ft)	152	~467	19	106	213	206	48	398	0	~264	283	2
Queue Length 95th (ft)	#324	#602	81	#278	273	#361	95	457	20	#379	328	38
Internal Link Dist (ft)		5265			2332			419			728	
Turn Bay Length (ft)	270		110	215		110	420			385		190
Base Capacity (vph)	332	967	545	242	978	619	124	1258	662	495	1528	746
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.99	0.34	0.76	0.54	0.79	0.45	0.74	0.18	1.07	0.52	0.15

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

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

Natural Cycle: 135

Control Type: Actuated-Coordinated

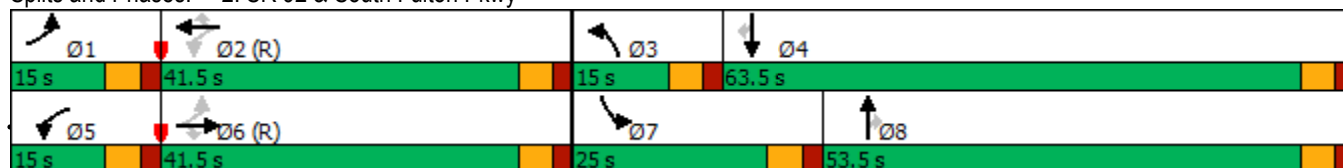
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 92 & South Fulton Pkwy



HCM 6th Signalized Intersection Summary 2: SR 92 & South Fulton Pkwy

3a. Build 2030 AM
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	902	172	173	500	459	53	880	111	498	747	108
Future Volume (veh/h)	240	902	172	173	500	459	53	880	111	498	747	108
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	255	960	183	184	532	488	56	936	118	530	795	115
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	291	1143	510	213	1143	510	72	1068	476	499	1437	641
Arrive On Green	0.07	0.32	0.32	0.07	0.32	0.32	0.04	0.30	0.30	0.14	0.40	0.40
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	255	960	183	184	532	488	56	936	118	530	795	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.5	33.9	12.0	9.5	16.1	40.7	4.2	33.8	7.6	19.5	23.2	6.3
Cycle Q Clear(g_c), s	9.5	33.9	12.0	9.5	16.1	40.7	4.2	33.8	7.6	19.5	23.2	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	291	1143	510	213	1143	510	72	1068	476	499	1437	641
V/C Ratio(X)	0.88	0.84	0.36	0.86	0.47	0.96	0.78	0.88	0.25	1.06	0.55	0.18
Avail Cap(c_a), veh/h	291	1143	510	213	1143	510	125	1264	564	499	1527	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	42.6	35.1	33.9	36.5	44.9	64.2	44.8	35.7	57.8	30.8	25.8
Incr Delay (d2), s/veh	24.8	7.5	2.0	28.4	1.4	30.5	16.2	6.4	0.3	57.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	15.3	4.7	5.5	6.9	19.4	2.2	15.1	2.9	12.2	9.5	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	50.0	37.1	62.3	37.9	75.4	80.3	51.2	36.0	115.4	31.2	25.9
LnGrp LOS	E	D	D	E	D	E	F	D	D	F	C	C
Approach Vol, veh/h		1398			1204			1110			1440	
Approach Delay, s/veh		50.6			56.8			51.1			61.8	
Approach LOS		D			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	48.9	11.0	60.1	15.0	48.9	25.0	46.1				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	36.0	9.5	58.0	9.5	36.0	19.5	48.0				
Max Q Clear Time (g_c+I1), s	11.5	42.7	6.2	25.2	11.5	35.9	21.5	35.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.6	0.0	0.1	0.0	4.8				
Intersection Summary												
HCM 6th Ctrl Delay			55.3									
HCM 6th LOS			E									

Timings 3: South Fulton Pkwy & Cedar Grove Rd

3a. Build 2030 AM
10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	199	232	66	166	30	597	70	251	205	43
Future Volume (vph)	199	232	66	166	30	597	70	251	205	43
Lane Group Flow (vph)	212	266	70	651	32	635	74	267	218	46
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	17.0	51.0	19.0	53.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (%)	14.2%	42.5%	15.8%	44.2%	12.5%	29.2%	29.2%	12.5%	29.2%	29.2%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.93	0.35	0.14	0.94	0.08	0.73	0.15	0.99	0.18	0.08
Control Delay	74.2	25.1	14.9	51.1	24.9	47.3	1.7	85.3	31.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.2	25.1	14.9	51.1	24.9	47.3	1.7	85.3	31.8	0.2
Queue Length 50th (ft)	111	133	25	384	16	238	0	~187	69	0
Queue Length 95th (ft)	#263	207	49	#618	38	306	8	#370	106	0
Internal Link Dist (ft)		528		406		1119			5239	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	228	770	590	737	421	870	481	271	1179	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.35	0.12	0.88	0.08	0.73	0.15	0.99	0.18	0.08

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: 100

Control Type: Actuated-Coordinated

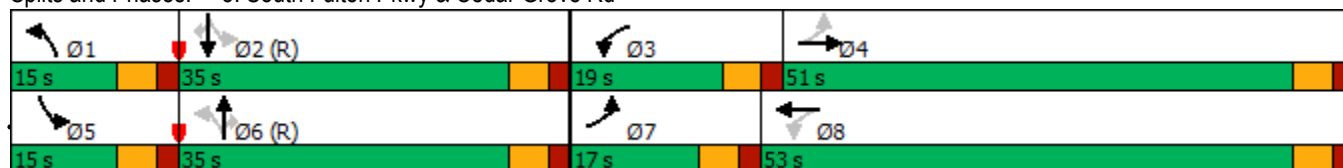
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary

3: South Fulton Pkwy & Cedar Grove Rd

3a. Build 2030 AM

10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	232	18	66	166	446	30	597	70	251	205	43
Future Volume (veh/h)	199	232	18	66	166	446	30	597	70	251	205	43
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	247	19	70	177	474	32	635	0	267	218	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	779	60	530	178	477	395	874		266	1058	
Arrive On Green	0.10	0.45	0.45	0.04	0.40	0.40	0.03	0.25	0.00	0.08	0.30	0.00
Sat Flow, veh/h	1781	1715	132	1781	450	1204	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	212	0	266	70	0	651	32	635	0	267	218	0
Grp Sat Flow(s),veh/h/ln	1781	0	1847	1781	0	1654	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.9	0.0	11.0	2.8	0.0	47.1	1.6	19.7	0.0	9.5	5.5	0.0
Cycle Q Clear(g_c), s	9.9	0.0	11.0	2.8	0.0	47.1	1.6	19.7	0.0	9.5	5.5	0.0
Prop In Lane	1.00		0.07	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	0	838	530	0	655	395	874		266	1058	
V/C Ratio(X)	0.91	0.00	0.32	0.13	0.00	0.99	0.08	0.73		1.00	0.21	
Avail Cap(c_a), veh/h	233	0	838	664	0	655	487	874		266	1058	
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.6	0.0	20.9	20.1	0.0	36.1	32.3	41.6	0.0	39.6	31.5	0.0
Incr Delay (d2), s/veh	35.2	0.0	0.2	0.1	0.0	33.7	0.1	5.3	0.0	56.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	4.7	1.1	0.0	23.9	0.7	8.8	0.0	7.3	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	0.0	21.1	20.2	0.0	69.8	32.4	46.8	0.0	95.9	32.0	0.0
LnGrp LOS	E	A	C	C	A	E	C	D		F	C	
Approach Vol, veh/h	478			721			667			485		
Approach Delay, s/veh	42.7			65.0			46.1			67.2		
Approach LOS	D			E			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	41.2	10.0	60.0	15.0	35.0	17.0	53.0				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	29.5	13.5	45.5	9.5	29.5	11.5	47.5				
Max Q Clear Time (g_c+I1), s	3.6	7.5	4.8	13.0	11.5	21.7	11.9	49.1				
Green Ext Time (p_c), s	0.0	2.1	0.1	1.6	0.0	3.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 55.6

HCM 6th LOS E

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	352	104	44	439	8	109	0	29	12	0	63
Future Vol, veh/h	39	352	104	44	439	8	109	0	29	12	0	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	85	-	-	-	-	100	-	-	-
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	41	367	108	46	457	8	114	0	30	13	0	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	475	0	0	1089	1060	421	1071	1110	461
Stage 1	-	-	-	-	-	-	503	503	-	553	553	-
Stage 2	-	-	-	-	-	-	586	557	-	518	557	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1096	-	-	1087	-	-	193	224	632	198	209	600
Stage 1	-	-	-	-	-	-	551	541	-	517	514	-
Stage 2	-	-	-	-	-	-	496	512	-	541	512	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1096	-	-	1087	-	-	162	207	632	177	193	600
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	207	-	177	193	-
Stage 1	-	-	-	-	-	-	531	521	-	498	492	-
Stage 2	-	-	-	-	-	-	423	490	-	496	493	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.8	55.5	15.1
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	162	632	1096	-	-	1087	-	-	434
HCM Lane V/C Ratio	0.701	0.048	0.037	-	-	0.042	-	-	0.18
HCM Control Delay (s)	67.3	11	8.4	-	-	8.5	-	-	15.1
HCM Lane LOS	F	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	4.2	0.1	0.1	-	-	0.1	-	-	0.6

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	290	7	1	382	26	17	0	10	41	0	105
Future Vol, veh/h	66	290	7	1	382	26	17	0	10	41	0	105
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	160	-	-	175	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	326	8	1	429	29	19	0	11	46	0	118
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	334	0	0	979	934	326	915	913	429
Stage 1	-	-	-	-	-	-	474	474	-	431	431	-
Stage 2	-	-	-	-	-	-	505	460	-	484	482	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1103	-	-	1225	-	-	229	266	715	253	273	626
Stage 1	-	-	-	-	-	-	571	558	-	603	583	-
Stage 2	-	-	-	-	-	-	549	566	-	564	553	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	1225	-	-	176	248	715	236	254	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	248	-	236	254	-
Stage 1	-	-	-	-	-	-	533	521	-	563	582	-
Stage 2	-	-	-	-	-	-	445	565	-	518	516	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.5			0			21.8			18.5		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	244	1103	-	-	1225	-	-	428				
HCM Lane V/C Ratio	0.124	0.067	-	-	0.001	-	-	0.383				
HCM Control Delay (s)	21.8	8.5	-	-	7.9	0	-	18.5				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	1.8				

