DEVELOPMENT OF REGIONAL IMPACT
(DRI #3812)

TRAFFIC STUDY
FOR
HAMILTON MILL ROAD MIXED-USE DEVELOPMENT AT
3527 SARDIS CHURCH ROAD

GWINNETT COUNTY, GEORGIA

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EXECUTIVE SUMMARY

Traffic impacts were evaluated for the proposed Hamilton Mill Road mixed-use development located at 3527 Sardis Church Road, to the northeast of I-85 and Hamilton Mill Road in Gwinnett County, Georgia. The development will consist of:

- Multifamily Housing: 700 units
- Retail space: 17,000 sf

The development proposes one full access and one right-in/right-out driveway on Hamilton Mill Road as well as one full access driveway on the road connecting Sardis Church Road and Sardis Bend 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. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
3. Hamilton Mill Road @ I-85 Southbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive
9. Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive

Due to the close proximity of Seckinger High School to the east of the development, the following intersection was analyzed for the school dismissal (2:00 PM – 3:00 PM) peak hour also:

8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive

Traffic Operations Summary

Table E1 below provides a summary of traffic operations for the "No-Build" and "Build" conditions for the year 2026 with and without system improvements. Table E2 provides a summary of traffic operations for the "No-Build" and "Build" conditions for the year 2026 with and without site improvements. As per GRTA requirements, all approaches that do not meet the level-of-service (LOS) standard (considered failing) are highlighted in Table E1. Most of these approaches achieve the LOS standard after implementation of identified improvements. However, there are a few approaches where there are no feasible improvements for these approaches to meet the LOS standard. Table E-1 and E-2 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		SYSTEM IMPROVEMENTS		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PRECENT 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	**Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Hwy)**	**D (54.8)**	**D (51.7)**	**E (54.8)**	**D (51.7)**	**D (55.0)**	**D (53.8)**	**D (55.0)**	**D (53.8)**				
	-Eastbound Approach	D (48.8)	E (60.7)	D (48.8)	E (60.7)	D (49.6)	E (62.2)	D (49.6)	E (62.2)	-	-	-	-
	-Westbound Approach	D (41.8)	E (65.1)	D (41.8)	E (65.1)	D (42.9)	E (70.7)	D (42.9)	E (70.7)	-	-	-	-
	-Northbound Approach	E (78.5)	F (87.1)	E (78.5)	F (87.1)	E (78.7)	F (88.5)	E (78.7)	F (88.5)	5	11	1%	3%
	-Southbound Approach	D (53.5)	D (37.6)	D (53.5)	D (37.6)	D (53.0)	D (38.8)	D (53.0)	D (38.8)	-	-	-	-
2	**Hamilton Mill Road @ I-85 Northbound Ramps**	**C (24.9)**	**F (86.7)**	**B (19.0)**	**D (42.5)**	**C (26.9)**	**F (100.5)**	**C (23.4)**	**D (46.8)**				
	-Eastbound Approach	E (73.6)	F (81.4)	E (68.2)	E (57.6)	E (74.1)	F (113.2)	E (67.5)	E (56.6)	27	68	3%	4%
	-Northbound Approach	A (1.5)	F (122.0)	A (1.1)	C (32.1)	A (1.8)	F (136.3)	A (1.2)	D (36.4)	-	-	-	-
	-Southbound Approach	D (39.9)	E (59.9)	C (25.9)	D (44.4)	D (42.8)	E (64.7)	D (36.6)	D (50.7)	-	-	-	-

3	**Hamilton Mill Road @ I-85 Southbound Ramps** -Westbound Approach -Northbound Approach -Southbound Approach	**C (24.2)** E (71.5) C (20.1) B (16.4)	**B (17.0)** E (72.6) B (12.1) B (16.7)	**C (24.2)** E (71.5) C (20.1) B (16.4)	**B (17.0)** E (72.6) B (12.1) B (16.7)	**C (26.4)** E (71.5) C (20.0) C (26.0)	**B (10.6)** E (72.6) B (11.5) A (1.5)	**C (26.4)** E (71.5) C (20.0) C (26.0)	**B (10.6)** E (72.6) B (11.5) A (1.5)	9 - -	23 - -	2% - -	5%- - -
4	**Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps / Site Driveway 2 (RIRO)** -Eastbound Approach -Westbound Approach	C (17.5) -	F (112.9) -	C (17.5) -	F (112.9) -	C (19.6) B (14.1)	F (144.9) C (19.6)	C (19.6) B (14.1)	F (144.9) C (19.6)	- - -	- - -	- - -	- - -
6	**Hamilton Mill Road @ Sardis Church Road** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	**D (50.9)** E (75.7) E (69.9) D (46.7) D (36.9)	**D (53.2)** E (74.8) E (71.9) D (40.1) D (46.0)	**D (50.9)** E (75.7) E (69.9) D (46.7) D (36.9)	**D (53.2)** E (74.8) E (71.9) D (40.1) D (46.0)	**D (51.2)** E (75.7) E (68.9) D (47.5) D (37.5)	**D (53.8)** E (75.1) E (71.7) D (40.8) D (47.5)	**D (51.2)** E (75.7) E (68.9) D (47.5) D (37.5)	**D (53.8)** E (75.1) E (71.7) D (40.8) D (47.5)	3 17 - -	7 11 - -	1% 2% - -	1% 1% - -
7	**Sardis Church Road @ Sardis Bend Drive** -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	B (10.5) A (9.1) D (32.6) D (33.0)	A (9.5) B (10.4) F (*) F (95.0)	B (10.5) A (9.1) D (32.6) D (33.0)	A (9.5) B (10.4) F (*) F (95.0)	B (10.5) A (9.2) E (43.0) D (34.2)	A (9.5) B (10.7) F (*) F (109.2)	B (10.5) A (9.2) E (43.0) D (34.2)	A (9.5) B (10.7) F (*) F (109.2)	- - 24 -	- - 16 -	- - 45% -	- - 9% -
8	**Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive** -Westbound Left -Northbound Approach	A (9.3) D (30.2)	B (10.4) D (32.2)	A (9.3) D (30.2)	B (10.4) D (32.2)	A (9.4) C (23.0)	B (10.6) E (35.1)	A (9.4) C (23.0)	B (10.6) E (35.1)	- -	- 19	- -	- 28%

* Delay exceeds 300 seconds

TABLE E2 – FUTURE INTERSECTION OPERATIONS AT FAILING APPROACHES

	Intersection	*No-Build Condition: LOS (Delay)*				*Build Condition: LOS (Delay)*							
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS		NO IMPROVEMENTS		SITE IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PRECENT 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
5	**Hamilton Mill Road @ Sardis Bend Drive** -Westbound Approach -*Northbound Approach* -Southbound Left *(Approach)*	D (31.8) - B (11.1)	E (44.0) - C (15.0)	D (31.8) - B (11.1)	E (44.0) - C (15.0)	F (146.4) - B (11.5)	F (278.8) - C (16.4)	**A (6.0)** E (75.1) A (0.5) A (0.4)	**A (3.5)** E (79.1) A (0.8) A (0.6)	168 - -	110 - -	74% - -	66% - -

After accounting for the recommended system improvements listed in the Executive Summary and page 35, The following intersections will have LOS "E" or "F" for one or more approaches:

1. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
3. Hamilton Mill Road @ I-85 Southbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive – "Build" conditions only

Intersections 1,3 and 6

- Although these intersections will operate at an overall level-of-service "D" or better in the "Build" condition, some approaches will operate at a level-of-service "E" or "F" in the "Build" condition even after optimizing the signal timing due to long cycle length of 150 sec that leads to longer delays. These signalized intersections already have left turn and right lanes and are operating at an overall level-of-service "D" or better in the "Build" condition. Therefore, no more improvements were recommended at these intersections.

Intersections 2

- Intersection 2 Hamilton Mill Road at I-85 Northbound Ramps will operate at a level-of-service "D" or "C" in the "Build" condition after the system improvement. The eastbound approach will operate at a level-of-service "E" in the "Build" condition due to long cycle length of 150 sec that leads to longer delays.

Intersections 4,7, and 8

- The approaches of these intersections will still operate at a level-of-service "E" or "F" in the "Build" condition. These intersections already have left turn and right lanes and do not warrant a signal in the "Build" condition. It is not unusual for stop controlled site streets to have elevated delays during peak periods. Therefore, no more improvements were recommended at these intersections.

Intersections 5

- Intersection 5 Hamilton Mill Road at Sardis Bend Drive will operate at a level-of-service "A" in the "Build" condition after the installation of the traffic signal. However, the eastbound approach will operate at a level-of-service "E" due to long cycle length of 150 sec that le ads to longer delays and the large volume of vehicle exiting the site.

The table E-3 below includes Synchro reported 95th percentile queue lengths for failing level-of-service approaches for the build condition with improvements that had site generated traffic. Queue length reports are included in the Appendix.

TABLE E3– FUTURE 95TH PERCENTILE QUEUES (FT) FOR FAILING APPROACHES

	Intersection	Available Storage	Queue in feet BUILD with Improvements	
			AM Peak	PM Peak
1	**Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Hwy)**	225’	110	44
	-Northbound Left	-	442	326
	-Northbound Through	-	1	31
	-Northbound Right			
2	**Hamilton Mill Road @ I-85 Northbound Ramps**			
	-Eastbound Left	-	245	404
	-Eastbound Right	480’	126	460’
3	**Hamilton Mill Road @ I-85 Southbound Ramps**			
	-Westbound Left	-	147	115
	-Westbound Right	320’	276	303
5	**Hamilton Mill Road @ Sardis Bend Drive**			
	-Westbound Left	(260’)	263	194
	-Westbound Right	(260’)	30	38
6	**Hamilton Mill Road @ Sardis Church Road**			
	-Eastbound Left	185’	60	122
	-Eastbound Through	-	111	327
	-Eastbound Right	165’	5	89
	-Westbound Left	315’	312	305
	-Westbound Through	-	135	239
	-Westbound Right	225’	82	76
7	**Sardis Church Road @ Sardis Bend Drive**			
	-Northbound Left/Through	-	40	288
	-Northbound Right	75’	3	10
8	**Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive**			
	-Northbound Approach	-	20	40

Although the approach level of service are failing for the approaches listed in Table E2, the queues do not extend beyond the available storage.

Recommended System Improvements

System improvements address deficiencies that are found within the existing road network for the "No-Build" conditions. These are recommended for the local municipality to use in planning future transportation projects. The following are system improvements that were identified from the "No-Build" condition analysis.

Intersection 2: Hamilton Mill Road @ I-85 Northbound Ramps

- Addition of a second eastbound left turn lane on I-85 Northbound Off-Ramp

Recommended Site Mitigation Improvements

Site mitigation improvements address deficiencies that are caused by site traffic and can be identified as related to the proposed development. The following site improvements were identified in addition to the system improvements discussed in the "Recommended System Improvements" section.

Intersection 5: Hamilton Mill Road @ Sardis Bend Drive

- Creation of a dedicated southbound left turn lane by restriping the existing two-way left turn lane on Hamilton Mill Road
- Installation of a traffic signal that will be coordinated with the adjacent signals on Hamilton Mill Road at Sardis Church Road and I-85 Southbound Ramps

Recommendation for Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections:

- Site Driveway 1: Full access driveway on Hamilton Mill Road via proposed connection to Sardis Bend Drive
    - One entering and one exiting lanes on the westbound (driveway 1) approach at Sardis Bend Drive
    - Stop-sign controlled on the southbound Sardis Bend Drive approach with eastbound Sardis Bend Drive and the Site Driveway 1 remaining free flow
    - Southbound Left Turn Lane for entering traffic on Sardis Bend Drive

- Site Driveway 2: Right-in/right-out driveway at the existing stub on Hamilton Mill Road across from the right-in/right-out driveway between Sardis Bend Drive and I-85 southbound ramps
    - One entering and one right turn exiting lanes
    - Stop-sign controlled on the driveway approach with Hamilton Mill Road remaining free flow
    - Existing Right Turn Lane for entering traffic

- Site Driveway 3: Full access driveway on the roadway connecting Sardis Church Road and Sardis Bend Drive
    - One entering and one exiting lanes
    - Stop-sign controlled on the driveway approach with the connecting road remaining free flow
    - Westbound Left Turn Lane for entering traffic on Sardis Bend Drive

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INTRODUCTION

The purpose of this study is to determine the traffic impact resulting from the proposed Hamilton Mill Road mixed-use development located that will be located at 3527 Sardis Church Road, to the northeast of I-85 and Hamilton Mill Road in Gwinnett County, Georgia. The traffic analysis evaluates the current operations and the future conditions with the traffic generated by the development. The development will consist of:

- Multifamily Housing: 700 units
- Retail space: 17,000 sf

The development proposes access at the following locations:

- Site Driveway 1: Full access driveway on Hamilton Mill Road via proposed connection to Sardis Bend Drive
- Site Driveway 2: Right-in/right-out driveway at the existing stub on Hamilton Mill Road across from the right-in/right-out driveway between Sardis Bend Drive and I-85 southbound ramps
- Site Driveway 3: Full access driveway on the roadway connecting Sardis Church Road and Sardis Bend Drive

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. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
3. Hamilton Mill Road @ I-85 Southbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive
9. Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive

Due to the close proximity of Seckinger High School to the east of the development, the following intersection was analyzed for the school dismissal (2:00 PM – 3:00 PM) peak hour also:

8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive

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

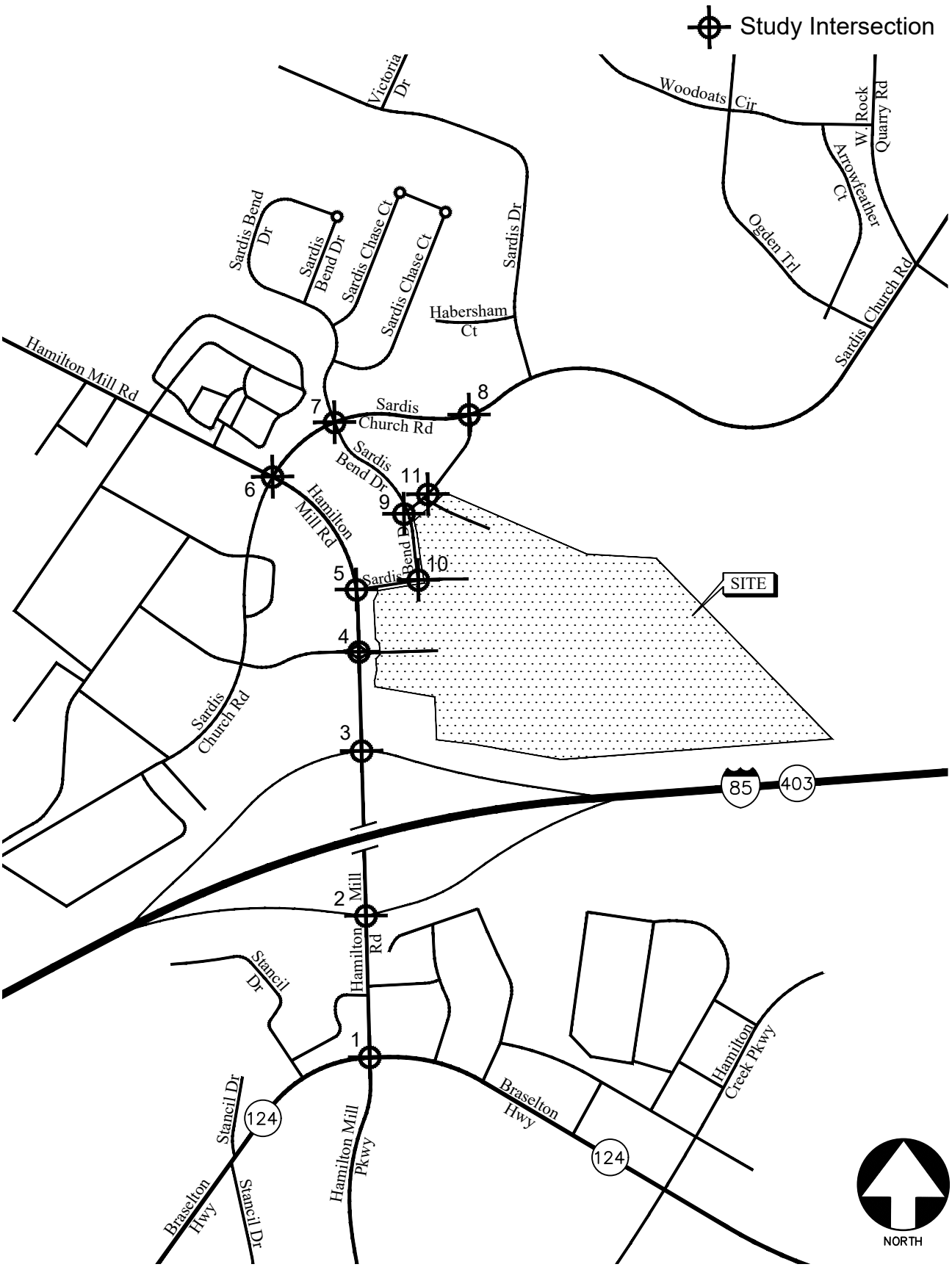
STUDY NETWORK DETERMINATION

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

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

1. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
3. Hamilton Mill Road @ I-85 Southbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive
9. Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive

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



LOCATION MAP AND STUDY INTERSECTIONS FIGURE 1

A&R Engineering Inc.