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	326	371	0	0	6
Future Vol, veh/h	4	326	371	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	375	426	0	0	7
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	426	0	-	0	811	426
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	385	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1133	-	-	-	349	628
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1133	-	-	-	347	628
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	688	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		10.8		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1133	-	-	-	628	
HCM Lane V/C Ratio	0.004	-	-	-	0.011	
HCM Control Delay (s)	8.2	0	-	-	10.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↑	↔	↑
Traffic Vol, veh/h	12	82	405	10	22	381
Future Vol, veh/h	12	82	405	10	22	381
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	86	426	11	23	401
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	873	426	0	0	437	0
Stage 1	426	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	321	628	-	-	1123	-
Stage 1	659	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	628	-	-	1123	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.9	0	0.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	557	1123	-	
HCM Lane V/C Ratio	-	-	0.178	0.021	-	
HCM Control Delay (s)	-	-	12.9	8.3	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	25	17	319	355	22
Future Vol, veh/h	53	25	17	319	355	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	27	18	339	378	23

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	753	378	401
Stage 1	378	-	-
Stage 2	375	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	377	669	1158
Stage 1	693	-	-
Stage 2	695	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	371	669	1158
Mov Cap-2 Maneuver	371	-	-
Stage 1	682	-	-
Stage 2	695	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1158	-	433	-	-
HCM Lane V/C Ratio	0.016	-	0.192	-	-
HCM Control Delay (s)	8.2	-	15.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Intersection						
Int Delay, s/veh	36.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	59	167	82	246	383	94
Future Vol, veh/h	59	167	82	246	383	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	186	91	273	426	104
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	364	0	-	0	546	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	318	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1195	-	-	-	499	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	738	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1195	-	-	-	468	811
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	738	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.1	0		78.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1195	-	-	-	511	
HCM Lane V/C Ratio	0.055	-	-	-	1.037	
HCM Control Delay (s)	8.2	0	-	-	78.4	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.2	-	-	-	15.3	

Intersection						
Int Delay, s/veh	103.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	469	130	215	223	121	194
Future Vol, veh/h	469	130	215	223	121	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	552	153	253	262	142	228
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	705	0	1397	629
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	768	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	893	-	155	482
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	458	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	893	-	~ 104	482
Mov Cap-2 Maneuver	-	-	-	-	~ 104	-
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	306	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	5.2		\$ 438.4		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	201	-	-	893	-	
HCM Lane V/C Ratio	1.844	-	-	0.283	-	
HCM Control Delay (s)	\$ 438.4	-	-	10.6	0	
HCM Lane LOS	F	-	-	B	A	
HCM 95th %tile Q(veh)	26.5	-	-	1.2	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	4.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	171	290	18	125	188	54
Future Vol, veh/h	171	290	18	125	188	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	293	18	126	190	55
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	466	0	482	320
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	162	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1095	-	543	721
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1095	-	533	721
Mov Cap-2 Maneuver	-	-	-	-	533	-
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	851	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.1		16.1	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	566	-	-	1095	-	
HCM Lane V/C Ratio	0.432	-	-	0.017	-	
HCM Control Delay (s)	16.1	-	-	8.3	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	2.2	-	-	0.1	-	

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	313	367	10	17	42
Future Vol, veh/h	26	313	367	10	17	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	340	399	11	18	46
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	410	0	-	0	795	399
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1149	-	-	-	357	651
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1149	-	-	-	348	651
Mov Cap-2 Maneuver	-	-	-	-	348	-
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	680	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		12.9		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1149	-	-	-	520	
HCM Lane V/C Ratio	0.025	-	-	-	0.123	
HCM Control Delay (s)	8.2	-	-	-	12.9	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	

Intersection						
Int Delay, s/veh	9.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	962	37	105	2159	43	61
Future Vol, veh/h	962	37	105	2159	43	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	295	290	-	0	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	992	38	108	2226	44	63
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	992	0	2321	496
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1329	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	693	-	~ 31	519
Stage 1	-	0	-	-	320	-
Stage 2	-	0	-	-	212	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	693	-	~ 26	519
Mov Cap-2 Maneuver	-	-	-	-	~ 26	-
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	179	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		282.4	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	WBL	WBT
Capacity (veh/h)	26		519	-	693	-
HCM Lane V/C Ratio	1.705		0.121	-	0.156	-
HCM Control Delay (s)	\$ 664.6		12.9	-	11.2	-
HCM Lane LOS	F		B	-	B	-
HCM 95th %tile Q(veh)	5.4		0.4	-	0.6	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Timings
2: SR 92 & South Fulton Pkwy

3b. Build 2030 PM
10/04/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	466	112	165	1024	826	167	933	108	381	785	264
Future Volume (vph)	199	466	112	165	1024	826	167	933	108	381	785	264
Lane Group Flow (vph)	209	491	118	174	1078	869	176	982	114	401	826	278
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	37.5	37.5	15.0	39.5	39.5	15.0	53.5	53.5	15.0	53.5	53.5
Total Split (s)	15.0	59.5	59.5	17.0	61.5	61.5	19.0	53.5	53.5	20.0	54.5	54.5
Total Split (%)	10.0%	39.7%	39.7%	11.3%	41.0%	41.0%	12.7%	35.7%	35.7%	13.3%	36.3%	36.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	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	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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	1.07	0.37	0.18	0.43	0.82	1.19	1.11	0.91	0.21	1.21	0.74	0.46
Control Delay	119.6	35.5	9.1	26.4	48.5	128.6	162.8	62.1	9.9	174.4	50.7	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.6	35.5	9.1	26.4	48.5	128.6	162.8	62.1	9.9	174.4	50.7	18.3
Queue Length 50th (ft)	~193	187	13	98	498	~876	~195	476	11	~245	374	83
Queue Length 95th (ft)	#366	239	58	149	590	#1137	#356	569	58	#355	452	170
Internal Link Dist (ft)		5265			2332			419			728	
Turn Bay Length (ft)	270		110	215		110	420			385		190
Base Capacity (vph)	195	1329	655	407	1321	732	159	1132	573	331	1156	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.37	0.18	0.43	0.82	1.19	1.11	0.87	0.20	1.21	0.71	0.44

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 145

Control Type: Actuated-Coordinated

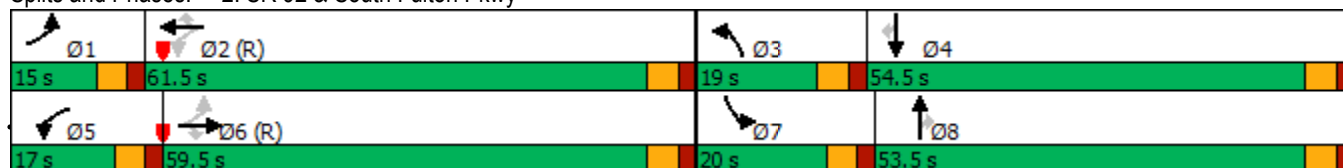
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 92 & South Fulton Pkwy



HCM 6th Signalized Intersection Summary

2: SR 92 & South Fulton Pkwy

3b. Build 2030 PM

10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	466	112	165	1024	826	167	933	108	381	785	264
Future Volume (veh/h)	199	466	112	165	1024	826	167	933	108	381	785	264
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	491	118	174	1078	869	176	982	114	401	826	278
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	190	1363	608	408	1395	622	160	1069	477	334	1093	487
Arrive On Green	0.06	0.38	0.38	0.07	0.39	0.39	0.09	0.30	0.30	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	209	491	118	174	1078	869	176	982	114	401	826	278
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.5	14.8	7.4	8.8	39.7	58.9	13.5	40.0	8.1	14.5	31.5	22.1
Cycle Q Clear(g_c), s	9.5	14.8	7.4	8.8	39.7	58.9	13.5	40.0	8.1	14.5	31.5	22.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	1363	608	408	1395	622	160	1069	477	334	1093	487
V/C Ratio(X)	1.10	0.36	0.19	0.43	0.77	1.40	1.10	0.92	0.24	1.20	0.76	0.57
Avail Cap(c_a), veh/h	190	1363	608	416	1395	622	160	1137	507	334	1161	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	33.1	30.8	25.5	39.7	45.6	68.3	50.7	39.5	67.8	46.9	43.6
Incr Delay (d2), s/veh	94.9	0.7	0.7	0.7	4.2	188.3	99.7	11.4	0.3	115.4	2.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	6.3	2.9	3.7	17.3	54.3	10.4	18.7	3.1	11.6	13.8	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.5	33.8	31.5	26.3	44.0	233.8	167.9	62.0	39.8	183.2	49.6	44.9
LnGrp LOS	F	C	C	C	D	F	F	E	D	F	D	D
Approach Vol, veh/h	818			2121			1272			1505		
Approach Delay, s/veh	58.4			120.3			74.7			84.3		
Approach LOS	E			F			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	64.4	19.0	51.6	16.4	63.0	20.0	50.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	56.0	13.5	49.0	11.5	54.0	14.5	48.0				
Max Q Clear Time (g_c+I1), s	11.5	60.9	15.5	33.5	10.8	16.8	16.5	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.3	0.0	7.2	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay	91.8											
HCM 6th LOS	F											

Timings 3: South Fulton Pkwy & Cedar Grove Rd

3b. Build 2030 PM
10/04/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	133	236	95	255	35	350	131	565	681	197
Future Volume (vph)	133	236	95	255	35	350	131	565	681	197
Lane Group Flow (vph)	136	265	97	702	36	357	134	577	695	201
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	20.0	47.0	23.0	50.0	15.0	32.0	32.0	18.0	35.0	35.0
Total Split (%)	16.7%	39.2%	19.2%	41.7%	12.5%	26.7%	26.7%	15.0%	29.2%	29.2%
Yellow Time (s)	3.5	3.5	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	2.0	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)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.56	0.34	0.18	0.99	0.17	0.46	0.30	1.62	0.65	0.33
Control Delay	28.6	25.2	14.9	65.8	26.7	42.7	8.2	316.2	40.9	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	25.2	14.9	65.8	26.7	42.7	8.2	316.2	40.9	8.3
Queue Length 50th (ft)	51	134	35	~501	18	126	0	~639	259	10
Queue Length 95th (ft)	115	211	63	#782	41	175	51	#740	337	71
Internal Link Dist (ft)		528		406		1119			5239	
Turn Bay Length (ft)	120		90		295		170	325		185
Base Capacity (vph)	275	772	655	706	247	781	453	357	1075	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.34	0.15	0.99	0.15	0.46	0.30	1.62	0.65	0.33

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: 140

Control Type: Actuated-Coordinated

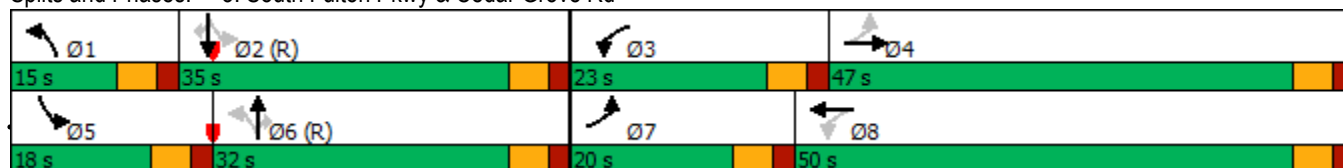
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary

3: South Fulton Pkwy & Cedar Grove Rd

3b. Build 2030 PM

10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	236	24	95	255	433	35	350	131	565	681	197
Future Volume (veh/h)	133	236	24	95	255	433	35	350	131	565	681	197
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	241	24	97	260	442	36	357	0	577	695	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	174	646	64	462	231	392	258	986		447	1253	
Arrive On Green	0.06	0.39	0.39	0.05	0.37	0.37	0.03	0.28	0.00	0.10	0.35	0.00
Sat Flow, veh/h	1781	1674	167	1781	622	1058	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	136	0	265	97	0	702	36	357	0	577	695	0
Grp Sat Flow(s),veh/h/ln	1781	0	1840	1781	0	1680	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.6	0.0	12.4	4.0	0.0	44.5	1.7	9.7	0.0	12.5	18.9	0.0
Cycle Q Clear(g_c), s	5.6	0.0	12.4	4.0	0.0	44.5	1.7	9.7	0.0	12.5	18.9	0.0
Prop In Lane	1.00		0.09	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	0	710	462	0	623	258	986		447	1253	
V/C Ratio(X)	0.78	0.00	0.37	0.21	0.00	1.13	0.14	0.36		1.29	0.55	
Avail Cap(c_a), veh/h	275	0	710	634	0	623	347	986		447	1253	
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.0	0.0	26.5	21.9	0.0	37.8	29.9	34.8	0.0	37.4	31.3	0.0
Incr Delay (d2), s/veh	7.4	0.0	0.3	0.2	0.0	76.3	0.2	1.0	0.0	146.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	5.4	1.6	0.0	30.4	0.7	4.1	0.0	25.1	7.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	0.0	26.8	22.1	0.0	114.0	30.1	35.8	0.0	183.9	33.0	0.0
LnGrp LOS	D	A	C	C	A	F	C	D		F	C	
Approach Vol, veh/h	401			799			393			1272		
Approach Delay, s/veh	30.0			102.9			35.3			101.5		
Approach LOS	C			F			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	47.8	11.4	51.8	18.0	38.8	13.2	50.0				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	29.5	17.5	41.5	12.5	26.5	14.5	44.5				
Max Q Clear Time (g_c+l1), s	3.7	20.9	6.0	14.4	14.5	11.7	7.6	46.5				
Green Ext Time (p_c), s	0.0	4.2	0.1	1.5	0.0	3.0	0.2	0.0				

Intersection Summary

HCM 6th Ctrl Delay 82.8

HCM 6th LOS F

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	86.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	528	172	93	555	17	138	0	72	15	0	74
Future Vol, veh/h	85	528	172	93	555	17	138	0	72	15	0	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	85	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	92	574	187	101	603	18	150	0	78	16	0	80

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	621	0	0	761	0	0	1706	1675	668	1705	1759	612
Stage 1	-	-	-	-	-	-	852	852	-	814	814	-
Stage 2	-	-	-	-	-	-	854	823	-	891	945	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	960	-	-	851	-	-	~ 72	95	458	72	85	493
Stage 1	-	-	-	-	-	-	354	376	-	372	391	-
Stage 2	-	-	-	-	-	-	353	388	-	337	340	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	960	-	-	851	-	-	~ 51	76	458	50	68	493
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 51	76	-	50	68	-
Stage 1	-	-	-	-	-	-	320	340	-	336	344	-
Stage 2	-	-	-	-	-	-	260	342	-	253	307	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	1.4	\$ 691.9	39.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	51	458	960	-	-	851	-	-	198
HCM Lane V/C Ratio	2.941	0.171	0.096	-	-	0.119	-	-	0.489
HCM Control Delay (s)	\$ 1045.4	14.5	9.1	-	-	9.8	-	-	39.4
HCM Lane LOS	F	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	15.9	0.6	0.3	-	-	0.4	-	-	2.4

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

Intersection												
Int Delay, s/veh	11.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	142	445	15	17	498	56	15	0	12	49	0	124
Future Vol, veh/h	142	445	15	17	498	56	15	0	12	49	0	124
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	160	-	-	175	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	160	500	17	19	560	63	17	0	13	55	0	139

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	623	0	0	517	0	0	1519	1481	500	1433	1435	560
Stage 1	-	-	-	-	-	-	820	820	-	598	598	-
Stage 2	-	-	-	-	-	-	699	661	-	835	837	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	958	-	-	1049	-	-	97	125	571	112	134	528
Stage 1	-	-	-	-	-	-	369	389	-	489	491	-
Stage 2	-	-	-	-	-	-	430	460	-	362	382	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	958	-	-	1049	-	-	61	101	571	93	109	528
Mov Cap-2 Maneuver	-	-	-	-	-	-	61	101	-	93	109	-
Stage 1	-	-	-	-	-	-	307	324	-	407	477	-
Stage 2	-	-	-	-	-	-	308	447	-	294	318	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0.3			55.3			73.1		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	101	958	-	-	1049	-	-	227
HCM Lane V/C Ratio	0.3	0.167	-	-	0.018	-	-	0.856
HCM Control Delay (s)	55.3	9.5	-	-	8.5	0	-	73.1
HCM Lane LOS	F	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	1.1	0.6	-	-	0.1	-	-	6.7

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	457	531	1	1	12
Future Vol, veh/h	11	457	531	1	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	513	597	1	1	13

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	598	0	0 1135 598
Stage 1	-	-	- 598 -
Stage 2	-	-	- 537 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	979	-	- 224 502
Stage 1	-	-	- 549 -
Stage 2	-	-	- 586 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	979	-	- 220 502
Mov Cap-2 Maneuver	-	-	- 220 -
Stage 1	-	-	- 540 -
Stage 2	-	-	- 586 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	979	-	-	-	457
HCM Lane V/C Ratio	0.013	-	-	-	0.032
HCM Control Delay (s)	8.7	0	-	-	13.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	47	520	39	60	490
Future Vol, veh/h	22	47	520	39	60	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	51	559	42	65	527
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1216	559	0	0	601	0
Stage 1	559	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	200	529	-	-	976	-
Stage 1	572	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	529	-	-	976	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	18.8	0	1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	334	976	-	
HCM Lane V/C Ratio	-	-	0.222	0.066	-	
HCM Control Delay (s)	-	-	18.8	8.9	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.8	0.2	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	44	43	509	418	42
Future Vol, veh/h	29	44	43	509	418	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	46	45	536	440	44
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1066	440	484	0	-	0
Stage 1	440	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	246	617	1079	-	-	-
Stage 1	649	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	236	617	1079	-	-	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17	0.7		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1079	-	376	-	-	
HCM Lane V/C Ratio	0.042	-	0.204	-	-	
HCM Control Delay (s)	8.5	-	17	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-	

Intersection						
Int Delay, s/veh	66.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	116	194	483	395	60
Future Vol, veh/h	61	116	194	483	395	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	126	211	525	429	65
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	736	0	-	0	732	474
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	258	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	870	-	-	-	~ 388	590
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	870	-	-	-	~ 356	590
Mov Cap-2 Maneuver	-	-	-	-	~ 356	-
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	785	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.3	0		189		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	870	-	-	-	376	
HCM Lane V/C Ratio	0.076	-	-	-	1.315	
HCM Control Delay (s)	9.5	0	-	-	189	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.2	-	-	-	22.9	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection						
Int Delay, s/veh	8.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	472	67	61	638	104	89
Future Vol, veh/h	472	67	61	638	104	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	482	68	62	651	106	91
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	550	0	1291	516
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	775	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1020	-	180	559
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1020	-	163	559
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	411	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		62.9	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	242	-	-	1020	-	
HCM Lane V/C Ratio	0.814	-	-	0.061	-	
HCM Control Delay (s)	62.9	-	-	8.8	0	
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	6.2	-	-	0.2	-	

Intersection						
Int Delay, s/veh	79.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	226	397	26	153	524	44
Future Vol, veh/h	226	397	26	153	524	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	231	405	27	156	535	45

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	636
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	947
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	947
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	192.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	947	-
HCM Lane V/C Ratio	1.335	-	-	0.028	-
HCM Control Delay (s)	192.1	-	-	8.9	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	26.4	-	-	0.1	-

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

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	449	520	22	20	50
Future Vol, veh/h	57	449	520	22	20	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	488	565	24	22	54

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	589	0	0 1177 565
Stage 1	-	-	- 565 -
Stage 2	-	-	- 612 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	986	-	- 211 524
Stage 1	-	-	- 569 -
Stage 2	-	-	- 541 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	986	-	- 198 524
Mov Cap-2 Maneuver	-	-	- 198 -
Stage 1	-	-	- 533 -
Stage 2	-	-	- 541 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	17.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	986	-	-	-	356
HCM Lane V/C Ratio	0.063	-	-	-	0.214
HCM Control Delay (s)	8.9	-	-	-	17.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

Future “Build” Intersections Analysis with Improvements

Intersection							
Int Delay, s/veh	43.1						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑	
Traffic Vol, veh/h	1817	26	54	1015	61	162	
Future Vol, veh/h	1817	26	54	1015	61	162	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	Free	-	None	-	Yield	
Storage Length	-	295	290	-	0	175	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	1975	28	59	1103	66	176	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	-	1975	0	2645	988	
Stage 1	-	-	-	-	1975	-	
Stage 2	-	-	-	-	670	-	
Critical Hdwy	-	-	4.14	-	6.84	6.94	
Critical Hdwy Stg 1	-	-	-	-	5.84	-	
Critical Hdwy Stg 2	-	-	-	-	5.84	-	
Follow-up Hdwy	-	-	2.22	-	3.52	3.32	
Pot Cap-1 Maneuver	-	0	289	-	~ 19	246	
Stage 1	-	0	-	-	94	-	
Stage 2	-	0	-	-	470	-	
Platoon blocked, %	-			-			
Mov Cap-1 Maneuver	-	-	289	-	~ 15	246	
Mov Cap-2 Maneuver	-	-	-	-	~ 15	-	
Stage 1	-	-	-	-	94	-	
Stage 2	-	-	-	-	374	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		1		\$ 596.4		
HCM LOS					F		
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	WBL	WBT
Capacity (veh/h)	15		246		-	289	-
HCM Lane V/C Ratio	4.42		0.716		-	0.203	-
HCM Control Delay (s)	\$ 2048.8		49.5		-	20.6	-
HCM Lane LOS	F		E		-	C	-
HCM 95th %tile Q(veh)	9.1		4.9		-	0.7	-
Notes							
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined		*: All major volume in platoon