EXISTING ROADWAY FACILITIES

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

I-85 (Interstate 85)

I-85 (Interstate 85) is an east-west, six-lane, median-divided roadway with a posted speed limit of 70 mph in the vicinity of the site. GDOT traffic counts (Station ID's 135-0309 & 135-0312) indicate that the daily traffic volume on I-85 in 2019 was 91,200 vehicles west of Gravel Springs Road and 75,100 vehicles east of Spout Springs Road.

SR 124 (Braselton Highway)

SR 124 (Braselton Highway) is an east-west, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. SR 124 (Braselton Highway) is a four-lane roadway to the east of Hamilton Mill Road and a two-lane roadway to the west of Hamilton Mill Road. GDOT traffic counts (Station ID's 135-0207 & 135-0209) indicate that the daily traffic volume on SR 124 (Braselton Highway) in 2019 was 18,400 vehicles east of Gravel Springs Road and 17,500 vehicles east of Mineral Springs Road. GDOT classifies SR 124 (Braselton Highway) as an Urban Minor Arterial roadway.

Hamilton Mill Road

Hamilton Mill Road is a north-south, four-lane, undivided roadway with a two-way left turn lane and a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID 135-0485) indicate that the daily traffic volume on Hamilton Mill Road in 2019 was 23,600 vehicles south of Ivy Mill Drive. GDOT classifies Hamilton Mill Road as an Urban Minor Collector roadway.

Hamilton Mill Parkway

Hamilton Mill Parkway is a north-south, four-lane, median-divided roadway with a posted speed limit of 45 mph near its intersection with SR 124 (Braselton Highway) and 40 mph as it moves southward away from the intersection.

Sardis Church Road

Sardis Church Road is an east-west, two-lane, undivided roadway with a posted speed limit of 35 mph to the east of Hamilton Mill Road and 25 mph to the west of Hamilton Mill Road.

Sardis Bend Drive

Sardis Bend Drive is a two-lane, undivided roadway without any posted speed limit.

Existing Bicycle and Pedestrian Facilities

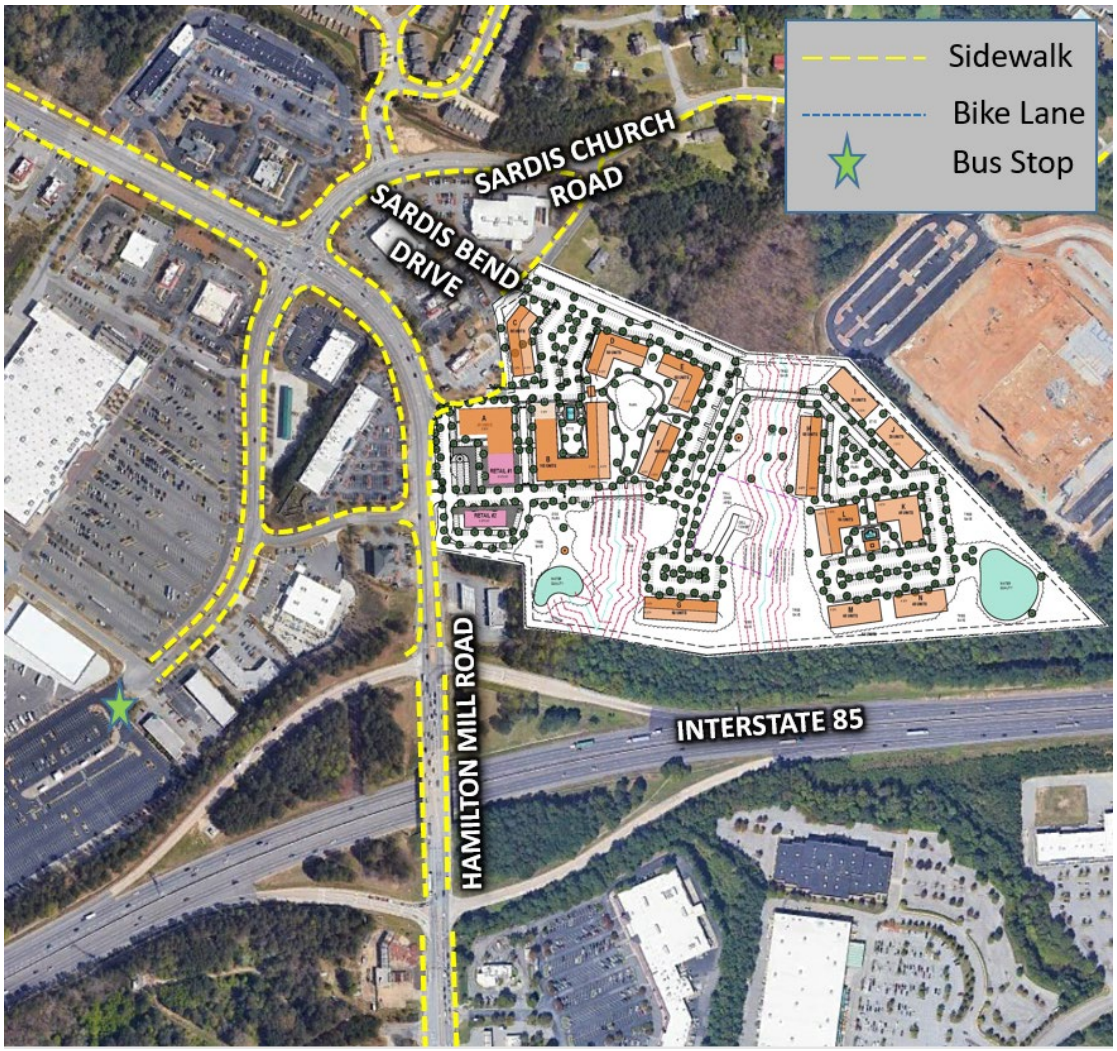
- Sidewalks were identified in the vicinity of the proposed development and are shown in the graphic below.
- Bike lanes were not found within a ½ mile radius of the proposed development.
- ATL Expressway Park and Ride location was identified in the vicinity of the proposed development and is shown in the graphic below.

Alternative Modes of Access

- Existing transit routes were not 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 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. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
3. Hamilton Mill Road @ I-85 Southbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
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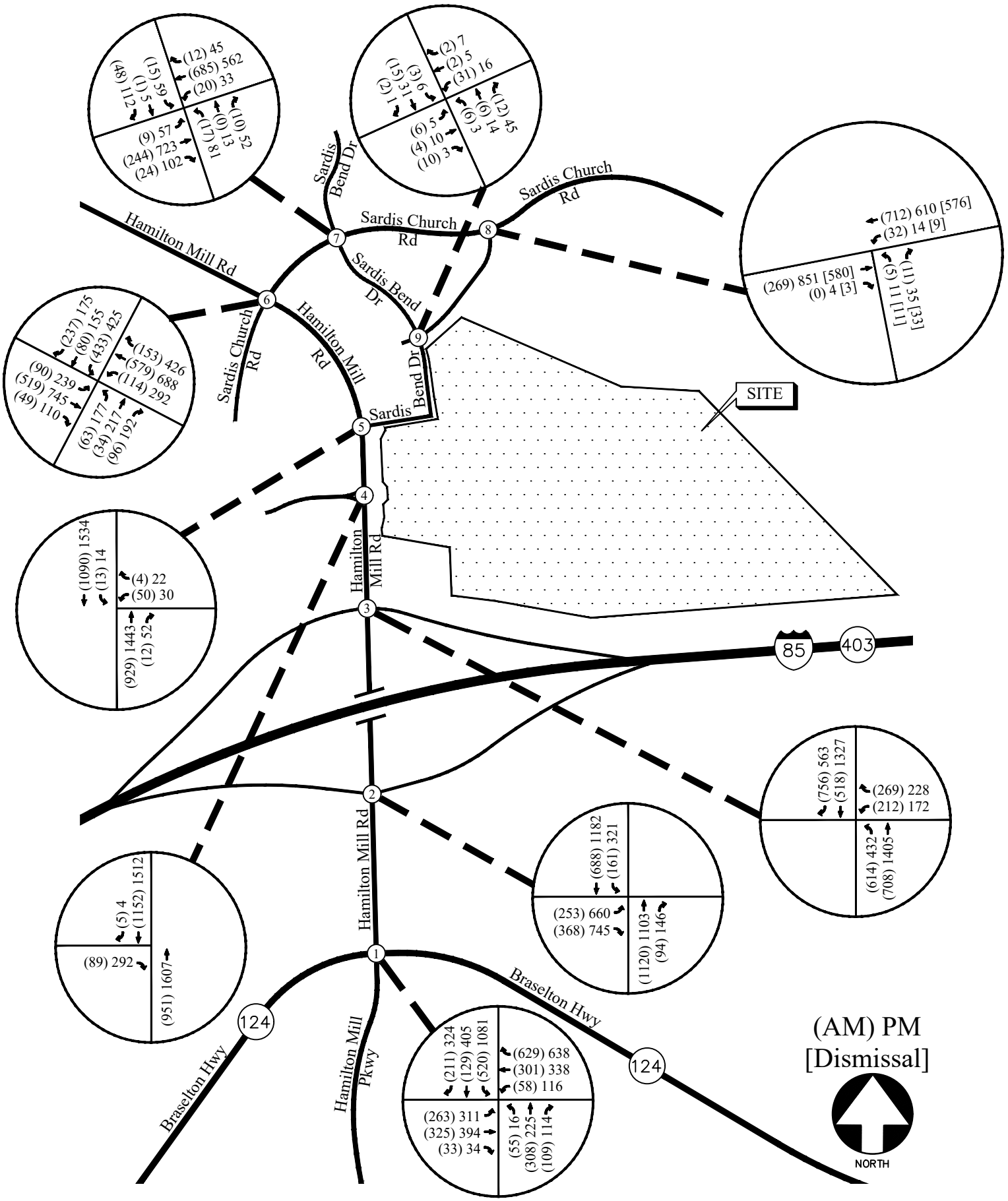
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive
9. Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive

Turning movement counts were collected on Tuesday, November 01, 2022 at the intersections of (1) Hamilton Mill Road / Hamilton Mill Parkway at SR 124, (2) Hamilton Mill Road at I-85 Northbound Ramps, (5) Hamilton Mill Road at Sardis Bend Drive and (9) Sardis Bend Drive at connecting road between Sardis Church Road and Sardis Bend Drive. The counts at the intersections of (3) Hamilton Mill Road at I-85 Southbound Ramps, (4) Hamilton Mill Road at Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps, (6) Hamilton Mill Road at Sardis Church Road, (7) Sardis Church Road at Sardis Bend Drive and (8) Sardis Church Road at connecting road between Sardis Church Road and Sardis Bend Drive were collected on Wednesday, November 02, 2022. All turning movement counts were recorded during the AM and PM peak hours between 7:00am to 9:00am and 4:00pm to 6:00pm, respectively.

Due to the close proximity of Seckinger High School to the east of the development, school dismissal peak hour (2:00 PM to 3:00 PM) turning movement counts were also collected at the intersection of:

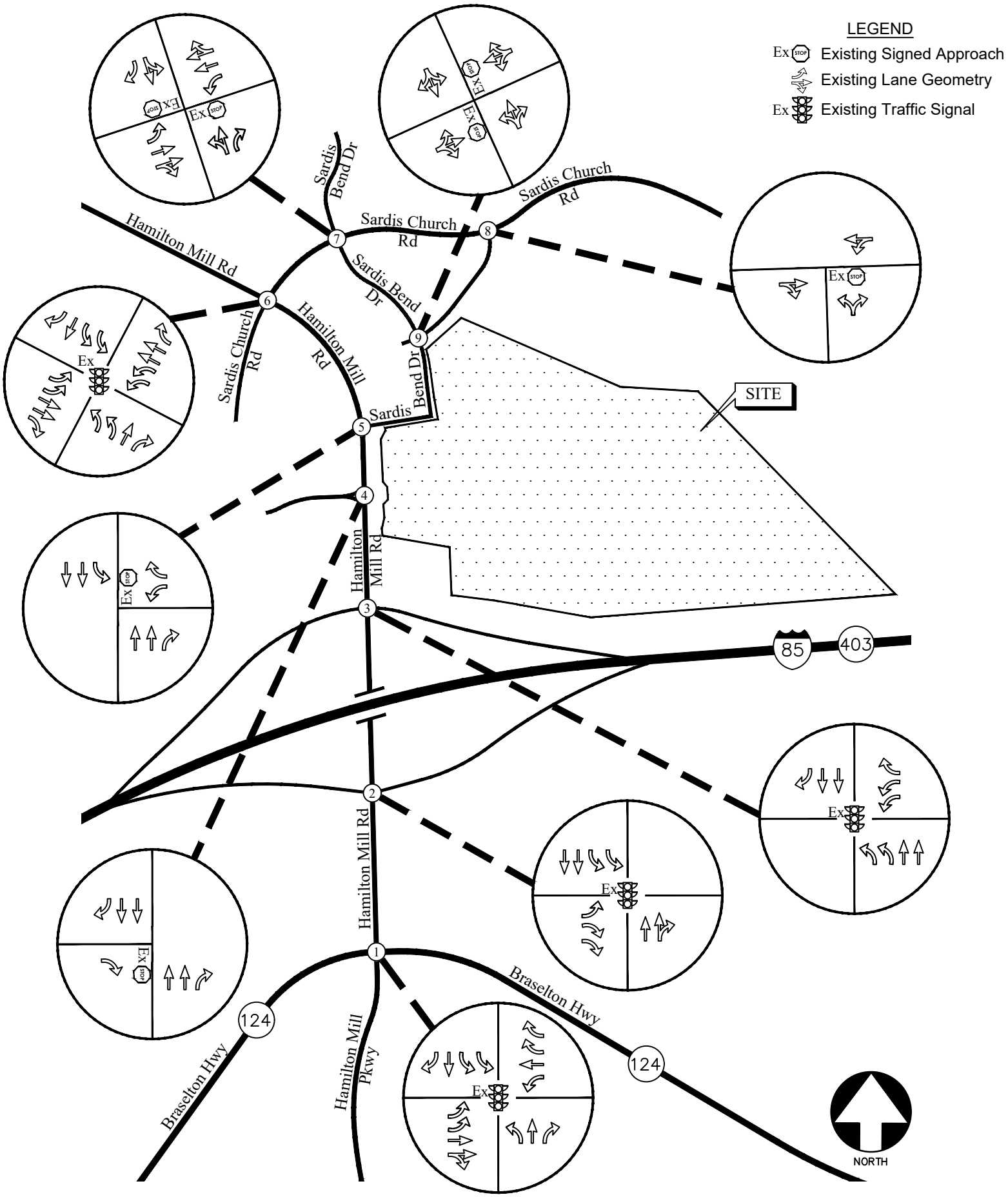
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive

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. The existing traffic control and lane geometry for the intersections are shown in Figure 3.