HCM 6th Signalized Intersection Summary 2: SR 92 & South Fulton Pkwy

3a. Build 2030 AM - Improved
11/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	902	172	173	500	459	53	880	111	498	747	108
Future Volume (veh/h)	240	902	172	173	500	459	53	880	111	498	747	108
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	255	960	0	184	532	0	55	917	0	530	795	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.96	0.96	0.96	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	1123		215	1097		71	1036		550	1460	
Arrive On Green	0.08	0.32	0.00	0.07	0.31	0.00	0.04	0.29	0.00	0.16	0.41	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	255	960	0	184	532	0	55	917	0	530	795	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	10.5	34.2	0.0	9.5	16.4	0.0	4.1	33.3	0.0	20.6	22.9	0.0
Cycle Q Clear(g_c), s	10.5	34.2	0.0	9.5	16.4	0.0	4.1	33.3	0.0	20.6	22.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	1123		215	1097		71	1036		550	1460	
V/C Ratio(X)	0.72	0.85		0.85	0.49		0.77	0.89		0.96	0.54	
Avail Cap(c_a), veh/h	355	1123		215	1097		165	1211		550	1460	
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	34.9	43.3	0.0	35.0	38.0	0.0	64.2	45.7	0.0	56.4	30.2	0.0
Incr Delay (d2), s/veh	6.9	8.4	0.0	26.8	1.5	0.0	16.2	7.3	0.0	29.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	15.5	0.0	5.5	7.1	0.0	2.1	15.0	0.0	10.8	9.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	51.6	0.0	61.8	39.5	0.0	80.4	53.0	0.0	85.5	30.6	0.0
LnGrp LOS	D	D		E	D		F	D		F	C	
Approach Vol, veh/h	1215			716			972			1325		
Approach Delay, s/veh	49.6			45.2			54.5			52.6		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	47.2	10.9	61.0	15.0	48.2	27.0	44.8				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	10.5	35.0	12.5	55.0	9.5	36.0	21.5	46.0				
Max Q Clear Time (g_c+I1), s	12.5	18.4	6.1	24.9	11.5	36.2	22.6	35.3				
Green Ext Time (p_c), s	0.0	4.9	0.0	5.1	0.0	0.0	0.0	4.1				

Intersection Summary

HCM 6th Ctrl Delay 50.9
HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Timings 3: South Fulton Pkwy & Cedar Grove Rd

3a. Build 2030 AM - Improved
10/04/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	199	232	66	166	446	30	597	70	251	205	43
Future Volume (vph)	199	232	66	166	446	30	597	70	251	205	43
Lane Group Flow (vph)	212	266	70	177	474	32	635	74	267	218	46
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		1	6		5	2	
Permitted Phases	4		8		8	6		6	2		2
Detector Phase	7	4	3	8	8	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	19.0	41.6	25.4	48.0	48.0	15.0	35.0	35.0	18.0	38.0	38.0
Total Split (%)	15.8%	34.7%	21.2%	40.0%	40.0%	12.5%	29.2%	29.2%	15.0%	31.7%	31.7%
Yellow Time (s)	3.5	3.5	3.5	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	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	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.60	0.61	0.25	0.54	0.89	0.06	0.47	0.10	0.56	0.12	0.05
Control Delay	35.9	46.4	27.2	48.9	35.6	16.2	32.2	0.3	19.8	19.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	46.4	27.2	48.9	35.6	16.2	32.2	0.3	19.8	19.1	0.1
Queue Length 50th (ft)	126	191	38	128	140	10	190	0	96	47	0
Queue Length 95th (ft)	156	245	59	171	243	32	306	0	194	92	0
Internal Link Dist (ft)		528		407			1119			8879	
Turn Bay Length (ft)	120		90		175	295		170	325		185
Base Capacity (vph)	356	561	441	659	757	573	1338	706	476	1806	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.47	0.16	0.27	0.63	0.06	0.47	0.10	0.56	0.12	0.05

Intersection Summary

Cycle Length: 120

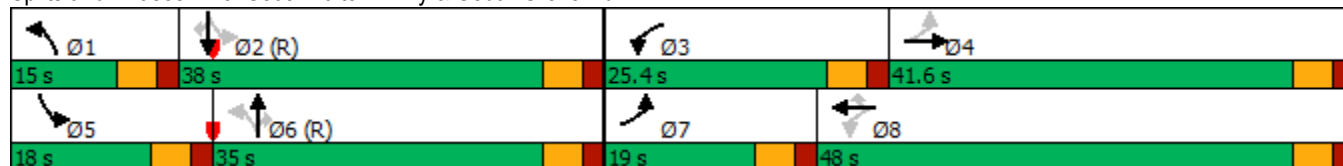
Actuated Cycle Length: 120

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

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd



HCM 6th Signalized Intersection Summary

3: South Fulton Pkwy & Cedar Grove Rd

3a. Build 2030 AM - Improved

10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	232	18	66	166	446	30	597	70	251	205	43
Future Volume (veh/h)	199	232	18	66	166	446	30	597	70	251	205	43
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	247	19	70	177	474	32	635	0	267	218	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	641	49	430	596	505	456	1062		362	1335	
Arrive On Green	0.09	0.37	0.37	0.04	0.32	0.32	0.03	0.30	0.00	0.10	0.38	0.00
Sat Flow, veh/h	1781	1715	132	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	212	0	266	70	177	474	32	635	0	267	218	0
Grp Sat Flow(s),veh/h/ln	1781	0	1847	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.2	0.0	12.6	3.1	8.5	34.9	1.5	18.3	0.0	12.3	4.9	0.0
Cycle Q Clear(g_c), s	9.2	0.0	12.6	3.1	8.5	34.9	1.5	18.3	0.0	12.3	4.9	0.0
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	422	0	691	430	596	505	456	1062		362	1335	
V/C Ratio(X)	0.50	0.00	0.39	0.16	0.30	0.94	0.07	0.60		0.74	0.16	
Avail Cap(c_a), veh/h	454	0	691	654	662	561	549	1062		362	1335	
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	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.7	0.0	27.5	25.9	30.7	39.7	27.7	35.9	0.0	26.3	24.9	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.4	0.2	0.3	22.5	0.1	2.5	0.0	7.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	5.6	1.3	3.8	16.1	0.6	7.9	0.0	5.6	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	27.8	26.0	31.0	62.2	27.8	38.4	0.0	34.1	25.2	0.0
LnGrp LOS	C	A	C	C	C	E	C	D		C	C	
Approach Vol, veh/h		478			721			667			485	
Approach Delay, s/veh		26.0			51.0			37.9			30.1	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	50.6	10.2	50.4	18.0	41.4	16.9	43.8				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	32.5	19.9	36.1	12.5	29.5	13.5	42.5				
Max Q Clear Time (g_c+I1), s	3.5	6.9	5.1	14.6	14.3	20.3	11.2	36.9				
Green Ext Time (p_c), s	0.0	2.2	0.1	1.4	0.0	4.0	0.1	1.4				

Intersection Summary

HCM 6th Ctrl Delay 37.9

HCM 6th LOS D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	352	104	44	439	8	109	0	29	12	0	63
Future Vol, veh/h	39	352	104	44	439	8	109	0	29	12	0	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	85	-	-	-	-	100	-	-	-
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	41	367	108	46	457	8	114	0	30	13	0	66
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	475	0	0	1089	1060	421	1071	1110	461
Stage 1	-	-	-	-	-	-	503	503	-	553	553	-
Stage 2	-	-	-	-	-	-	586	557	-	518	557	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1096	-	-	1087	-	-	193	224	632	198	209	600
Stage 1	-	-	-	-	-	-	551	541	-	517	514	-
Stage 2	-	-	-	-	-	-	496	512	-	541	512	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1096	-	-	1087	-	-	162	207	632	177	193	600
Mov Cap-2 Maneuver	-	-	-	-	-	-	162	207	-	177	193	-
Stage 1	-	-	-	-	-	-	531	521	-	498	492	-
Stage 2	-	-	-	-	-	-	423	490	-	496	493	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.8			55.5			15.1		
HCM LOS							F			C		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	162	632	1096	-	-	1087	-	-	434			
HCM Lane V/C Ratio	0.701	0.048	0.037	-	-	0.042	-	-	0.18			
HCM Control Delay (s)	67.3	11	8.4	-	-	8.5	-	-	15.1			
HCM Lane LOS	F	B	A	-	-	A	-	-	C			
HCM 95th %tile Q(veh)	4.2	0.1	0.1	-	-	0.1	-	-	0.6			

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	290	7	1	382	26	17	0	10	41	0	105
Future Vol, veh/h	66	290	7	1	382	26	17	0	10	41	0	105
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	160	-	-	175	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	326	8	1	429	29	19	0	11	46	0	118
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	334	0	0	979	934	326	915	913	429
Stage 1	-	-	-	-	-	-	474	474	-	431	431	-
Stage 2	-	-	-	-	-	-	505	460	-	484	482	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1103	-	-	1225	-	-	229	266	715	253	273	626
Stage 1	-	-	-	-	-	-	571	558	-	603	583	-
Stage 2	-	-	-	-	-	-	549	566	-	564	553	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	1225	-	-	176	248	715	236	254	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	248	-	236	254	-
Stage 1	-	-	-	-	-	-	533	521	-	563	582	-
Stage 2	-	-	-	-	-	-	445	565	-	518	516	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.5			0			21.8			18.5		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	244	1103	-	-	1225	-	-	428				
HCM Lane V/C Ratio	0.124	0.067	-	-	0.001	-	-	0.383				
HCM Control Delay (s)	21.8	8.5	-	-	7.9	0	-	18.5				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	1.8				

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	326	371	0	0	6
Future Vol, veh/h	4	326	371	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	375	426	0	0	7
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	426	0	-	0	811	426
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	385	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1133	-	-	-	349	628
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1133	-	-	-	347	628
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	688	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		10.8		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1133	-	-	-	628	
HCM Lane V/C Ratio	0.004	-	-	-	0.011	
HCM Control Delay (s)	8.2	0	-	-	10.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	82	405	10	22	381
Future Vol, veh/h	12	82	405	10	22	381
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	86	426	11	23	401
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	873	426	0	0	437	0
Stage 1	426	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	321	628	-	-	1123	-
Stage 1	659	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	628	-	-	1123	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.9	0	0.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	557	1123	-	
HCM Lane V/C Ratio	-	-	0.178	0.021	-	
HCM Control Delay (s)	-	-	12.9	8.3	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	25	17	319	355	22
Future Vol, veh/h	53	25	17	319	355	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	27	18	339	378	23

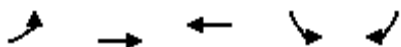
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	753	378	401	0	-	0
Stage 1	378	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	377	669	1158	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	371	669	1158	-	-	-
Mov Cap-2 Maneuver	371	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	695	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1158	-	433	-	-
HCM Lane V/C Ratio	0.016	-	0.192	-	-
HCM Control Delay (s)	8.2	-	15.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Timings
9: Rivertown Rd & Cedar Grove Rd

3a. Build 2030 AM - Improved
10/04/2022



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations		↰	↰	↰	↰
Traffic Volume (vph)	59	167	82	383	94
Future Volume (vph)	59	167	82	383	94
Lane Group Flow (vph)	0	252	364	426	104
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	4	
Permitted Phases	6				4
Detector Phase	6	6	2	4	4
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	42.0	42.0	42.0	48.0	48.0
Total Split (%)	46.7%	46.7%	46.7%	53.3%	53.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio		0.29	0.35	0.77	0.18
Control Delay		12.8	4.5	37.5	4.6
Queue Delay		0.0	0.0	0.0	0.0
Total Delay		12.8	4.5	37.5	4.6
Queue Length 50th (ft)		69	18	218	0
Queue Length 95th (ft)		145	81	279	29
Internal Link Dist (ft)		1035	2282	2064	
Turn Bay Length (ft)					175
Base Capacity (vph)		879	1036	835	802
Starvation Cap Reductn		0	0	0	0
Spillback Cap Reductn		0	0	0	0
Storage Cap Reductn		0	0	0	0
Reduced v/c Ratio		0.29	0.35	0.51	0.13

Intersection Summary

Cycle Length: 90

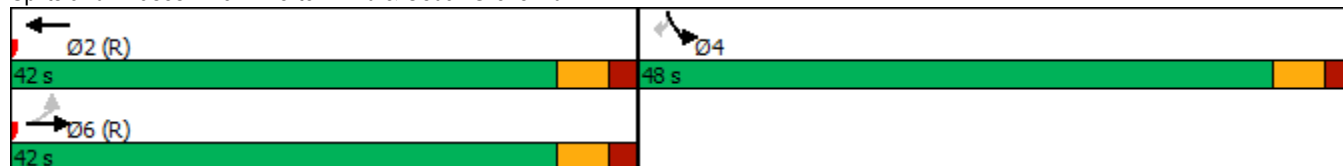
Actuated Cycle Length: 90

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

Natural Cycle: 50

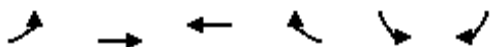
Control Type: Actuated-Coordinated

Splits and Phases: 9: Rivertown Rd & Cedar Grove Rd



HCM 6th Signalized Intersection Summary
9: Rivertown Rd & Cedar Grove Rd

3a. Build 2030 AM - Improved
10/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	↰
Traffic Volume (veh/h)	59	167	82	246	383	94
Future Volume (veh/h)	59	167	82	246	383	94
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	186	91	273	426	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	252	685	252	756	474	
Arrive On Green	0.61	0.61	0.61	0.61	0.27	0.00
Sat Flow, veh/h	329	1120	412	1236	1781	1585
Grp Volume(v), veh/h	252	0	0	364	426	0
Grp Sat Flow(s),veh/h/ln	1449	0	0	1648	1781	1585
Q Serve(g_s), s	0.8	0.0	0.0	9.9	20.8	0.0
Cycle Q Clear(g_c), s	10.8	0.0	0.0	9.9	20.8	0.0
Prop In Lane	0.26			0.75	1.00	1.00
Lane Grp Cap(c), veh/h	936	0	0	1008	474	
V/C Ratio(X)	0.27	0.00	0.00	0.36	0.90	
Avail Cap(c_a), veh/h	936	0	0	1008	841	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	8.7	31.8	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.0	6.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	3.6	9.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.7	0.0	0.0	9.7	38.4	0.0
LnGrp LOS	A	A	A	A	D	
Approach Vol, veh/h		252	364		426	
Approach Delay, s/veh		8.7	9.7		38.4	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		60.5		29.5		60.5
Change Period (Y+Rc), s		5.5		5.5		5.5
Max Green Setting (Gmax), s		36.5		42.5		36.5
Max Q Clear Time (g_c+I1), s		11.9		22.8		12.8
Green Ext Time (p_c), s		4.7		1.2		2.7

Intersection Summary

HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	30.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	469	130	215	223	121	194
Future Vol, veh/h	469	130	215	223	121	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	160	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	552	153	253	262	142	228
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	705	0	1397	629
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	768	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	893	-	155	482
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	458	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	893	-	~ 104	482
Mov Cap-2 Maneuver	-	-	-	-	~ 104	-
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	306	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		5.2		123.3	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	104	482	-	-	893	-
HCM Lane V/C Ratio	1.369	0.474	-	-	0.283	-
HCM Control Delay (s)	290.5	19	-	-	10.6	0
HCM Lane LOS	F	C	-	-	B	A
HCM 95th %tile Q(veh)	10.1	2.5	-	-	1.2	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Timings
11: Virlyn B Smith Rd & Rivertown Rd

3a. Build 2030 AM - Improved
10/04/2022

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↱	↱
Traffic Volume (vph)	171	18	125	188	54
Future Volume (vph)	171	18	125	188	54
Lane Group Flow (vph)	466	0	144	190	55
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	6		2	8	
Permitted Phases		2			8
Detector Phase	6	2	2	8	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	58.0	58.0	58.0	32.0	32.0
Total Split (%)	64.4%	64.4%	64.4%	35.6%	35.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.37		0.12	0.65	0.18
Control Delay	3.1		5.1	44.8	9.9
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	3.1		5.1	44.8	9.9
Queue Length 50th (ft)	15		22	102	0
Queue Length 95th (ft)	84		50	159	29
Internal Link Dist (ft)	1050		682	558	
Turn Bay Length (ft)				235	175
Base Capacity (vph)	1259		1239	521	504
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.37		0.12	0.36	0.11

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 37 (41%), Referenced to phase 2:WBTL and 6:EBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 11: Virlyn B Smith Rd & Rivertown Rd



HCM 6th Signalized Intersection Summary
11: Virlyn B Smith Rd & Rivertown Rd

3a. Build 2030 AM - Improved
10/04/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↱	↱
Traffic Volume (veh/h)	171	290	18	125	188	54
Future Volume (veh/h)	171	290	18	125	188	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	293	18	126	190	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	467	790	168	1151	231	
Arrive On Green	0.75	0.75	0.75	0.75	0.13	0.00
Sat Flow, veh/h	624	1056	165	1538	1781	1585
Grp Volume(v), veh/h	0	466	144	0	190	0
Grp Sat Flow(s),veh/h/ln	0	1680	1703	0	1781	1585
Q Serve(g_s), s	0.0	8.7	0.0	0.0	9.4	0.0
Cycle Q Clear(g_c), s	0.0	8.7	1.9	0.0	9.4	0.0
Prop In Lane		0.63	0.12		1.00	1.00
Lane Grp Cap(c), veh/h	0	1257	1319	0	231	
V/C Ratio(X)	0.00	0.37	0.11	0.00	0.82	
Avail Cap(c_a), veh/h	0	1257	1319	0	524	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	3.9	3.1	0.0	38.2	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.2	0.0	7.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	0.5	0.0	4.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	4.8	3.3	0.0	45.3	0.0
LnGrp LOS	A	A	A	A	D	
Approach Vol, veh/h	466			144	190	
Approach Delay, s/veh	4.8			3.3	45.3	
Approach LOS	A			A	D	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	72.8		72.8		17.2	
Change Period (Y+Rc), s	5.5		5.5		5.5	
Max Green Setting (Gmax), s	52.5		52.5		26.5	
Max Q Clear Time (g_c+I1), s	3.9		10.7		11.4	
Green Ext Time (p_c), s	1.7		7.5		0.4	
Intersection Summary						
HCM 6th Ctrl Delay			14.1			
HCM 6th LOS			B			

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	313	367	10	17	42
Future Vol, veh/h	26	313	367	10	17	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	340	399	11	18	46
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	410	0	-	0	795	399
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1149	-	-	-	357	651
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1149	-	-	-	348	651
Mov Cap-2 Maneuver	-	-	-	-	348	-
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	680	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		12.9		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1149	-	-	-	520	
HCM Lane V/C Ratio	0.025	-	-	-	0.123	
HCM Control Delay (s)	8.2	-	-	-	12.9	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	

Intersection						
Int Delay, s/veh	9.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Vol, veh/h	962	37	105	2159	43	61
Future Vol, veh/h	962	37	105	2159	43	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	295	290	-	0	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	992	38	108	2226	44	63
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	992	0	2321	496
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1329	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	0	693	-	~ 31	519
Stage 1	-	0	-	-	320	-
Stage 2	-	0	-	-	212	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	693	-	~ 26	519
Mov Cap-2 Maneuver	-	-	-	-	~ 26	-
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	179	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		282.4	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	WBL	WBT
Capacity (veh/h)	26		519	-	693	-
HCM Lane V/C Ratio	1.705		0.121	-	0.156	-
HCM Control Delay (s)	\$ 664.6		12.9	-	11.2	-
HCM Lane LOS	F		B	-	B	-
HCM 95th %tile Q(veh)	5.4		0.4	-	0.6	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th Signalized Intersection Summary 2: SR 92 & South Fulton Pkwy

3b. Build 2030 PM - Improved

11/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	466	112	165	1024	826	167	933	108	381	785	264
Future Volume (veh/h)	199	466	112	165	1024	826	167	933	108	381	785	264
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	480	0	170	1056	0	170	952	0	393	809	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	1175		396	1182		196	1094		440	1156	
Arrive On Green	0.08	0.33	0.00	0.08	0.33	0.00	0.11	0.31	0.00	0.13	0.33	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	205	480	0	170	1056	0	170	952	0	393	809	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	10.5	14.6	0.0	8.7	39.5	0.0	13.1	35.5	0.0	15.7	27.8	0.0
Cycle Q Clear(g_c), s	10.5	14.6	0.0	8.7	39.5	0.0	13.1	35.5	0.0	15.7	27.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	1175		396	1182		196	1094		440	1156	
V/C Ratio(X)	0.97	0.41		0.43	0.89		0.87	0.87		0.89	0.70	
Avail Cap(c_a), veh/h	212	1175		417	1182		312	1434		457	1282	
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	36.0	36.3	0.0	28.1	44.3	0.0	61.3	45.8	0.0	60.2	41.3	0.0
Incr Delay (d2), s/veh	52.2	1.1	0.0	0.7	10.5	0.0	14.0	4.8	0.0	19.2	1.5	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(50%),veh/ln	7.5	6.3	0.0	3.7	18.2	0.0	6.5	15.6	0.0	7.8	11.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.1	37.3	0.0	28.8	54.8	0.0	75.3	50.6	0.0	79.4	42.8	0.0
LnGrp LOS	F	D		C	D		E	D		E	D	
Approach Vol, veh/h	685				1226				1122			
Approach Delay, s/veh	52.5				51.2				54.4			
Approach LOS	D				D				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	52.1	20.9	51.0	16.3	51.8	23.3	48.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	10.5	32.5	24.5	50.5	12.5	30.5	18.5	56.5				
Max Q Clear Time (g_c+I1), s	12.5	41.5	15.1	29.8	10.7	16.6	17.7	37.5				
Green Ext Time (p_c), s	0.0	0.0	0.3	4.8	0.1	4.0	0.1	5.7				