EXISTING WEEKDAY PEAK-HOUR VOLUMES FIGURE 2

A&R Engineering Inc.



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 3

A&R Engineering Inc.

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.

TABLE 3 – EXISTING INTERSECTION OPERATIONS

	Intersection	Traffic Control	LOS (Delay) AM Peak	PM Peak	Dismissal Peak	LOS Standard
1	**Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Hwy)** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**D (54.0)** D (46.0) D (36.6) E (79.2) E (56.8)	**D (52.9)** E (57.6) D (51.2) F (86.6) D (45.7)	Not Evaluated	**D/D** D/D D/D D/E D/D
2	**Hamilton Mill Road @ I-85 Northbound Ramps** -Eastbound Approach -Northbound Approach -Southbound Approach	Signalized	**C (20.9)** E (72.2) A (1.2) C (33.8)	**E (61.2)** E (67.9) E (72.3) D (49.0)	Not Evaluated	**D/D** D/D D/D D/D
3	**Hamilton Mill Road @ I-85 Southbound Ramps** -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**C (22.1)** E (72.0) C (22.7) A (0.3)	**B (12.4)** E (72.9) B (12.5) A (4.4)	Not Evaluated	**D/D** D/D D/D D/D
4	**Hamilton Mill Road @ RIRO driveway between Sardis Bend Drive and I-85 Southbound Ramps*** -Eastbound Approach	Stop Controlled on EB Approach	C (15.4)	F (60.9)	Not Evaluated	D/E
5	**Hamilton Mill Road @ Sardis Bend Drive** -Westbound Approach -Southbound Left	Stop Controlled on WB Approach	C (23.6) B (10.1)	D (34.8) B (13.7)	Not Evaluated	D/D D/D
6	**Hamilton Mill Rd @ Sardis Church Rd** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	**D (43.8)** E (74.0) E (67.0) D (40.0) C (23.7)	**D (51.8)** F (83.0) E (65.2) D (42.7) D (40.4)	Not Evaluated	**D/D** D/E D/D D/D D/D
7	**Sardis Church Road @ Sardis Bend Drive** -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	Stop Controlled on NB and SB Approaches	A (9.4) A (7.9) C (16.0) C (15.1)	A (9.0) A (9.8) F (193.5) E (36.0)	Not Evaluated	D/D D/D D/E D/D
8	**Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive** -Westbound Left -Northbound Approach	Stop Controlled on NB Approach	A (8.0) C (15.0)	A (9.8) C (23.4)	A (8.9) C (17.6)	D/D/D D/D/D

9	**Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive** -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	Stop Controlled on EB and WB Approaches	 A (8.8) A (9.1) A (7.3) A (7.3)	 A (9.6) A (9.4) A (7.3) A (7.4)	Not Evaluated	 D/D D/D D/D D/D

*Illegal northbound left turn movements occurring from Hamilton Mill Road

The results of existing traffic operations analysis indicate that the following intersections are operating at level-of-service "E" or "F" for one or more approaches in the AM and/or PM peak hour:

1. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
3. Hamilton Mill Road @ I-85 Southbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive

These areas are addressed in the future traffic operations sections.

PROJECT DESCRIPTION

The proposed Hamilton Mill Road mixed-use site will be located at 3527 Sardis Church Road, to the northeast of I-85 and Hamilton Mill Road in Gwinnett County, Georgia. The development will consist of:

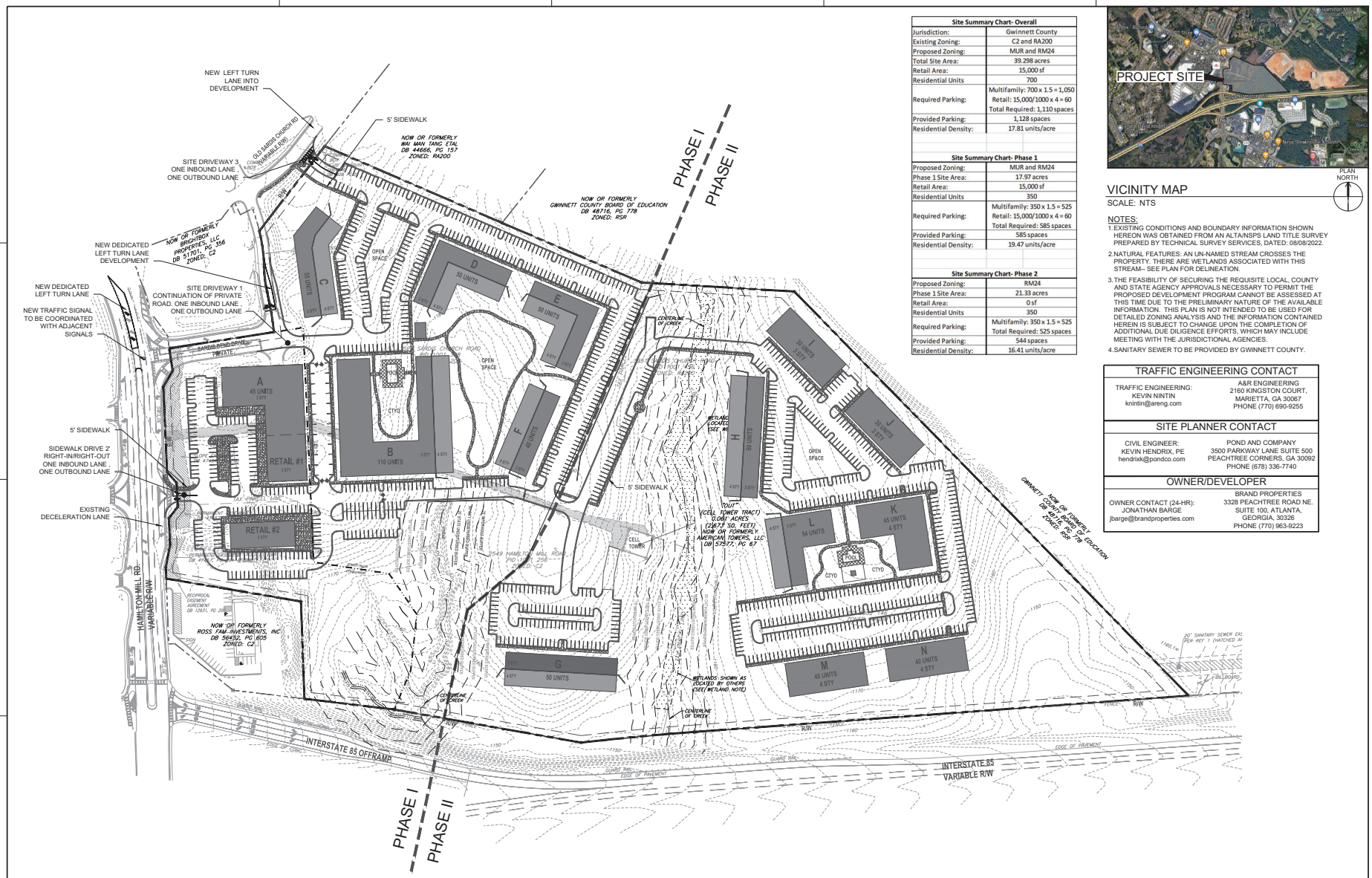
- Multifamily Housing: 700 units
- Retail space: 17,000 sf

The development proposes access at the following locations:

- Site Driveway 1: Full access driveway on Hamilton Mill Road via proposed connection to Sardis Bend Drive
- Site Driveway 2: Right-in/right-out driveway at the existing stub on Hamilton Mill Road across from the right-in/right-out driveway between Sardis Bend Drive and I-85 southbound ramps
- Site Driveway 3: Full access driveway on the roadway connecting Sardis Church Road and Sardis Bend Drive

Site Plan

A site plan is shown in Figure 4. A digital copy of the site plan is also provided with this report.



Site Summary Chart- Overall	
Jurisdiction:	Gwinnett County
Existing Zoning:	C2 and RA200
Proposed Zoning:	MUR and RM24
Total Site Area:	39.298 acres
Retail Area:	15,000 sf
Residential Units	700
Required Parking:	Multifamily: 700 x 1.5 = 1,050 Retail: 15,000/1000 x 4 = 60 Total Required: 1,110 spaces
Provided Parking:	1,128 spaces
Residential Density:	17.81 units/acre

Site Summary Chart- Phase 1	
Proposed Zoning:	MUR and RM24
Phase 1 Site Area:	17.97 acres
Retail Area:	15,000 sf
Residential Units	350
Required Parking:	Multifamily: 350 x 1.5 = 525 Retail: 15,000/1000 x 4 = 60 Total Required: 585 spaces
Provided Parking:	585 spaces
Residential Density:	19.47 units/acre

Site Summary Chart- Phase 2	
Proposed Zoning:	RM24
Phase 1 Site Area:	21.33 acres
Retail Area:	0 sf
Residential Units	350
Required Parking:	Multifamily: 350 x 1.5 = 525 Total Required: 525 spaces
Provided Parking:	544 spaces
Residential Density:	16.41 units/acre

PLAN NORTH

VICINITY MAP

SCALE: NTS

NOTES:

1. EXISTING CONDITIONS AND BOUNDARY INFORMATION SHOWN HEREON WAS OBTAINED FROM AN ALTA/NSPS LAND TITLE SURVEY PREPARED BY TECHNICAL SURVEY SERVICES, DATED: 08/08/2022.
2. NATURAL FEATURES: AN UN-NAMED STREAM CROSSES THE PROPERTY. THERE ARE WETLANDS ASSOCIATED WITH THIS STREAM-- SEE PLAN FOR DELINEATION.
3. THE FEASIBILITY OF SECURING THE REQUISITE LOCAL, COUNTY AND STATE AGENCY APPROVALS NECESSARY TO PERMIT THE PROPOSED DEVELOPMENT PROGRAM CANNOT BE ASSESSED AT THIS TIME DUE TO THE PRELIMINARY NATURE OF THE AVAILABLE INFORMATION. THIS PLAN IS NOT INTENDED TO BE USED FOR DETAILED ZONING ANALYSIS AND THE INFORMATION CONTAINED HEREIN IS SUBJECT TO CHANGE UPON THE COMPLETION OF ADDITIONAL DUE DILIGENCE EFFORTS, WHICH MAY INCLUDE MEETING WITH THE JURISDICTIONAL AGENCIES.
4. SANITARY SEWER TO BE PROVIDED BY GWINNETT COUNTY.

TRAFFIC ENGINEERING CONTACT	
TRAFFIC ENGINEERING: KEVIN NINTIN knintin@areng.com	A&R ENGINEERING 2160 KINGSTON COURT, MARIETTA, GA 30067 PHONE (770) 690-9255

SITE PLANNER CONTACT	
CIVIL ENGINEER: KEVIN HENDRIX, PE hendrixk@pondco.com	POND AND COMPANY 3500 PARKWAY LANE SUITE 500 PEACHTREE CORNERS, GA 30092 PHONE (678) 336-7740

OWNER/DEVELOPER	
OWNER CONTACT (24-HR): JONATHAN BARGE jbarge@brandproperties.com	BRAND PROPERTIES 3328 PEACHTREE ROAD NE. SUITE 100, ATLANTA, GEORGIA, 30326 PHONE (770) 963-9223

A1 DRI SITE PLAN
SCALE: 1" = 100'

0 50' 100' 200' 300'

Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

DRI SUBMITTAL

POND
3500 Parkway Lane
Suite 500
Peachtree Corners
Georgia 30092

DPR SEAL

CLIENT INFORMATION

PROJECT NAME

BRAND PROPERTIES HAMILTON MILL

2549 HAMILTON MILL RD., BUFORD, GA. 30519

DRI 3812

DRAWING ISSUE

DATE

DESCRIPTION

MARK

DESIGNED BY:	KDH
DRAWN BY:	ABC
CHECKED BY:	KDH
SUBMITTED BY:	KDH
DATE:	1/19/2023
PROJECT #	P220779

SHEET TITLE

DRI SITE PLAN

DRI 3812

SHEET NUMBER

CS-101

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: Z:\34_COMM_DEV\01 - CLIENT\BRAND PROPERTIES\BRAND- HAMILTON MILL\CAD\CS-101 PLOTTED BY: HENDRIX, KEVIN DATE: 10/2/17