Intersection Summary

HCM 6th Ctrl Delay 53.3

HCM 6th LOS D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Timings 3: South Fulton Pkwy & Cedar Grove Rd

3b. Build 2030 PM - Improved
10/04/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	133	236	95	255	433	35	350	131	565	681	197
Future Volume (vph)	133	236	95	255	433	35	350	131	565	681	197
Lane Group Flow (vph)	136	265	97	260	442	36	357	134	577	695	201
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		1	6		5	2	
Permitted Phases	4		8		8	6		6	2		2
Detector Phase	7	4	3	8	8	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	6.0	5.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	40.5	15.0	41.5	41.5	15.0	26.5	26.5	15.0	26.5	26.5
Total Split (s)	15.0	41.5	15.0	41.5	41.5	15.0	27.5	27.5	36.0	48.5	48.5
Total Split (%)	12.5%	34.6%	12.5%	34.6%	34.6%	12.5%	22.9%	22.9%	30.0%	40.4%	40.4%
Yellow Time (s)	3.5	3.5	3.5	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	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	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.54	0.73	0.39	0.72	0.67	0.13	0.40	0.25	0.79	0.37	0.22
Control Delay	37.4	55.7	32.8	56.2	8.8	18.8	41.0	3.7	25.7	19.6	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	55.7	32.8	56.2	8.8	18.8	41.0	3.7	25.7	19.6	3.5
Queue Length 50th (ft)	78	193	54	191	0	11	123	0	256	173	0
Queue Length 95th (ft)	116	263	86	260	84	30	184	27	#469	262	46
Internal Link Dist (ft)		528		407			1119			8879	
Turn Bay Length (ft)	120		90		175	295		170	325		185
Base Capacity (vph)	254	553	255	558	784	322	895	529	731	1868	930
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.48	0.38	0.47	0.56	0.11	0.40	0.25	0.79	0.37	0.22

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: 110

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: South Fulton Pkwy & Cedar Grove Rd

				
Ø1	Ø2 (R)		Ø3	Ø4
15 s	48.5 s		15 s	41.5 s
				
Ø5	Ø6 (R)		Ø7	Ø8
36 s	27.5 s		15 s	41.5 s

HCM 6th Signalized Intersection Summary 3: South Fulton Pkwy & Cedar Grove Rd

3b. Build 2030 PM - Improved
10/04/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	236	24	95	255	433	35	350	131	565	681	197
Future Volume (veh/h)	133	236	24	95	255	433	35	350	131	565	681	197
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	241	24	97	260	442	36	357	0	577	695	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	316	519	52	370	549	465	262	711		626	1511	
Arrive On Green	0.07	0.31	0.31	0.05	0.29	0.29	0.03	0.20	0.00	0.25	0.43	0.00
Sat Flow, veh/h	1781	1674	167	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	136	0	265	97	260	442	36	357	0	577	695	0
Grp Sat Flow(s),veh/h/ln	1781	0	1840	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.3	0.0	13.9	4.5	13.7	32.8	1.9	10.7	0.0	30.4	16.8	0.0
Cycle Q Clear(g_c), s	6.3	0.0	13.9	4.5	13.7	32.8	1.9	10.7	0.0	30.4	16.8	0.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	0	570	370	549	465	262	711		626	1511	
V/C Ratio(X)	0.43	0.00	0.46	0.26	0.47	0.95	0.14	0.50		0.92	0.46	
Avail Cap(c_a), veh/h	335	0	570	417	561	476	351	711		626	1511	
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	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.4	0.0	33.4	27.8	34.8	41.5	36.4	42.7	0.0	26.4	24.6	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.6	0.4	0.6	28.8	0.2	2.5	0.0	19.2	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(50%),veh/ln	2.7	0.0	6.3	1.9	6.1	16.0	0.8	4.7	0.0	14.9	6.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	0.0	34.0	28.2	35.4	70.3	36.6	45.2	0.0	45.5	25.7	0.0
LnGrp LOS	C	A	C	C	D	E	D	D		D	C	
Approach Vol, veh/h		401			799			393			1272	
Approach Delay, s/veh		32.0			53.8			44.4			34.7	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	56.5	11.8	42.7	36.0	29.5	13.8	40.7				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	43.0	9.5	36.0	30.5	22.0	9.5	36.0				
Max Q Clear Time (g_c+I1), s	3.9	18.8	6.5	15.9	32.4	12.7	8.3	34.8				
Green Ext Time (p_c), s	0.0	7.9	0.0	1.4	0.0	2.2	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	86.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	528	172	93	555	17	138	0	72	15	0	74
Future Vol, veh/h	85	528	172	93	555	17	138	0	72	15	0	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	85	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	92	574	187	101	603	18	150	0	78	16	0	80

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	621	0	0	761	0	0	1706	1675	668	1705	1759	612
Stage 1	-	-	-	-	-	-	852	852	-	814	814	-
Stage 2	-	-	-	-	-	-	854	823	-	891	945	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	960	-	-	851	-	-	~ 72	95	458	72	85	493
Stage 1	-	-	-	-	-	-	354	376	-	372	391	-
Stage 2	-	-	-	-	-	-	353	388	-	337	340	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	960	-	-	851	-	-	~ 51	76	458	50	68	493
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 51	76	-	50	68	-
Stage 1	-	-	-	-	-	-	320	340	-	336	344	-
Stage 2	-	-	-	-	-	-	260	342	-	253	307	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	1.4	\$ 691.9	39.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	51	458	960	-	-	851	-	-	198
HCM Lane V/C Ratio	2.941	0.171	0.096	-	-	0.119	-	-	0.489
HCM Control Delay (s)	\$ 1045.4	14.5	9.1	-	-	9.8	-	-	39.4
HCM Lane LOS	F	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	15.9	0.6	0.3	-	-	0.4	-	-	2.4

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

Intersection												
Int Delay, s/veh	11.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	142	445	15	17	498	56	15	0	12	49	0	124
Future Vol, veh/h	142	445	15	17	498	56	15	0	12	49	0	124
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	160	-	-	175	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	160	500	17	19	560	63	17	0	13	55	0	139

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	623	0	0	517	0	0	1519	1481	500	1433	1435	560
Stage 1	-	-	-	-	-	-	820	820	-	598	598	-
Stage 2	-	-	-	-	-	-	699	661	-	835	837	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	958	-	-	1049	-	-	97	125	571	112	134	528
Stage 1	-	-	-	-	-	-	369	389	-	489	491	-
Stage 2	-	-	-	-	-	-	430	460	-	362	382	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	958	-	-	1049	-	-	61	101	571	93	109	528
Mov Cap-2 Maneuver	-	-	-	-	-	-	61	101	-	93	109	-
Stage 1	-	-	-	-	-	-	307	324	-	407	477	-
Stage 2	-	-	-	-	-	-	308	447	-	294	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.3	55.3	73.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	101	958	-	-	1049	-	-	227
HCM Lane V/C Ratio	0.3	0.167	-	-	0.018	-	-	0.856
HCM Control Delay (s)	55.3	9.5	-	-	8.5	0	-	73.1
HCM Lane LOS	F	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	1.1	0.6	-	-	0.1	-	-	6.7

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	457	531	1	1	12
Future Vol, veh/h	11	457	531	1	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	513	597	1	1	13
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	598	0	-	0	1135	598
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	537	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	979	-	-	-	224	502
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	586	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	979	-	-	-	220	502
Mov Cap-2 Maneuver	-	-	-	-	220	-
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	586	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		13.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	979	-	-	-	457	
HCM Lane V/C Ratio	0.013	-	-	-	0.032	
HCM Control Delay (s)	8.7	0	-	-	13.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	47	520	39	60	490
Future Vol, veh/h	22	47	520	39	60	490
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	85	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	51	559	42	65	527
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1216	559	0	0	601	0
Stage 1	559	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	200	529	-	-	976	-
Stage 1	572	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	529	-	-	976	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	18.8	0	1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	334	976	-	
HCM Lane V/C Ratio	-	-	0.222	0.066	-	
HCM Control Delay (s)	-	-	18.8	8.9	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.8	0.2	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	44	43	509	418	42
Future Vol, veh/h	29	44	43	509	418	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	105	-	-	135
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	46	45	536	440	44

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1066	440	484	0	-	0
Stage 1	440	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	246	617	1079	-	-	-
Stage 1	649	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	236	617	1079	-	-	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	533	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1079	-	376	-	-
HCM Lane V/C Ratio	0.042	-	0.204	-	-
HCM Control Delay (s)	8.5	-	17	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Timings
9: Rivertown Rd & Cedar Grove Rd

3b. Build 2030 PM - Improved
10/04/2022



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations		↶	↷	↶	↷
Traffic Volume (vph)	61	116	194	395	60
Future Volume (vph)	61	116	194	395	60
Lane Group Flow (vph)	0	192	736	429	65
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	4	
Permitted Phases	6				4
Detector Phase	6	6	2	4	4
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	54.0	54.0	54.0	36.0	36.0
Total Split (%)	60.0%	60.0%	60.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio		0.30	0.68	0.84	0.13
Control Delay		11.9	6.4	45.2	6.3
Queue Delay		0.0	0.0	0.0	0.0
Total Delay		11.9	6.4	45.2	6.3
Queue Length 50th (ft)		52	29	225	0
Queue Length 95th (ft)		103	92	321	27
Internal Link Dist (ft)		1035	2282	2064	
Turn Bay Length (ft)					175
Base Capacity (vph)		638	1081	599	579
Starvation Cap Reductn		0	0	0	0
Spillback Cap Reductn		0	0	0	0
Storage Cap Reductn		0	0	0	0
Reduced v/c Ratio		0.30	0.68	0.72	0.11