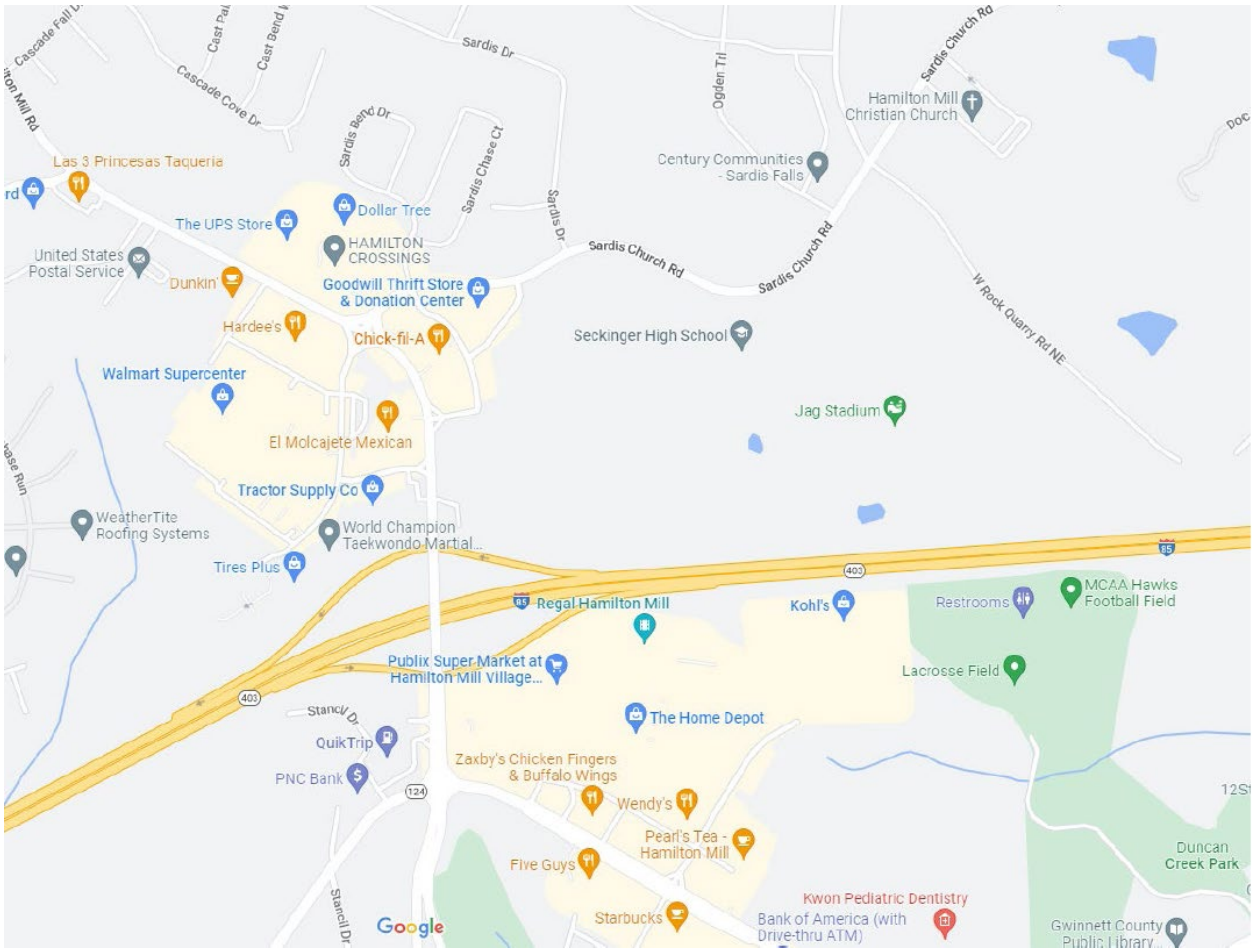
Planned Bicycle and Pedestrian Facilities

Pedestrian sidewalks are proposed throughout the internal roadway network inside the development that would connect to the existing sidewalks on Hamilton Mill Road and Sardis Bend Drive.

Potential Pedestrian and Bicycle Destinations

- Food: Boca2 Buford, El Molcajete Mexican, Oriental J, Taco Bell, Chick-fil-A, Philly Bistro, Chili's Grill and Bar, Dunkin
- Grocery: Walmart Supercenter
- Banks: Gwinnett Community Bank, Wells Fargo, Bank of America, Synovus Bank, Chase Bank
- Retail: Dollar Tree, CVS Pharmacy
- Services: Unites States Postal Service, The UPS Store, Goodwill Store, Seckinger High School, Jag Stadium

Additional potential destinations are shown in the aerial below.



Planned Transit Facilities

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

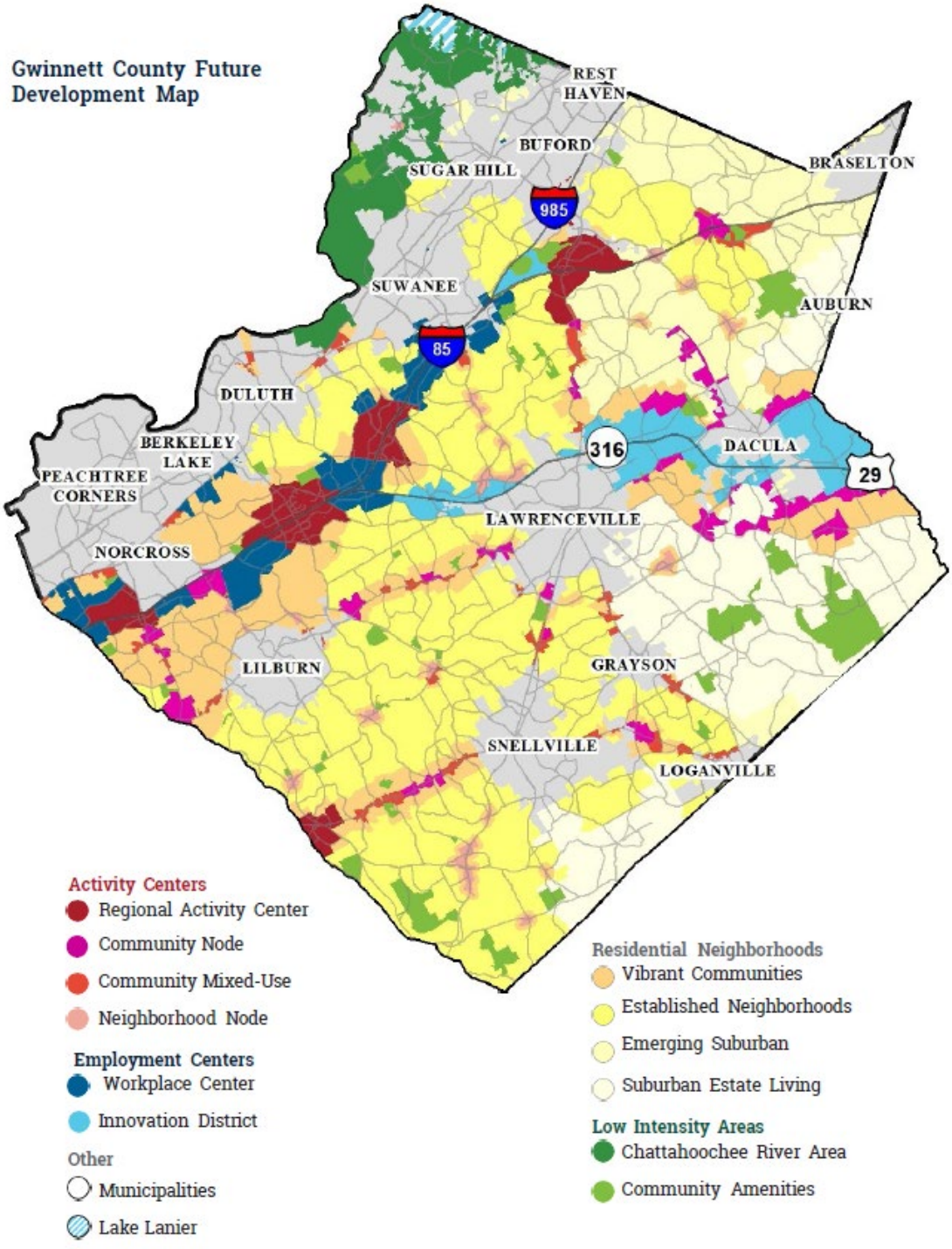
Consistency with Adopted Comprehensive Plan

The proposed development will include multifamily apartments and retail space. The property includes 39.362 acres of land with a 5-acre frontage parcel and a 34.362-acre rear parcel. The site is currently zoned as Community Retail Commercial (C-2) and Agriculture-Residence District (RA-200) and the applicant is requesting a rezoning to Mixed Use Retail (MU-R) for the frontage parcel and Multifamily Residence District (RM-24) for the rear parcel.

Land Use and Zoning

Existing Zoning	Community Retail Commercial (C-2) and Agriculture-Residence District (RA-200)
Future Land Use Map Zoning	Community Mixed Use and Vibrant communities
Character Area Definition for Gwinnett County	The vision for Gwinnett County and in particular, the area of the proposed site, the land use vision and goal are to: • Provide more housing choices • Preserve and Expand Housing for all income Levels and Phases of life • Increase housing in proximity of activity centers
Relation to Existing Land Use Plans	The proposed Hamilton Mill Road mixed-use development is consistent with the land use vision and goals listed above by providing more housing choices in proximity of activity centers.
Chattahoochee River/Metropolitan River Protection Act	N/A

Future Land Use Map



Gwinnett 2040 Unified Plan | Appendix F: 2022 Plan Amendment F - 5

Project Phasing

This project has been evaluated for the complete build-out of the development in 2026.

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: 220 – Multifamily Housing (Low-Rise) - Not Close to Rail Transit, 221 – Multifamily Housing (Mid-Rise) - Not Close to Rail Transit* and *822 – Strip Retail Plaza (<40k)*. Due to the nature of the development, mixed-use reductions have been applied per ITE standards. The calculated total trip generation for the proposed development is shown in Table 4.

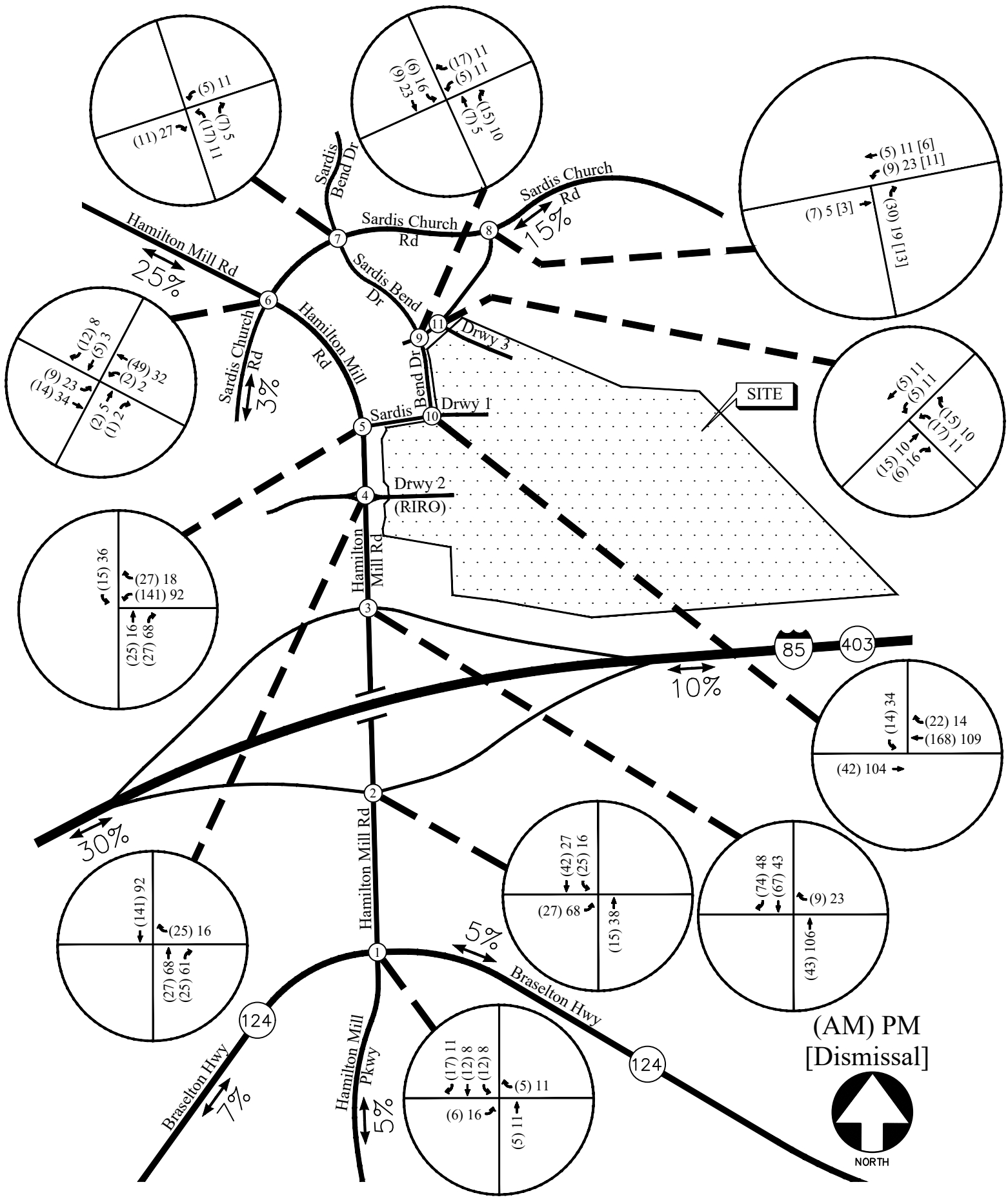
TABLE 4 – TRIP GENERATION (PROPOSED DEVELOPMENT)

Land Use	Size	AM Peak Hour			PM Peak Hour			School Dismissal Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	2-way
ITE 220 – Multifamily Housing (Low-Rise) - Not Close to Rail Transit	105 units	13	42	55	41	25	66	21	18	39	748
Mixed-Use Reduction		0	0	0	-1	-1	-2	-1	0	-1	-20
ITE 221 – Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	595 units	57	193	250	141	91	232	57	52	109	2,792
Mixed-Use Reduction		-2	-2	-4	-6	-4	-10	-2	-2	-4	-75
ITE 822 – Strip Retail Plaza (<40k)	17,000 sf	25	16	41	56	57	113	37	41	78	947
Mixed-Use Reduction		-2	-2	-4	-5	-7	-12	-2	-3	-5	-95
Total Trips (without Reductions)		95	251	346	238	173	411	115	111	226	4,487
New External Trips (with Reductions)		91	247	338	226	161	387	110	106	216	4,297

* School Dismissal peak hour trips estimated from 2pm-3pm rates from the ITE's 24-hour Vehicle Time of Day Distribution excel

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.



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES

FIGURE 5

A&R Engineering Inc.

FUTURE 2026 TRAFFIC ANALYSIS

The future 2026 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.

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. 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.

Future "No-Build" Conditions

The "No-Build" (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future "No-Build" volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of traffic and traffic from other nearby 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. GDOT recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last ten years (2012-2021) revealed growth of approximately 2% 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.

Planned and Programmed Improvements in Study Area

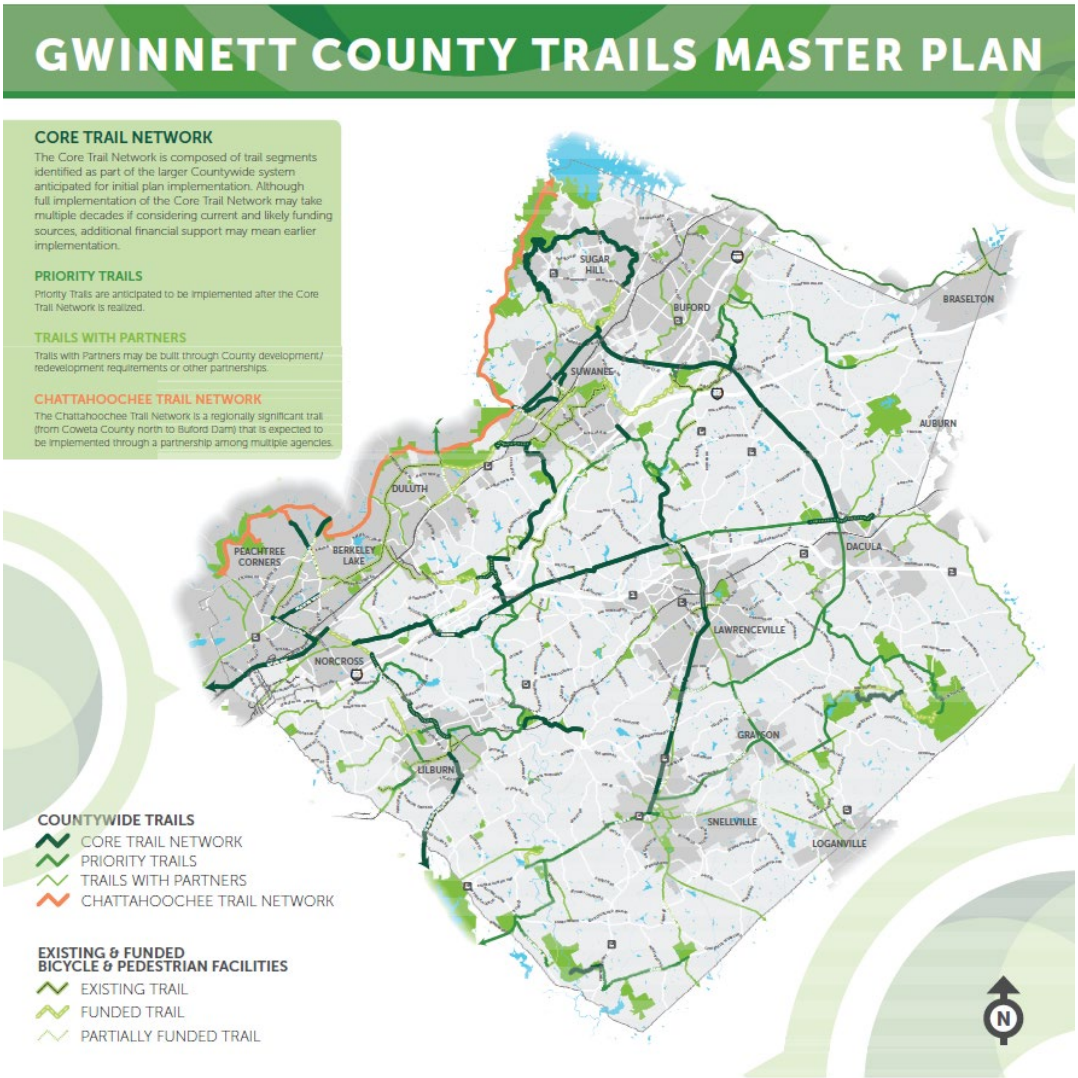
The following improvements have been identified in the Regional Transportation Plan (Plan 2040), GDOT GeoPi, and/or the local comprehensive transportation plan. These improvements are within the vicinity of the proposed development.

TABLE 5 – PLANNED AND PROGRAMMED IMPROVEMENTS

Item #	Project Name	From / To Points	Sponsor	GDOT PI #	ARC ID #	Design FY	ROW / UTL FY	CST FY
1	SR 124 (Braselton Highway) Widening	2 lanes to 4 lanes from Old Peachtree Road to Hamilton Mill Parkway for 3.6 miles	GDOT	0014926	GW-361B	LR 2031-2040	TBD	2040
2	Gwinnett County ITS Enhancements – Phase 2	Countywide upgrade of ITS and related infrastructure	Gwinnett County	0016070	GW-415	2021	TBD	TBD
3	ITS Expansion SR 124 (Braselton Highway) - Phase 1	From SR 20 to Barrow County Line	Gwinnett County	0017998	GW-426	2022	TBD	TBD

- Since the network year for the SR 124 (Braselton Highway) widening project is 2040, and the proposed development is planned to be completed by 2026, the planned project was not considered in the study analysis.
- Since the ITS Expansion SR 124 (Braselton Highway) - Phase 1 project and Gwinnett County ITS Enhancements – Phase 2 project are related to video surveillance system upgrades and network upgrades, they were not considered in the study analysis.

The Gwinnett County trails Master Plan shows a priority trail that is planned on Hamilton Mill Road. The applicant will coordinate with Gwinnett County for the completion of the project. The Gwinnett County trails Master Plan is shown below.



Seckinger High School Expansion

Seckinger High School is located just east of the proposed mixed-use development and is served by one full access driveway on Sardis Church Road and one full access driveway on West Rock Quarry Road. The

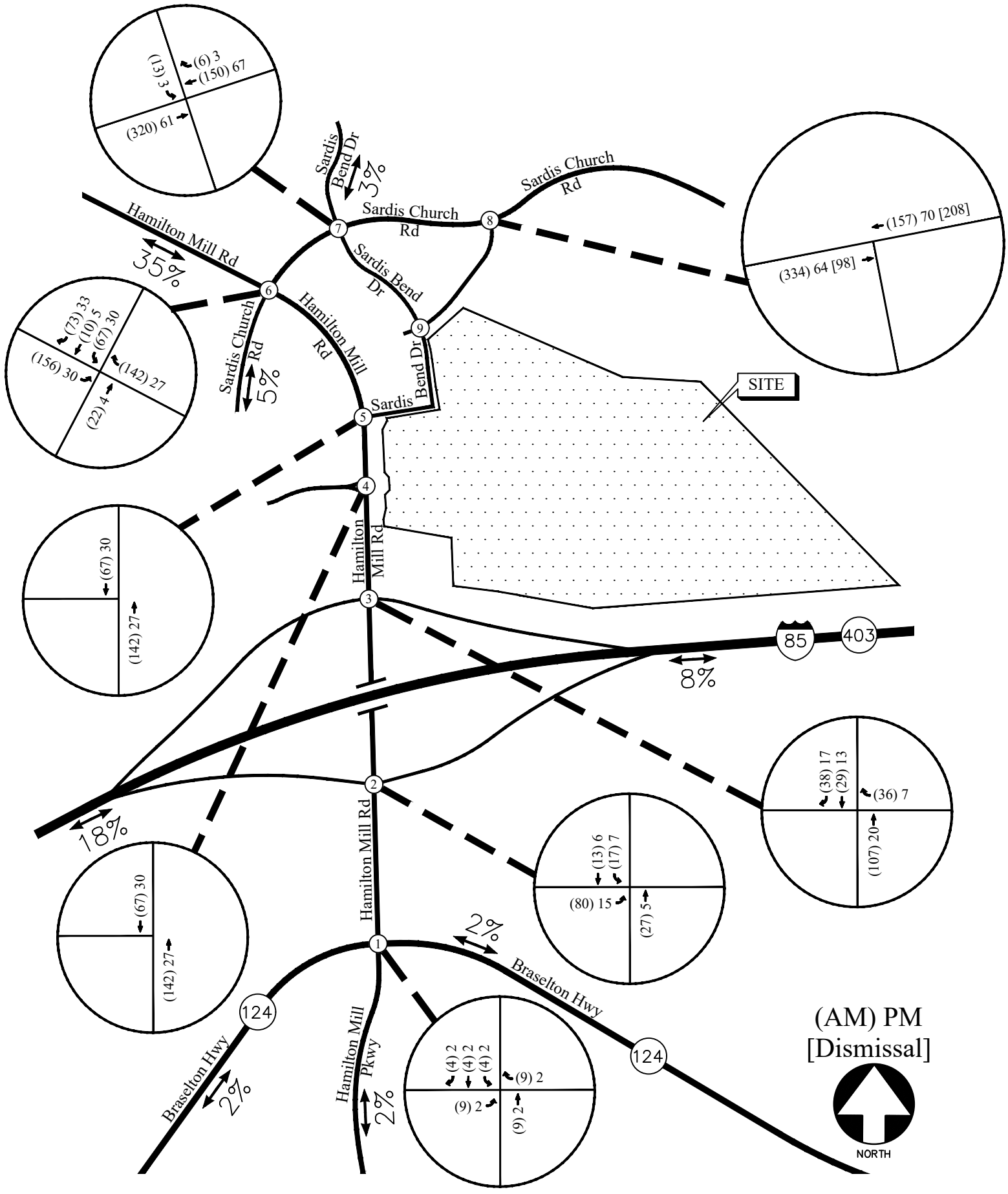
Fall 2022 enrollment of the school was 1,631 students. The school expects to expand to 2,200 students in the year 2023, 2,500 students in the year 2024, 2,700 students in the year 2025 and 2,900 students in the year 2026.

Trip generation for Seckinger High School's additional 1,269 (2,900-1,631) students in the year 2026 was estimated using ITE's land use *525 – High School* and is shown below in Table 6.

TABLE 6 – TRIP GENERATION (SECKINGER HIGH SCHOOL EXPANSION)

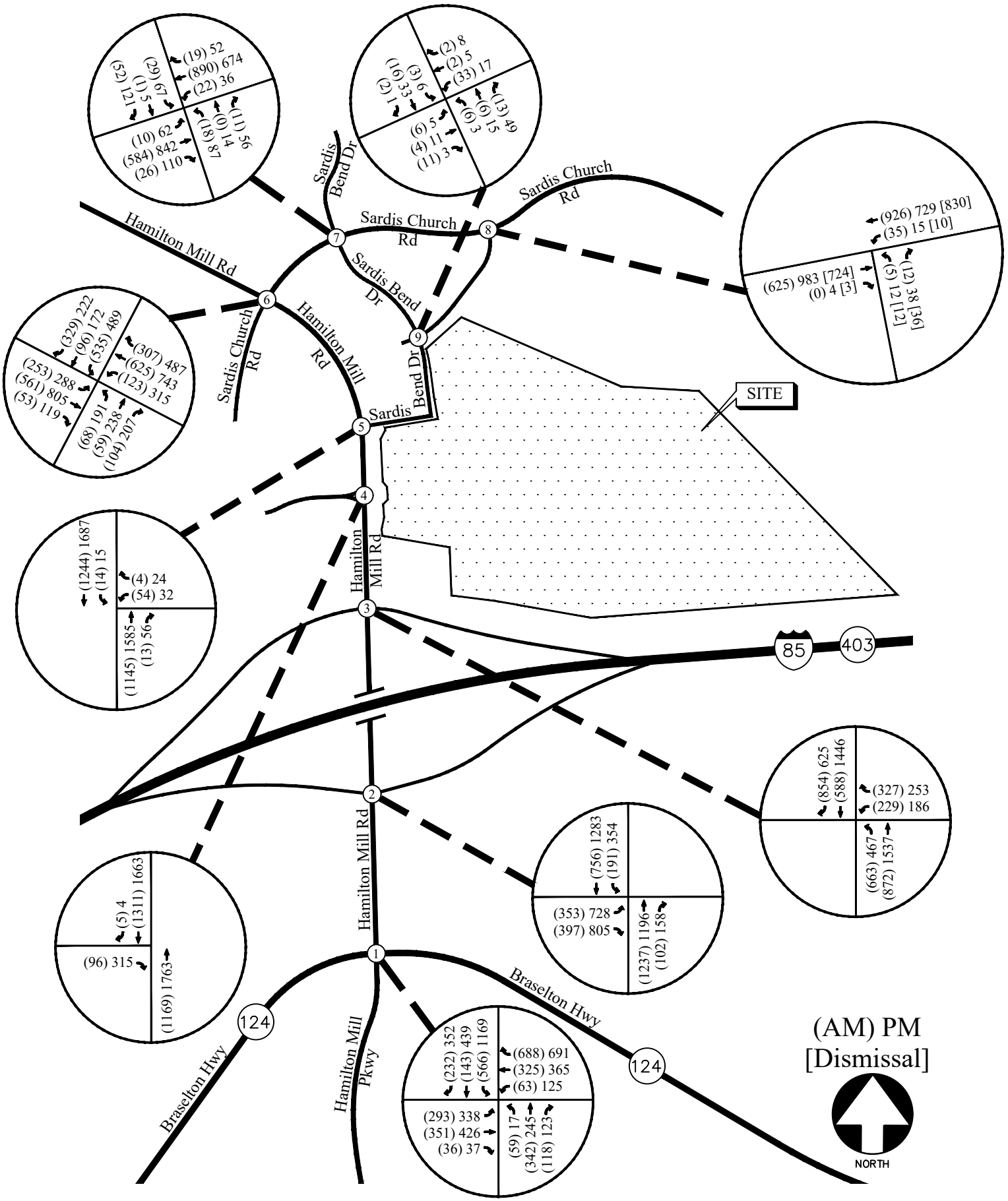
Land Use	Size	AM Peak Hour			PM Peak Hour			School Dismissal Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	2-way
ITE 525 – High School	1,269 students	445	209	654	85	93	178	130	277	407	2,462

The high school's trips in Table 6 were assigned to its driveways using the outer leg distribution based on the Gwinnett County school district map. The trip distribution and the AM and PM peak hour volumes for the high school expansion at the study intersections are shown in Figure 6. These volumes were added to 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 7.



NEARBY SECKINGER HIGH SCHOOL EXPANSION TRIPS FIGURE 6

A&R Engineering Inc.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES FIGURE 7

A&R Engineering Inc.

Auxiliary Lane Analysis

Included below are analyses for deceleration lanes for all site driveways per GDOT and Gwinnett County standards. The analyses below are based off the trip distribution included in the Trip Distribution section. According to the trip distribution, the 24-hour two-way volume entering and exiting the proposed site is 4,297 vehicles.

Left Turn Lane Analysis

For two lane roadways with AADT's less than 6,000 vehicles and a posted speed limit of 35 mph, the number of units for a Multifamily residential development threshold to warrant a left turn lane is 175 units. The development will consist of 700 Multifamily Housing. Per Gwinnett County standards, a Left turn lane is warranted at Site Driveway 1 and 3.

Deceleration Turn Lane Analysis

For two lane roadways with AADT's less than 6,000 vehicles and a posted speed limit of 35 mph, the daily site generated traffic right-turn movements threshold to warrant a deceleration lane is 200 right turning vehicles a day. The projected right-turn volumes per day for each driveway is included in Table 6.

TABLE 6 – GDOT REQUIREMENTS FOR DECELERATION LANES

Intersection	Right-turn traffic (% total entering)	Right-turn Volume (vehicles/day)	Roadway Speed/ # lanes / ADT	GDOT Threshold (vehicles/day)	Warrants met?
Sardis Bend @ Site Driveway 1	0%	0 (total trips) ÷ 2 × 0.304 = (4,297) ÷ 2 x 0 = 0	35 mph / 2-Lane / < 6,000	200	No
Connecting Road @ Site Driveway 3	7% Eastbound Right	150 (total trips) ÷ 2 × 0.07 = (4,297) ÷ 2 x 0.07 = 150	35 mph / 2-Lane / < 6,000	200	No

Per GDOT standards, a deceleration lane is not warranted at Site Driveway 1 and 3 .

Future "No-Build" Traffic Operations

The future "No-Build" traffic operations were analyzed using the volumes in Figure 7 and the results are shown in Table 7.