Intersection Summary

Cycle Length: 90

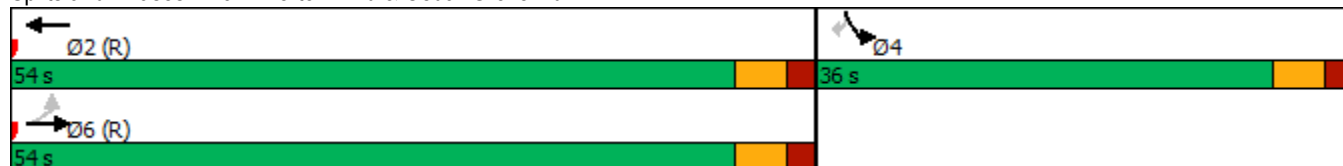
Actuated Cycle Length: 90

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

Natural Cycle: 55

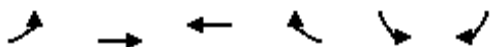
Control Type: Actuated-Coordinated

Splits and Phases: 9: Rivertown Rd & Cedar Grove Rd



HCM 6th Signalized Intersection Summary
9: Rivertown Rd & Cedar Grove Rd

3b. Build 2030 PM - Improved
10/04/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	↰
Traffic Volume (veh/h)	61	116	194	483	395	60
Future Volume (veh/h)	61	116	194	483	395	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	126	211	525	429	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	180	320	291	725	472	
Arrive On Green	0.61	0.61	0.61	0.61	0.26	0.00
Sat Flow, veh/h	206	523	475	1182	1781	1585
Grp Volume(v), veh/h	192	0	0	736	429	0
Grp Sat Flow(s),veh/h/ln	729	0	0	1658	1781	1585
Q Serve(g_s), s	4.8	0.0	0.0	27.8	21.0	0.0
Cycle Q Clear(g_c), s	32.6	0.0	0.0	27.8	21.0	0.0
Prop In Lane	0.34			0.71	1.00	1.00
Lane Grp Cap(c), veh/h	501	0	0	1016	472	
V/C Ratio(X)	0.38	0.00	0.00	0.72	0.91	
Avail Cap(c_a), veh/h	501	0	0	1016	604	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	12.1	32.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	4.5	15.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	10.6	10.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.0	0.0	0.0	16.6	47.3	0.0
LnGrp LOS	B	A	A	B	D	
Approach Vol, veh/h		192	736		429	
Approach Delay, s/veh		14.0	16.6		47.3	
Approach LOS		B	B		D	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		60.7		29.3		60.7
Change Period (Y+Rc), s		5.5		5.5		5.5
Max Green Setting (Gmax), s		48.5		30.5		48.5
Max Q Clear Time (g_c+I1), s		29.8		23.0		34.6
Green Ext Time (p_c), s		9.5		0.8		1.7

Intersection Summary

HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	5.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	472	67	61	638	104	89
Future Vol, veh/h	472	67	61	638	104	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	160	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	482	68	62	651	106	91
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	550	0	1291	516
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	775	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1020	-	180	559
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1020	-	163	559
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	411	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		38.7	
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	163	559	-	-	1020	-
HCM Lane V/C Ratio	0.651	0.162	-	-	0.061	-
HCM Control Delay (s)	61	12.7	-	-	8.8	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	3.7	0.6	-	-	0.2	-

Timings
11: Virlyn B Smith Rd & Rivertown Rd

3b. Build 2030 PM - Improved
10/04/2022

	→	↖	←	↙	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰		↰	↰	↰
Traffic Volume (vph)	226	26	153	524	44
Future Volume (vph)	226	26	153	524	44
Lane Group Flow (vph)	636	0	183	535	45
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	6		2	8	
Permitted Phases		2			8
Detector Phase	6	2	2	8	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5
Total Split (s)	48.0	48.0	48.0	42.0	42.0
Total Split (%)	53.3%	53.3%	53.3%	46.7%	46.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5	5.5	5.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.66		0.21	0.86	0.08
Control Delay	9.0		13.3	41.8	5.6
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	9.0		13.3	41.8	5.6
Queue Length 50th (ft)	64		54	273	0
Queue Length 95th (ft)	142		102	380	20
Internal Link Dist (ft)	1050		682	558	
Turn Bay Length (ft)				235	175
Base Capacity (vph)	961		868	717	668
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.66		0.21	0.75	0.07

Intersection Summary

Cycle Length: 90

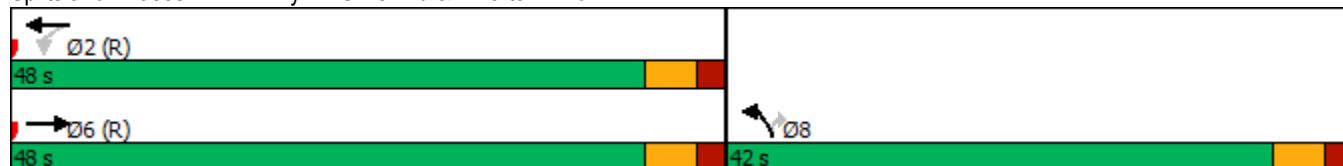
Actuated Cycle Length: 90

Offset: 44 (49%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 11: Virlyn B Smith Rd & Rivertown Rd



HCM 6th Signalized Intersection Summary
11: Virlyn B Smith Rd & Rivertown Rd

3b. Build 2030 PM - Improved
10/04/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↱	↱
Traffic Volume (veh/h)	226	397	26	153	524	44
Future Volume (veh/h)	226	397	26	153	524	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	231	405	27	156	535	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	337	591	110	607	579	
Arrive On Green	0.55	0.55	0.55	0.55	0.33	0.00
Sat Flow, veh/h	609	1069	116	1098	1781	1585
Grp Volume(v), veh/h	0	636	183	0	535	0
Grp Sat Flow(s),veh/h/ln	0	1678	1214	0	1781	1585
Q Serve(g_s), s	0.0	24.6	1.8	0.0	26.1	0.0
Cycle Q Clear(g_c), s	0.0	24.6	26.3	0.0	26.1	0.0
Prop In Lane		0.64	0.15		1.00	1.00
Lane Grp Cap(c), veh/h	0	927	717	0	579	
V/C Ratio(X)	0.00	0.69	0.26	0.00	0.92	
Avail Cap(c_a), veh/h	0	927	717	0	722	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.5	11.1	0.0	29.3	0.0
Incr Delay (d2), s/veh	0.0	4.1	0.9	0.0	15.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.8	1.7	0.0	12.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.6	11.9	0.0	44.7	0.0
LnGrp LOS	A	B	B	A	D	
Approach Vol, veh/h	636			183	535	
Approach Delay, s/veh	18.6			11.9	44.7	
Approach LOS	B			B	D	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	55.2		55.2		34.8	
Change Period (Y+Rc), s	5.5		5.5		5.5	
Max Green Setting (Gmax), s	42.5		42.5		36.5	
Max Q Clear Time (g_c+I1), s	28.3		26.6		28.1	
Green Ext Time (p_c), s	1.4		7.2		1.2	
Intersection Summary						
HCM 6th Ctrl Delay			28.0			
HCM 6th LOS			C			

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	449	520	22	20	50
Future Vol, veh/h	57	449	520	22	20	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	488	565	24	22	54
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	589	0	-	0	1177	565
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	612	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	986	-	-	-	211	524
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	541	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	986	-	-	-	198	524
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	533	-
Stage 2	-	-	-	-	541	-
Approach	EB	WB		SB		
HCM Control Delay, s	1	0		17.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	986	-	-	-	356	
HCM Lane V/C Ratio	0.063	-	-	-	0.214	
HCM Control Delay (s)	8.9	-	-	-	17.8	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8	

Traffic Volume Worksheets

22-105 Cedar Grove Village Center, South Fulton Parkway, GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

1. S Fulton Pkwy @ Rosewood Pl

A.M. Peak Hour

Condition	Rosewood Place Northbound					- Southbound					South Fulton Parkway Eastbound					South Fulton Parkway Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	44	0	117	161		0	0	0	0		0	1242	19	1261		39	689	0	728
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	61	0	162	223		0	0	0	0		0	1719	26	1745		54	954	0	1008
Total New Trips:	0	0	0	0		0	0	0	0		0	98	0	98		0	61	0	61
Future 2024 Traffic Volumes:	61	0	162	223		0	0	0	0		0	1817	26	1843		54	1015	0	1069

P.M. Peak Hour

Condition	Rosewood Place Northbound					- Southbound					South Fulton Parkway Eastbound					South Fulton Parkway Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	31	0	44	75		0	0	0	0		0	611	27	638		76	1464	0	1540
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	43	0	61	104		0	0	0	0		0	846	37	883		105	2026	0	2131
Total New Trips:	0	0	0	0		0	0	0	0		0	116	0	116		0	133	0	133
Future 2024 Traffic Volumes:	43	0	61	104		0	0	0	0		0	962	37	999		105	2159	0	2264

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

2. S Fulton Pkwy @ SR 92

A.M. Peak Hour

Condition	SR 92 Northbound					SR 92 Southbound					South Fulton Parkway Eastbound					South Fulton Parkway Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	32	636	80	748		360	540	65	965		153	581	114	848		125	317	332	774
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	44	880	111	1035		498	747	90	1335		212	804	158	1174		173	439	459	1071
Total New Trips:	9	0	0	9		0	0	18	18		28	98	14	140		0	61	0	61
Future 2024 Traffic Volumes:	53	880	111	1044		498	747	108	1353		240	902	172	1314		173	500	459	1132

P.M. Peak Hour

Condition	SR 92 Northbound					SR 92 Southbound					South Fulton Parkway Eastbound					South Fulton Parkway Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	107	674	78	859		275	567	163	1005		120	253	69	442		119	644	597	1360
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	148	933	108	1189		381	785	226	1392		166	350	95	611		165	891	826	1882
Total New Trips:	19	0	0	19		0	0	38	38		33	116	17	166		0	133	0	133
Future 2024 Traffic Volumes:	167	933	108	1208		381	785	264	1430		199	466	112	777		165	1024	826	2015

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

3.S Fulton Pkwy@ Cedar Grove Rd

A.M. Peak Hour

Condition	South Fulton Parkway Northbound					South Fulton Parkway Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	22	431	25	478		118	148	31	297		144	161	13	318		7	110	221	338
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	30	597	35	662		163	205	43	411		199	223	18	440		10	152	306	468
Total New Trips:	0	0	35	35		88	0	0	88		0	9	0	9		56	14	140	210
Future 2024 Traffic Volumes:	30	597	70	697		251	205	43	499		199	232	18	449		66	166	446	678

P.M. Peak Hour

Condition	South Fulton Parkway Northbound					South Fulton Parkway Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	25	253	40	318		271	492	142	905		96	157	17	270		21	172	193	386
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	35	350	55	440		375	681	197	1253		133	217	24	374		29	238	267	534
Total New Trips:	0	0	76	76		190	0	0	190		0	19	0	19		66	17	166	249
Future 2024 Traffic Volumes:	35	350	131	516		565	681	197	1443		133	236	24	393		95	255	433	783

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

4. Cedar Grove Rd @ Lynmark Wy

A.M. Peak Hour

Condition	Lynmark Way Northbound					Site Driveway 2 Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	79	0	21	100		0	0	0	0		0	188	75	263		32	211	0	243
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	109	0	29	138		0	0	0	0		0	260	104	364		44	292	0	336
Total New Trips:	0	0	0	0		12	0	63	75		39	92	0	131		0	147	8	155
Future 2024 Traffic Volumes:	109	0	29	138		12	0	63	75		39	352	104	495		44	439	8	491

P.M. Peak Hour

Condition	Lynmark Way Northbound					Site Driveway 2 Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	100	0	52	152		0	0	0	0		0	238	124	362		67	275	0	342
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	138	0	72	210		0	0	0	0		0	329	172	501		93	381	0	474
Total New Trips:	0	0	0	0		15	0	74	89		85	199	0	284		0	174	17	191
Future 2024 Traffic Volumes:	138	0	72	210		15	0	74	89		85	528	172	785		93	555	17	665

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

5. Cedar Grove Rd @ Bellmist Dr

A.M. Peak Hour

Condition	Bellmist Drive Northbound					Site Driveway 1 Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	12	0	7	19		0	0	0	0		0	181	5	186		1	240	0	241
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	17	0	10	27		0	0	0	0		0	251	7	258		1	332	0	333
Total New Trips:	0	0	0	0		41	0	105	146		66	39	0	105		0	50	26	76
Future 2024 Traffic Volumes:	17	0	10	27		41	0	105	146		66	290	7	363		1	382	26	409

P.M. Peak Hour

Condition	Bellmist Drive Northbound					Site Driveway 1 Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	11	0	9	20		0	0	0	0		0	270	11	281		12	312	0	324
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	15	0	12	27		0	0	0	0		0	374	15	389		17	432	0	449
Total New Trips:	0	0	0	0		49	0	124	173		142	71	0	213		0	66	56	122
Future 2024 Traffic Volumes:	15	0	12	27		49	0	124	173		142	445	15	602		17	498	56	571

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

6. Cedar Grove Rd @ McClure Rd

A.M. Peak Hour

Condition	- Northbound					McClure Road Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	0		0	0	3	3		1	187	0	188		0	238	0	238
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	0	0	0	0		0	0	4	4		1	259	0	260		0	329	0	329
Total New Trips:	0	0	0	0		0	0	2	2		3	67	0	70		0	42	0	42
Future 2024 Traffic Volumes:	0	0	0	0		0	0	6	6		4	326	0	330		0	371	0	371

P.M. Peak Hour

Condition	- Northbound					McClure Road Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	0		1	0	6	7		6	273	0	279		0	318	1	319
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	0	0	0	0		1	0	8	9		8	378	0	386		0	440	1	441
Total New Trips:	0	0	0	0		0	0	4	4		3	79	0	82		0	91	0	91
Future 2024 Traffic Volumes:	0	0	0	0		1	0	12	13		11	457	0	468		0	531	1	532

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

7. Cedar Grove Rd @ Parks Trl

A.M. Peak Hour

Condition	Cedar Grove Road Northbound					Cedar Grove Road Southbound					- Eastbound					Parks Trail Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	0	264	7	271		14	229	0	243		0	0	0	0		9	0	58	67
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	0	365	10	375		19	317	0	336		0	0	0	0		12	0	80	92
Total New Trips:	0	40	0	40		3	64	0	67		0	0	0	0		0	0	2	2
Future 2024 Traffic Volumes:	0	405	10	415		22	381	0	403		0	0	0	0		12	0	82	94

P.M. Peak Hour

Condition	Cedar Grove Road Northbound					Cedar Grove Road Southbound					- Eastbound					Parks Trail Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	0	313	28	341		41	299	0	340		0	0	0	0		16	0	31	47
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	0	433	39	472		57	414	0	471		0	0	0	0		22	0	43	65
Total New Trips:	0	87	0	87		3	76	0	79		0	0	0	0		0	0	4	4
Future 2024 Traffic Volumes:	0	520	39	559		60	490	0	550		0	0	0	0		22	0	47	69

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

8.Cedar Grove Rd @ The Lakes Dr

A.M. Peak Hour

Condition	Cedar Grove Road Northbound					Cedar Grove Road Southbound					The Lakes Drive Eastbound					- Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	12	202	0	214		0	212	14	226		37	0	18	55		0	0	0	0
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	17	280	0	297		0	293	19	312		51	0	25	76		0	0	0	0
Total New Trips:	0	39	0	39		0	62	3	65		2	0	0	2		0	0	0	0
Future 2024 Traffic Volumes:	17	319	0	336		0	355	22	377		53	0	25	78		0	0	0	0

P.M. Peak Hour

Condition	Cedar Grove Road Northbound					Cedar Grove Road Southbound					The Lakes Drive Eastbound					- Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	31	308	0	339		0	249	28	277		18	0	32	50		0	0	0	0
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	43	426	0	469		0	345	39	384		25	0	44	69		0	0	0	0
Total New Trips:	0	83	0	83		0	73	3	76		4	0	0	4		0	0	0	0
Future 2024 Traffic Volumes:	43	509	0	552		0	418	42	460		29	0	44	73		0	0	0	0

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

9.Cedar Grove Rd @ Rivertown Rd

A.M. Peak Hour

Condition	- Northbound				Cedar Grove Road Southbound				Rivertown Road Eastbound				Rivertown Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	0	242	0	58	300	36	121	0	157	0	59	156	215
Growth Factor (%):	4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8	
No-Build 2024 Volumes:	0	0	0	0	335	0	80	415	50	167	0	217	0	82	216	298
Total New Trips:	0	0	0	0	48	0	14	62	9	0	0	9	0	0	30	30
Future 2024 Traffic Volumes:	0	0	0	0	383	0	94	477	59	167	0	226	0	82	246	328

P.M. Peak Hour

Condition	- Northbound				Cedar Grove Road Southbound				Rivertown Road Eastbound				Rivertown Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	0	245	0	31	276	30	84	0	114	0	140	303	443
Growth Factor (%):	4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8	
No-Build 2024 Volumes:	0	0	0	0	339	0	43	382	42	116	0	158	0	194	419	613
Total New Trips:	0	0	0	0	56	0	17	73	19	0	0	19	0	0	64	64
Future 2024 Traffic Volumes:	0	0	0	0	395	0	60	455	61	116	0	177	0	194	483	677

22-105 Cedar Grove Village Center, South Fulton Parkway,GA DRI (#3739)
Traffic Volumes

A&R Engineering
November 2022

10.Rivertown Rd@John Rivers Rd

A.M. Peak Hour

Condition	John Rivers Road Northbound					- Southbound					Rivertown Road Eastbound					Rivertown Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	84	0	140	224		0	0	0	0		0	311	88	399		155	143	0	298
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	116	0	194	310		0	0	0	0		0	430	122	552		215	198	0	413
Total New Trips:	5	0	0	5		0	0	0	0		0	39	8	47		0	25	0	25
Future 2024 Traffic Volumes:	121	0	194	315		0	0	0	0		0	469	130	599		215	223	0	438

P.M. Peak Hour

Condition	John Rivers Road Northbound					- Southbound					Rivertown Road Eastbound					Rivertown Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	67	0	64	131		0	0	0	0		0	308	41	349		44	423	0	467
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	93	0	89	182		0	0	0	0		0	426	57	483		61	585	0	646
Total New Trips:	11	0	0	11		0	0	0	0		0	46	10	56		0	53	0	53
Future 2024 Traffic Volumes:	104	0	89	193		0	0	0	0		0	472	67	539		61	638	0	699

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Traffic Volumes

A&R Engineering
November 2022

11.Rivertown @Virlyn B Smith Rd

A.M. Peak Hour

Condition	Virlyn B Smith Road Northbound				- Southbound				Rivertown Road Eastbound				Rivertown Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	127	0	39	166	0	0	0	0	0	109	195	304	13	82	0	95
Growth Factor (%):	4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8	
No-Build 2024 Volumes:	176	0	54	230	0	0	0	0	0	151	270	421	18	113	0	131
Total New Trips:	12	0	0	12	0	0	0	0	0	20	20	40	0	12	0	12
Future 2024 Traffic Volumes:	188	0	54	242	0	0	0	0	0	171	290	461	18	125	0	143

P.M. Peak Hour

Condition	Virlyn B Smith Road Northbound				- Southbound				Rivertown Road Eastbound				Rivertown Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	359	0	32	391	0	0	0	0	0	147	270	417	19	91	0	110
Growth Factor (%):	4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8		4.8	4.8	4.8	
No-Build 2024 Volumes:	497	0	44	541	0	0	0	0	0	203	374	577	26	126	0	152
Total New Trips:	27	0	0	27	0	0	0	0	0	23	23	46	0	27	0	27
Future 2024 Traffic Volumes:	524	0	44	568	0	0	0	0	0	226	397	623	26	153	0	179

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Traffic Volumes

A&R Engineering
November 2022

12.Cedar Grove Rd @ Site Drwy 3

A.M. Peak Hour

Condition	- Northbound					Site Driveway 3 Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	0		0	0	0	0		0	188	0	188		0	241	0	241
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	0	0	0	0		0	0	0	0		0	260	0	260		0	334	0	334
Total New Trips:	0	0	0	0		17	0	42	59		26	53	0	79		0	33	10	43
Future 2024 Traffic Volumes:	0	0	0	0		17	0	42	59		26	313	0	339		0	367	10	377

P.M. Peak Hour

Condition	- Northbound					Site Driveway 3 Southbound					Cedar Grove Road Eastbound					Cedar Grove Road Westbound			
	L	T	R	Tot		L	T	R	Tot		L	T	R	Tot		L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	0		0	0	0	0		0	279	0	279		0	324	0	324
Growth Factor (%):	4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8			4.8	4.8	4.8	
No-Build 2024 Volumes:	0	0	0	0		0	0	0	0		0	386	0	386		0	448	0	448
Total New Trips:	0	0	0	0		20	0	50	70		57	63	0	120		0	72	22	94
Future 2024 Traffic Volumes:	0	0	0	0		20	0	50	70		57	449	0	506		0	520	22	542