TABLE 7 – FUTURE "NO-BUILD" INTERSECTION OPERATIONS

	Intersection	LOS (Delay)					
		NO IMPROVEMENTS			WITH SYSTEM IMPROVEMENTS		
		AM	PM	Dismissal	AM	PM	Dismissal
1	**Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Hwy)** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	**D (54.8)** D (48.8) D (41.8) E (78.5) D (53.5)	**D (51.7)** E (60.7) E (65.1) F (87.1) D (37.6)	Not Evaluated	**N/A**	**N/A**	Not Evaluated
2	**Hamilton Mill Road @ I-85 Northbound Ramps** -Eastbound Approach -Northbound Approach -Southbound Approach	**C (24.9)** E (73.6) A (1.5) D (39.9)	**F (86.7)** F (81.4) F (122.0) E (59.9)	Not Evaluated	**B (19.0)** E (68.2) A (1.1) C (25.9)	**D (42.5)** E (57.6) C (32.1) D (44.4)	Not Evaluated
3	**Hamilton Mill Road @ I-85 Southbound Ramps** -Westbound Approach -Northbound Approach -Southbound Approach	**C (24.2)** E (71.5) C (20.1) B (16.4)	**B (17.0)** E (72.6) B (12.1) B (16.7)	Not Evaluated	**N/A**	**N/A**	Not Evaluated
4	**Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps** -Eastbound Approach	C (17.5)	F (112.9)	Not Evaluated	**N/A**	**N/A**	Not Evaluated
5	**Hamilton Mill Road @ Sardis Bend Drive** -Westbound Approach -Southbound Left	D (31.8) B (11.1)	E (44.0) C (15.0)	Not Evaluated	**N/A**	**N/A**	Not Evaluated
6	**Hamilton Mill Road @ Sardis Church Road** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	**D (50.9)** E (75.7) E (69.9) D (46.7) D (36.9)	**D (53.2)** E (74.8) E (71.9) D (40.1) D (46.0)	Not Evaluated	**N/A**	**N/A**	Not Evaluated
7	**Sardis Church Road @ Sardis Bend Drive** -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	B (10.5) A (9.1) D (33.7) D (33.0)	A (9.5) B (10.4) F (*) F (95.0)	Not Evaluated	**N/A**	**N/A**	Not Evaluated
8	**Sardis Church Road @ connecting**						

	road between Sardis Church Road and Sardis Bend Drive -Westbound Left -Northbound Approach	 A (9.3) D (30.2)	 B (10.4) D (32.2)	 A (9.4) D (26.8)	**N/A**	**N/A**	**N/A**
9	**Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive** -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	 A (8.8) A (9.1) A (7.3) A (7.3)	 A (9.7) A (9.4) A (7.3) A (7.4)	Not Evaluated	**N/A**	**N/A**	Not Evaluated

* Delay exceeds 300 seconds

* * Illegal northbound left turn movements occurring from Hamilton Mill Road

The results of future "No-Build" traffic operations show that one or more approaches at these intersections do not meet the LOS standard:

1. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive

At intersection 4 (Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps) towards Walmart store, the eastbound approach will operate at LOS "F" in the PM peak hour. It is not uncommon for stop-controlled side-streets on arterial roadways to experience delays during peak hours. Therefore, no improvements are recommended at this intersection.

At intersection 5 (Hamilton Mill Road @ Sardis Bend Drive), the stop-controlled side-street (Sardis Bend Drive) will operate at LOS "E" in the PM peak hour. Since the intersection has all turn lanes and does not warrant a traffic signal in the "No-Build" conditions and as it is not unusual for stop-controlled site-streets along arterial roadways to have elevated delays during peak periods, no improvements have been identified.

At intersection 7 (Sardis Church Road @ Sardis Bend Drive), the stop-controlled minor streets (Sardis Bend Drive) will operate at LOS "F" in the PM peak hour. The intersection does not warrant a traffic signal.

Recommended System Improvements

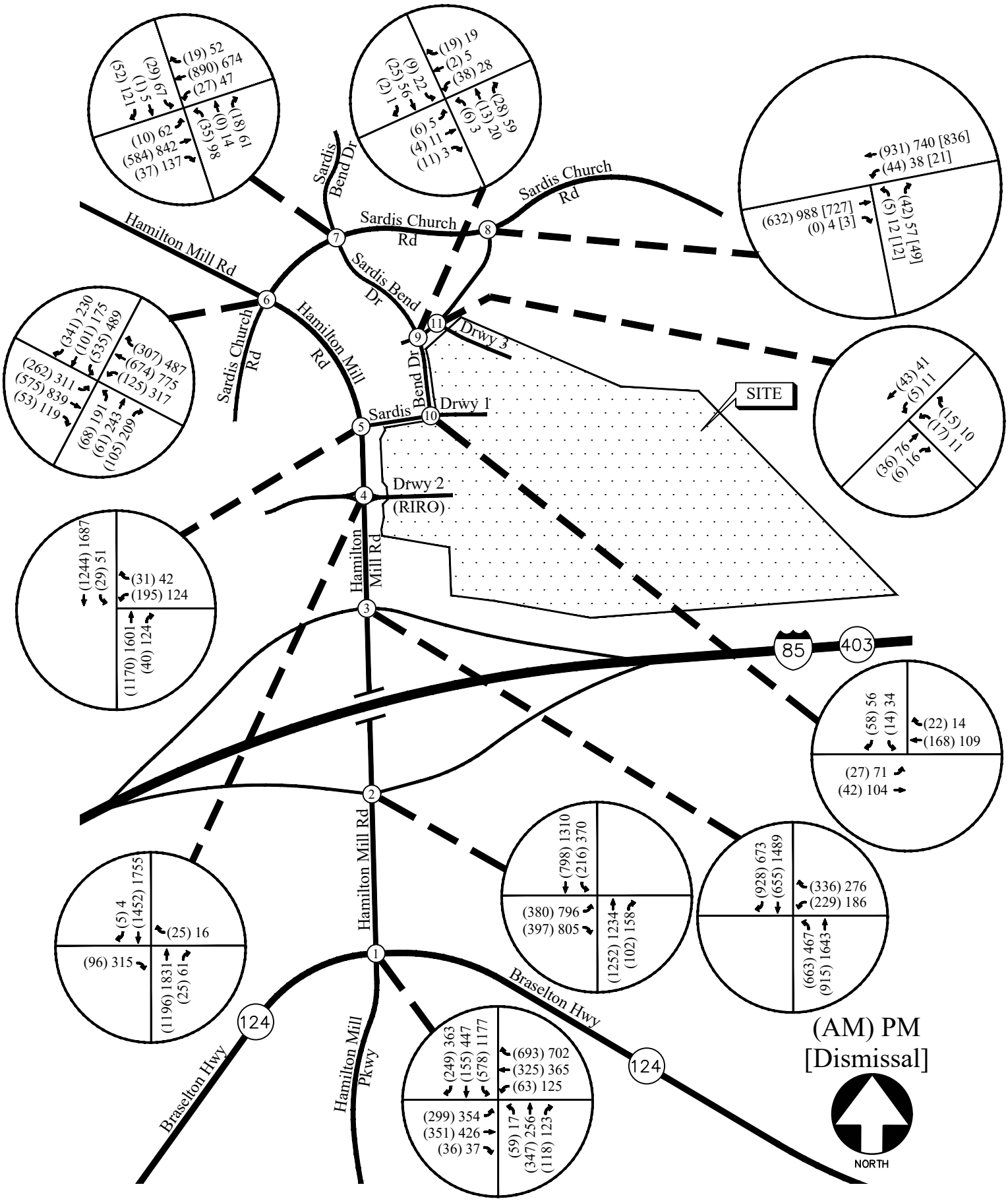
System improvements address deficiencies that are found within the existing road network for the "No-Build" conditions. These are recommended for the local municipality to use in planning future transportation projects. The following are system improvements that were identified from the "No-Build" condition analysis.

Intersection 2: Hamilton Mill Road @ I-85 Northbound Ramps

- Addition of a second eastbound left turn lane on I-85 Northbound Off-Ramp

Future "Build" Conditions

The "Build" or development conditions include the estimated background traffic from the "No-Build" conditions plus the traffic from the proposed development. In order to evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 5) were added to base traffic volumes (Figure 7) to calculate the future traffic volumes after the construction of the development. These total future "Build" traffic volumes are shown in Figure 8.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES FIGURE 8

A&R Engineering Inc.

Future "Build" Traffic Operations

The future "Build" traffic operations were analyzed using the volumes in Figure 8 and the results are shown in Table 8.

TABLE 8 – FUTURE "BUILD" INTERSECTION OPERATIONS

	Intersection	LOS (Delay)					
		NO IMPROVEMENTS			WITH SYSTEM /SITE IMPROVEMENTS		
		AM	PM	Dismissal	AM	PM	Dismissal
1	**Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Hwy)** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	**D (55.0)** D (49.6) D (42.9) F (78.7) E (53.0)	**E (53.8)** E (62.2) E (70.7) F (88.5) D (38.8)	Not Evaluated	N/A	N/A	Not Evaluated
2	**Hamilton Mill Road @ I-85 Northbound Ramps** -Eastbound Approach -Northbound Approach -Southbound Approach	**C (26.9)** E (74.1) A (1.8) D (42.8)	**F (100.5)** F (113.2) F (136.3) E (64.7)	Not Evaluated	**C (23.4)** E (67.5) A (1.2) D (36.6)	**D (46.8)** E (56.6) D (36.4) D (50.7)	Not Evaluated
3	**Hamilton Mill Road @ I-85 Southbound Ramps** -Westbound Approach -Northbound Approach -Southbound Approach	**C (26.4)** E (71.5) C (20.0) C (26.0)	**B (10.6)** E (72.6) B (11.5) A (1.5)	Not Evaluated	N/A	N/A	Not Evaluated
4	**Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps / Site Driveway 2 (RIRO)**** -Eastbound Approach -Westbound Approach	C (19.6) B (14.1)	F (144.9) C (19.6)	Not Evaluated	N/A	N/A	Not Evaluated
5	**Hamilton Mill Road @ Sardis Bend Drive** -Westbound Approach *-Northbound Approach* -Southbound Left *(Approach)*	F (146.4) - B (11.5)	F (278.8) - C (16.4)	Not Evaluated	**A (6.0)** E (75.1) A (0.5) A (0.4)	**A (3.5)** E (79.1) A (0.8) A (0.6)	Not Evaluated
6	**Hamilton Mill Road @ Sardis Church Road** -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	**D (51.2)** E (75.7) E (68.9) D (47.5) D (37.5)	**D (53.8)** F (75.1) E (71.7) D (40.8) D (47.5)	Not Evaluated	N/A	N/A	Not Evaluated
7	**Sardis Church Road @ Sardis Bend Drive** -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	B (10.5) A (9.2) E (46.4) D (34.2)	A (9.5) B (10.7) F (*) F (109.2)	Not Evaluated	N/A	N/A	Not Evaluated

8	**Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive** -Westbound Left -Northbound Approach	 A (9.4) C (23.0)	 B (10.6) E (35.1)	 A (9.5) D (27.0)	N/A	N/A	N/A
9	**Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive** -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	 A (9.0) A (9.3) A (7.3) A (7.3)	 B (10.3) A (9.9) A (7.4) A (7.5)	 Not Evaluated	N/A	N/A	Not Evaluated
10	**Sardis Bend Drive @ Site Driveway 1** -Eastbound Left -Southbound Approach	 A (7.7) A (9.9)	 A (7.6) B (10.5)	Not Evaluated	N/A	N/A	Not Evaluated
11	**Connecting road between Sardis Church Road and Sardis Bend Drive @ Site Driveway 3** -Westbound Left -Northbound Approach	 A (7.3) A (8.9)	 A (7.4) A (9.2)	Not Evaluated	N/A	N/A	Not Evaluated

* Delay exceeds 300 seconds

* * Illegal northbound left turn movements occurring from Hamilton Mill Road

The results of future "Build" traffic operations show that one or more approaches at these intersections will not meet the LOS standard:

1. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive

At intersection 4 (Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps / Site Driveway 2), the eastbound approach will continue to operate at LOS "F" in the PM peak hour. It is not uncommon for stop-controlled side-streets on arterial roadways to experience delays during peak hours. Therefore, no improvements are recommended for this intersection.

At intersection 7 (Sardis Church Road @ Sardis Bend Drive), the stop-controlled minor streets (Sardis Bend Drive) will operate at LOS "E" or "F" in the AM and/or PM peak hour. The intersection will not warrant a traffic signal.

At intersection 8 (Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive), after the addition of the proposed mixed-use development's traffic, the LOS for the stop-controlled northbound (Sardis Bend Drive) approach will be "E" with a delay of 35.1 seconds which is just one second more than that for an LOS "D".

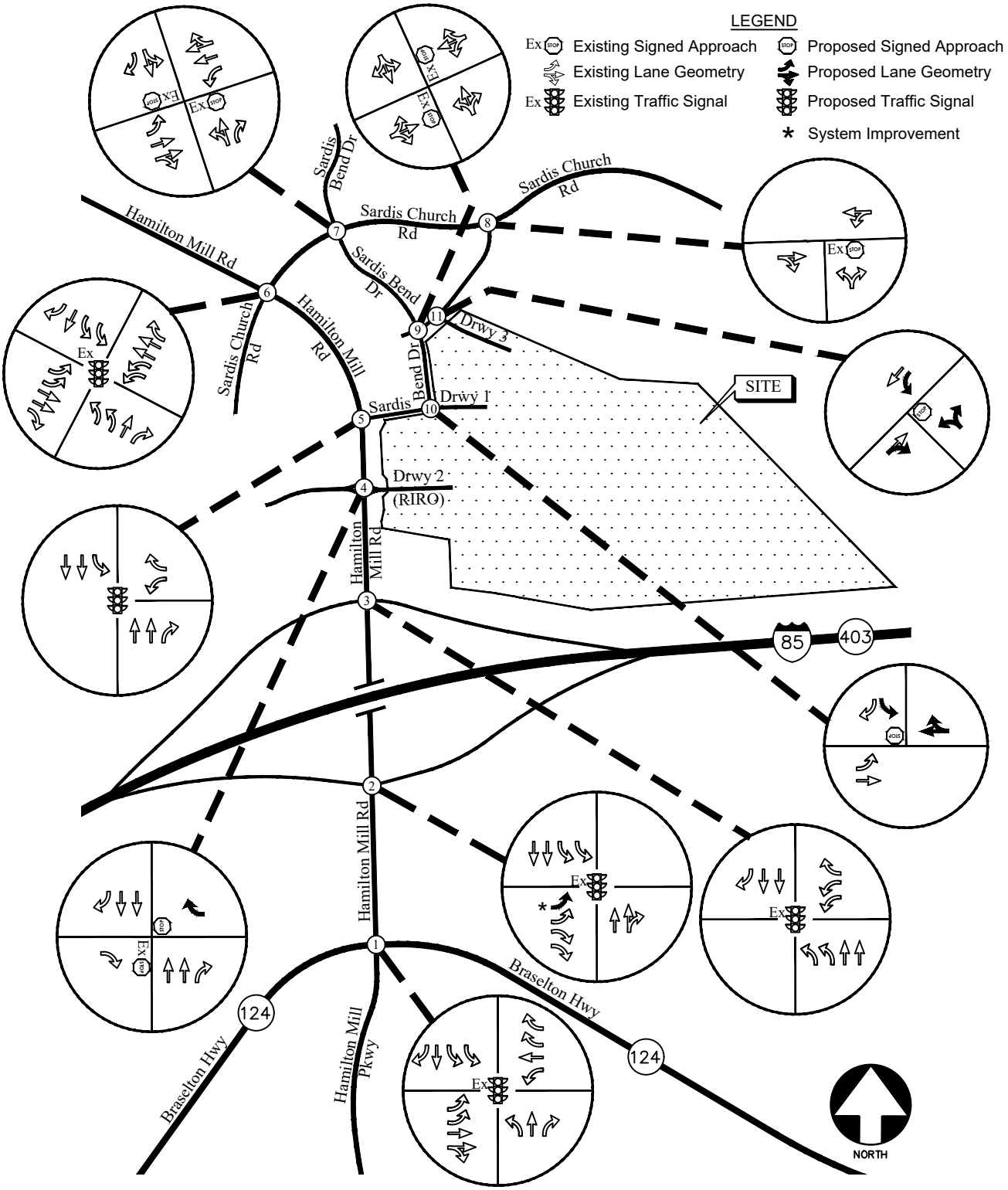
Recommended Site Mitigation Improvements

Site mitigation improvements address deficiencies that are caused by site traffic and can be identified as related to the proposed development. The following site improvements were identified in addition to the system improvements discussed in the "Recommended System Improvements" section.

Intersection 5: Hamilton Mill Road @ Sardis Bend Drive

- Creation of a dedicated southbound left turn lane by restriping the existing two-way left turn lane on Hamilton Mill Road
- Installation of a traffic signal that will be coordinated with the adjacent signals on Hamilton Mill Road at Sardis Church Road and I-85 Southbound Ramps

Recommendations for future traffic control and lane geometry are shown in Figure 9.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 9

A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the proposed Hamilton Mill Road mixed-use development located at 3527 Sardis Church Road, to the northeast of I-85 and Hamilton Mill Road in Gwinnett County, Georgia. The development will consist of:

- Multifamily Housing: 700 units
- Retail space: 17,000 sf

The development proposes one full access and one right-in/right-out driveway on Hamilton Mill Road as well as one full access driveway on the road connecting Sardis Church Road and Sardis Bend Drive.

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. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
2. Hamilton Mill Road @ I-85 Northbound Ramps
3. Hamilton Mill Road @ I-85 Southbound Ramps
4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store
5. Hamilton Mill Road @ Sardis Bend Drive
6. Hamilton Mill Road @ Sardis Church Road
7. Sardis Church Road @ Sardis Bend Drive
8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive
9. Sardis Bend Drive @ connecting road between Sardis Church Road and Sardis Bend Drive

Due to the close proximity of Seckinger High School to the east of the development, the following intersection was analyzed for the school dismissal (2:00 PM – 3:00 PM) peak hour also:

8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive

The analysis included the evaluation of Future operations for “No-Build” and “Build” conditions, both of which account for increases in annual growth of through traffic. The results of future traffic operations showed that the following intersections will not meet the LOS standard in the future conditions:

4. Hamilton Mill Road / Hamilton Mill Parkway @ SR 124 (Braselton Highway)
5. Hamilton Mill Road @ I-85 Northbound Ramps

4. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps towards Walmart store

5. Hamilton Mill Road @ Sardis Bend Drive

6. Hamilton Mill Road @ Sardis Church Road

7. Sardis Church Road @ Sardis Bend Drive

8. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive – “Build” conditions only

At intersection 4 (Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps / Site Driveway 2), the existing eastbound approach will continue to operate at LOS "F" in the PM peak hour. It is not uncommon for stop-controlled side-streets on arterial roadways to experience delays during peak hours. Therefore, no improvements are recommended for the eastbound approach.

At intersection 7 (Sardis Church Road @ Sardis Bend Drive), the stop-controlled minor streets (Sardis Bend Drive) will operate at LOS "E" or "F" in the AM and/or PM peak hour. The intersection will not warrant a traffic signal.

At intersection 8 (Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive), after the addition of the proposed mixed-use development's traffic, the LOS for the stop-controlled northbound (Sardis Bend Drive) approach will be "E" with a delay of 35.1 seconds which is just one second more than that for an LOS "D".

Recommended System Improvements

System improvements address deficiencies that are found within the existing road network for the "No-Build" conditions. These are recommended for the local municipality to use in planning future transportation projects. The following are system improvements that were identified from the "No-Build" condition analysis.

Intersection 2: Hamilton Mill Road @ I-85 Northbound Ramps

- Addition of a second eastbound left turn lane on I-85 Northbound Off-Ramp

Recommended Site Mitigation Improvements

Site mitigation improvements address deficiencies that are caused by site traffic and can be identified as related to the proposed development. The following site improvements were identified in addition to the system improvements discussed in the "Recommended System Improvements" section.

Intersection 5: Hamilton Mill Road @ Sardis Bend Drive

- Creation of a dedicated southbound left turn lane by restriping the existing two-way left turn lane on Hamilton Mill Road
- Installation of a traffic signal that will be coordinated with the adjacent signals on Hamilton Mill Road at Sardis Church Road and I-85 Southbound Ramps

Recommendation for Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections:

- Site Driveway 1: Full access driveway on Hamilton Mill Road via proposed connection to Sardis Bend Drive
    - One entering and one exiting lanes on the westbound (driveway 1) approach at Sardis Bend Drive
    - Stop-sign controlled on the southbound Sardis Bend Drive approach with eastbound Sardis Bend Drive and the Site Driveway 1 remaining free flow
    - Southbound Left Turn Lane for entering traffic on Sardis Bend Drive

- Site Driveway 2: Right-in/right-out driveway at the existing stub on Hamilton Mill Road across from the right-in/right-out driveway between Sardis Bend Drive and I-85 southbound ramps
    - One entering and one right turn exiting lanes
    - Stop-sign controlled on the driveway approach with Hamilton Mill Road remaining free flow
    - Existing Right Turn Lane for entering traffic

- Site Driveway 3: Full access driveway on the roadway connecting Sardis Church Road and Sardis Bend Drive
    - One entering and one exiting lanes
    - Stop-sign controlled on the driveway approach with the connecting road remaining free flow
    - Westbound Left Turn Lane for entering traffic on Sardis Bend Drive

Appendix

Existing Intersection Traffic Counts

A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Church Rd
7-9 am | 4-6 pm

File Name : 20220472
Site Code : 20220472
Start Date : 11/2/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Sardis Church Rd Eastbound				Sardis Church 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	36	142	36	214	32	117	10	159	17	5	24	46	116	22	82	220	639
07:15 AM	26	160	40	226	17	129	15	161	12	9	25	46	107	20	42	169	602
07:30 AM	29	134	42	205	13	114	15	142	20	10	28	58	100	18	55	173	578
07:45 AM	23	143	35	201	28	159	9	196	14	10	19	43	110	20	58	188	628
Total	114	579	153	846	90	519	49	658	63	34	96	193	433	80	237	750	2447
08:00 AM	34	144	36	214	32	125	15	172	11	4	16	31	99	21	48	168	585
08:15 AM	25	149	42	216	25	129	20	174	19	12	28	59	90	29	38	157	606
08:30 AM	35	147	38	220	24	117	26	167	22	19	19	60	97	24	42	163	610
08:45 AM	42	139	36	217	26	120	23	169	19	17	26	62	85	29	33	147	595
Total	136	579	152	867	107	491	84	682	71	52	89	212	371	103	161	635	2396
*** BREAK ***																	
04:00 PM	62	138	110	310	39	185	19	243	36	40	58	134	89	29	33	151	838
04:15 PM	86	149	96	331	62	176	29	267	49	45	58	152	107	38	40	185	935
04:30 PM	84	149	99	332	52	196	29	277	36	52	39	127	104	40	53	197	933
04:45 PM	69	171	96	336	55	202	34	291	54	55	47	156	117	41	34	192	975
Total	301	607	401	1309	208	759	111	1078	175	192	202	569	417	148	160	725	3681
05:00 PM	73	177	112	362	72	178	28	278	47	52	49	148	88	40	42	170	958
05:15 PM	66	191	119	376	60	169	19	248	40	58	57	155	116	34	46	196	975
05:30 PM	80	158	124	362	65	185	15	265	30	49	21	100	102	31	33	166	893
05:45 PM	65	166	115	346	56	171	26	253	39	45	30	114	92	31	34	157	870
Total	284	692	470	1446	253	703	88	1044	156	204	157	517	398	136	155	689	3696
Grand Total	835	2457	1176	4468	658	2472	332	3462	465	482	544	1491	1619	467	713	2799	12220
Apprch %	18.7	55	26.3		19	71.4	9.6		31.2	32.3	36.5		57.8	16.7	25.5		
Total %	6.8	20.1	9.6	36.6	5.4	20.2	2.7	28.3	3.8	3.9	4.5	12.2	13.2	3.8	5.8	22.9	

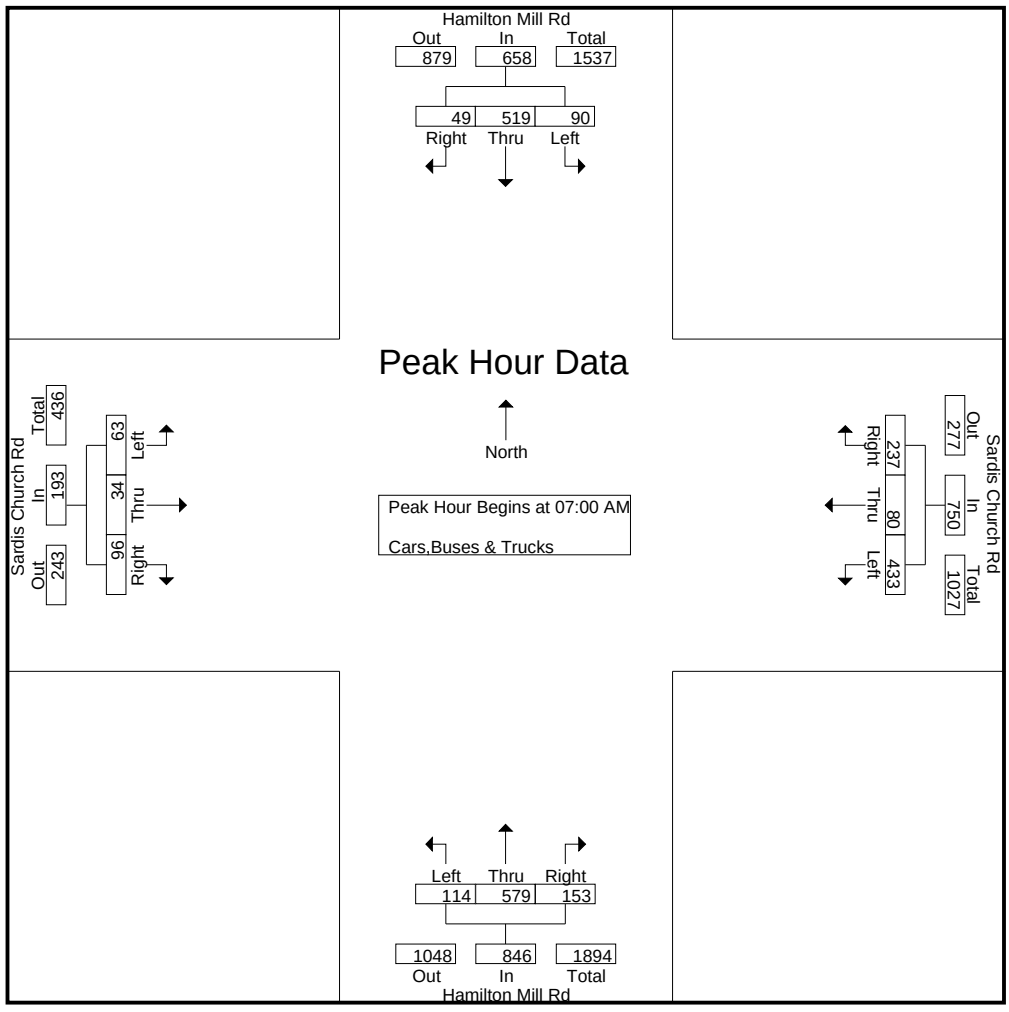
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Church Rd
7-9 am | 4-6 pm

File Name : 20220472
Site Code : 20220472
Start Date : 11/2/2022
Page No : 2

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Sardis Church Rd Eastbound				Sardis Church 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	**36**	142	36	214	**32**	117	10	159	17	5	24	46	**116**	**22**	**82**	**220**	**639**
07:15 AM	26	**160**	40	**226**	17	129	**15**	161	12	9	25	46	107	20	42	169	602
07:30 AM	29	134	**42**	205	13	114	15	142	**20**	**10**	**28**	**58**	100	18	55	173	578
07:45 AM	23	143	35	201	28	**159**	9	**196**	14	10	19	43	110	20	58	188	628
Total Volume	114	579	153	846	90	519	49	658	63	34	96	193	433	80	237	750	2447
% App. Total	13.5	68.4	18.1		13.7	78.9	7.4		32.6	17.6	49.7		57.7	10.7	31.6		
PHF	.792	.905	.911	.936	.703	.816	.817	.839	.788	.850	.857	.832	.933	.909	.723	.852	.957



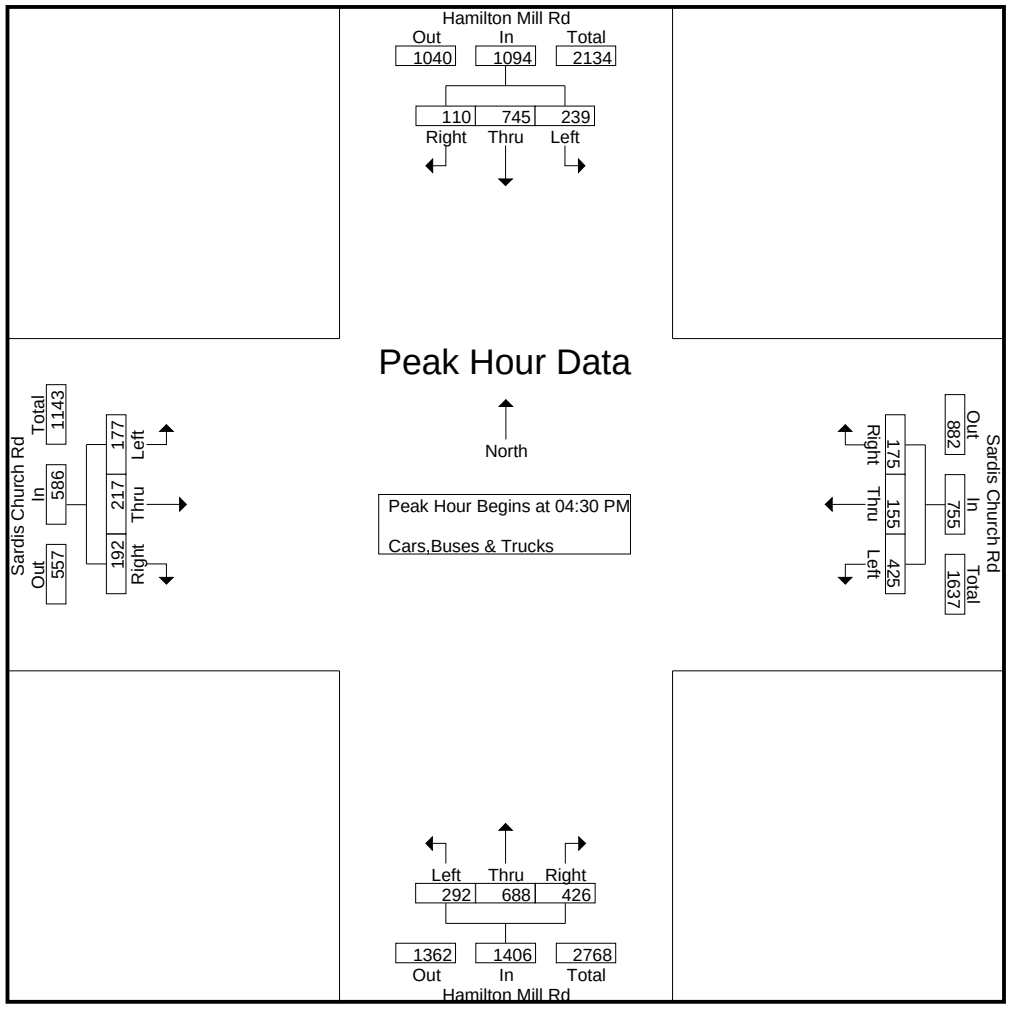
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Church Rd
7-9 am | 4-6 pm

File Name : 20220472
Site Code : 20220472
Start Date : 11/2/2022
Page No : 3

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Sardis Church Rd Eastbound				Sardis Church 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 04:30 PM																	
04:30 PM	**84**	149	99	332	52	196	29	277	36	52	39	127	104	40	**53**	**197**	933
04:45 PM	69	171	96	336	55	**202**	**34**	**291**	**54**	55	47	**156**	**117**	**41**	34	192	**975**
05:00 PM	73	177	112	362	**72**	178	28	278	47	52	49	148	88	40	42	170	958
05:15 PM	66	**191**	**119**	**376**	60	169	19	248	40	**58**	**57**	155	116	34	46	196	975
Total Volume	292	688	426	1406	239	745	110	1094	177	217	192	586	425	155	175	755	3841
% App. Total	20.8	48.9	30.3		21.8	68.1	10.1		30.2	37	32.8		56.3	20.5	23.2		
PHF	.869	.901	.895	.935	.830	.922	.809	.940	.819	.935	.842	.939	.908	.945	.825	.958	.985



A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Church Rd @ Connecting Rd between
Sardis Church Rd & Sardis Bend Dr
7-9 am | 2-3 pm | 4-6 pm

File Name : 20220473
Site Code : 20220473
Start Date : 11/2/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Connecting Rd between Sardis Church Rd & Sardis Bend Dr Northbound				Southbound				Sardis Church Rd Eastbound				Sardis Church 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
06:00 AM	1	0	0	1	0	0	0	0	0	23	0	23	15	64	0	79	103
06:15 AM	0	0	3	3	0	0	0	0	0	46	0	46	12	71	0	83	132
06:30 AM	1	0	3	4	0	0	0	0	0	122	0	122	10	99	0	109	235
06:45 AM	1	0	8	9	0	0	0	0	0	149	0	149	9	174	0	183	341
Total	3	0	14	17	0	0	0	0	0	340	0	340	46	408	0	454	811
07:00 AM	1	0	5	6	0	0	0	0	0	75	0	75	10	212	0	222	303
07:15 AM	1	0	3	4	0	0	0	0	0	61	0	61	7	157	0	164	229
07:30 AM	3	0	2	5	0	0	0	0	0	60	0	60	5	159	0	164	229
07:45 AM	0	0	1	1	0	0	0	0	0	73	0	73	10	184	0	194	268
Total	5	0	11	16	0	0	0	0	0	269	0	269	32	712	0	744	1029
08:00 AM	1	0	3	4	0	0	0	0	0	69	0	69	12	153	0	165	238
08:15 AM	0	0	3	3	0	0	0	0	0	77	0	77	3	150	0	153	233
08:30 AM	0	0	3	3	0	0	0	0	0	70	0	70	6	148	0	154	227
08:45 AM	1	0	1	2	0	0	0	0	0	60	0	60	8	131	0	139	201
Total	2	0	10	12	0	0	0	0	0	276	0	276	29	582	0	611	899
*** BREAK ***																	
02:00 PM	2	0	11	13	0	0	0	0	0	142	0	142	0	111	0	111	266
02:15 PM	2	0	4	6	0	0	0	0	0	142	2	144	1	182	0	183	333
02:30 PM	3	0	10	13	0	0	0	0	0	144	0	144	3	140	0	143	300
02:45 PM	4	0	8	12	0	0	0	0	0	152	1	153	5	143	0	148	313
Total	11	0	33	44	0	0	0	0	0	580	3	583	9	576	0	585	1212
*** BREAK ***																	
04:00 PM	1	0	11	12	0	0	0	0	0	173	1	174	1	123	0	124	310
04:15 PM	6	0	7	13	0	0	0	0	0	195	0	195	3	157	0	160	368
04:30 PM	4	0	8	12	0	0	0	0	0	198	1	199	3	164	0	167	378
04:45 PM	4	0	11	15	0	0	0	0	0	185	2	187	2	164	0	166	368
Total	15	0	37	52	0	0	0	0	0	751	4	755	9	608	0	617	1424
05:00 PM	3	0	8	11	0	0	0	0	0	236	1	237	2	131	0	133	381
05:15 PM	3	0	7	10	0	0	0	0	0	210	1	211	6	167	0	173	394
05:30 PM	1	0	9	10	0	0	0	0	0	220	0	220	4	148	0	152	382
05:45 PM	3	0	12	15	0	0	0	0	0	200	1	201	3	136	0	139	355
Total	10	0	36	46	0	0	0	0	0	866	3	869	15	582	0	597	1512
Grand Total	46	0	141	187	0	0	0	0	0	3082	10	3092	140	3468	0	3608	6887
Apprch %	24.6	0	75.4		0	0	0		0	99.7	0.3		3.9	96.1	0		
Total %	0.7	0	2	2.7	0	0	0	0	0	44.8	0.1	44.9	2	50.4	0	52.4	

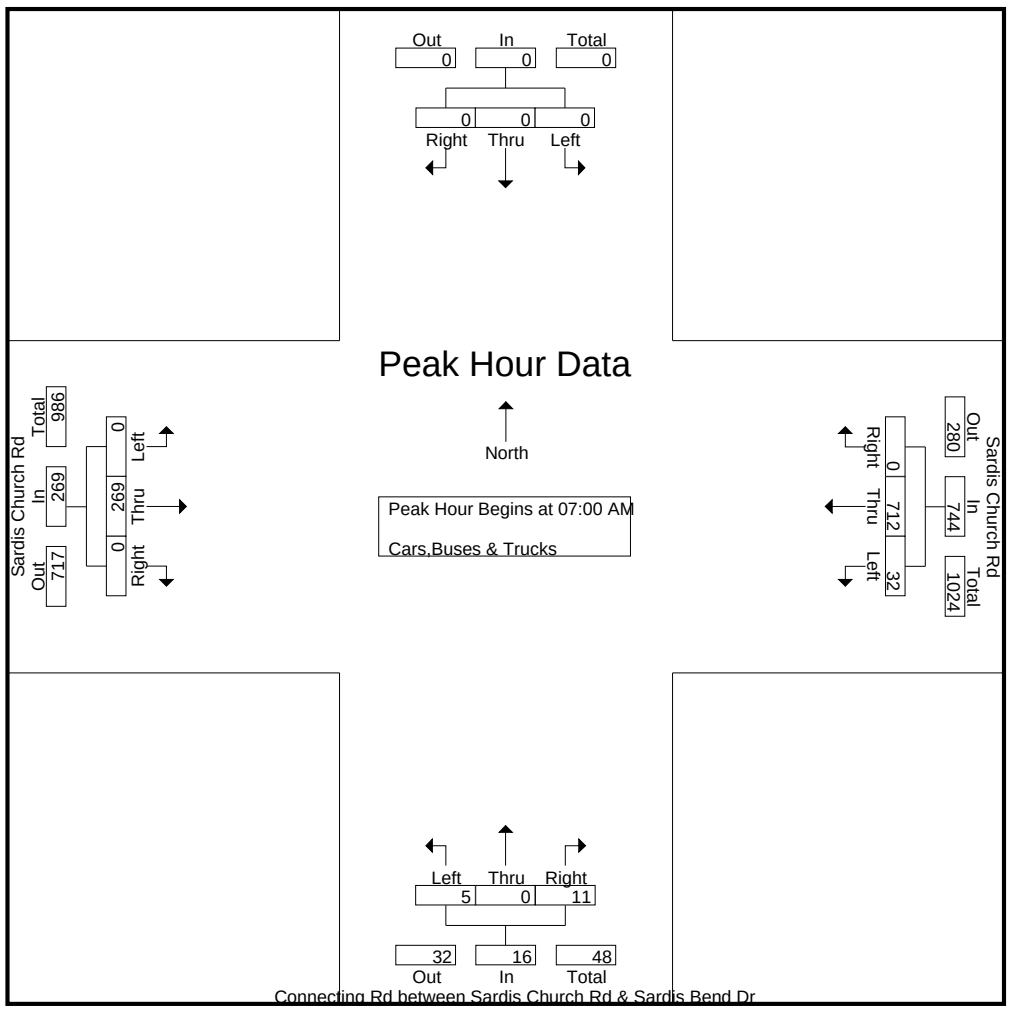
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Church Rd @ Connecting Rd between
Sardis Church Rd & Sardis Bend Dr
7-9 am | 2-3 pm | 4-6 pm

File Name : 20220473
Site Code : 20220473
Start Date : 11/2/2022
Page No : 2

	Connecting Rd between Sardis Church Rd & Sardis Bend Dr Northbound				Southbound				Sardis Church Rd Eastbound				Sardis Church 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	1	0	**5**	**6**	0	0	0	0	0	**75**	0	**75**	**10**	**212**	0	**222**	**303**
07:15 AM	1	0	3	4	0	0	0	0	0	61	0	61	7	157	0	164	229
07:30 AM	**3**	0	2	5	0	0	0	0	0	60	0	60	5	159	0	164	229
07:45 AM	0	0	1	1	0	0	0	0	0	73	0	73	10	184	0	194	268
Total Volume	5	0	11	16	0	0	0	0	0	269	0	269	32	712	0	744	1029
% App. Total	31.2	0	68.8		0	0	0		0	100	0		4.3	95.7	0		
PHF	.417	.000	.550	.667	.000	.000	.000	.000	.000	.897	.000	.897	.800	.840	.000	.838	.849



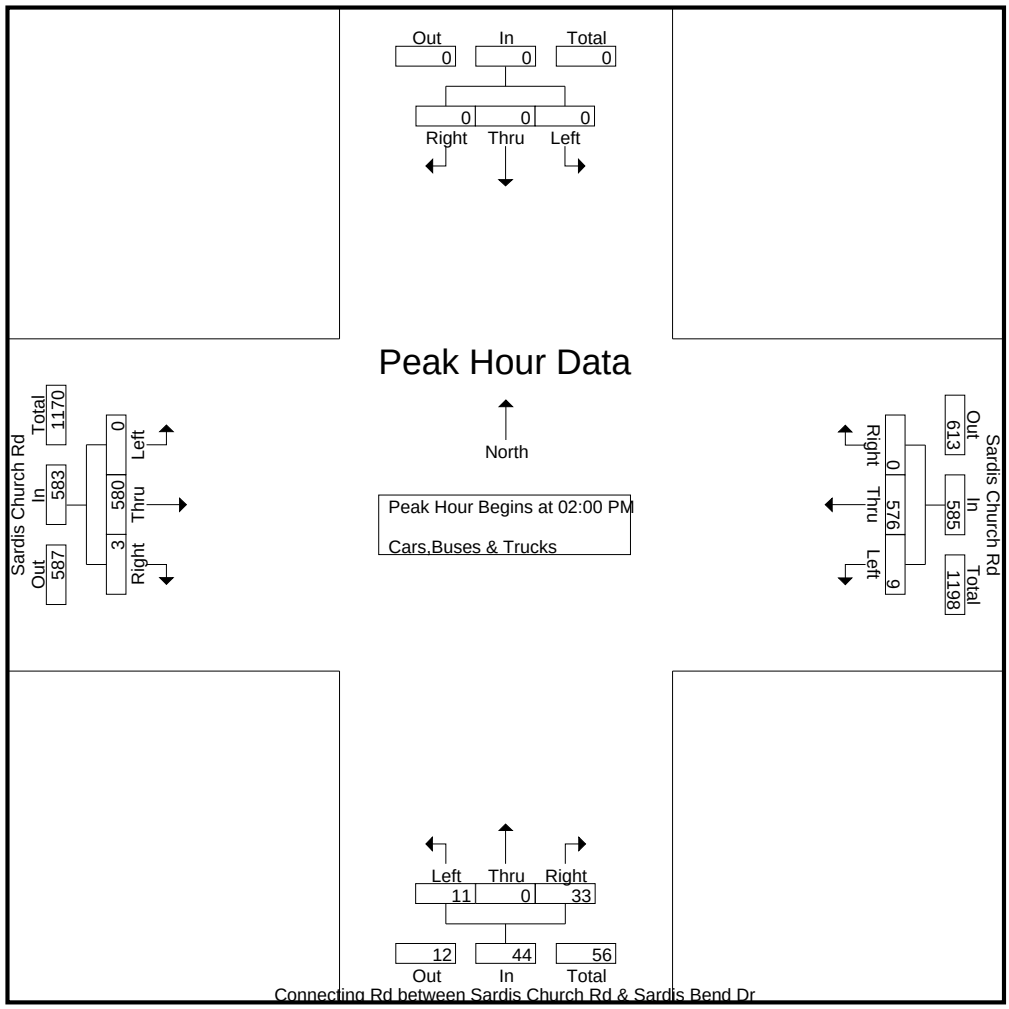
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Church Rd @ Connecting Rd between
Sardis Church Rd & Sardis Bend Dr
7-9 am | 2-3 pm | 4-6 pm

File Name : 20220473
Site Code : 20220473
Start Date : 11/2/2022
Page No : 3

	Connecting Rd between Sardis Church Rd & Sardis Bend Dr Northbound				Southbound				Sardis Church Rd Eastbound				Sardis Church 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 02:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:00 PM																	
02:00 PM	2	0	**11**	**13**	0	0	0	0	0	142	0	142	0	111	0	111	266
02:15 PM	2	0	4	6	0	0	0	0	0	142	**2**	144	1	**182**	0	**183**	**333**
02:30 PM	3	0	10	13	0	0	0	0	0	144	0	144	3	140	0	143	300
02:45 PM	**4**	0	8	12	0	0	0	0	0	**152**	1	**153**	**5**	143	0	148	313
Total Volume	11	0	33	44	0	0	0	0	0	580	3	583	9	576	0	585	1212
% App. Total	25	0	75		0	0	0		0	99.5	0.5		1.5	98.5	0		
PHF	.688	.000	.750	.846	.000	.000	.000	.000	.000	.954	.375	.953	.450	.791	.000	.799	.910



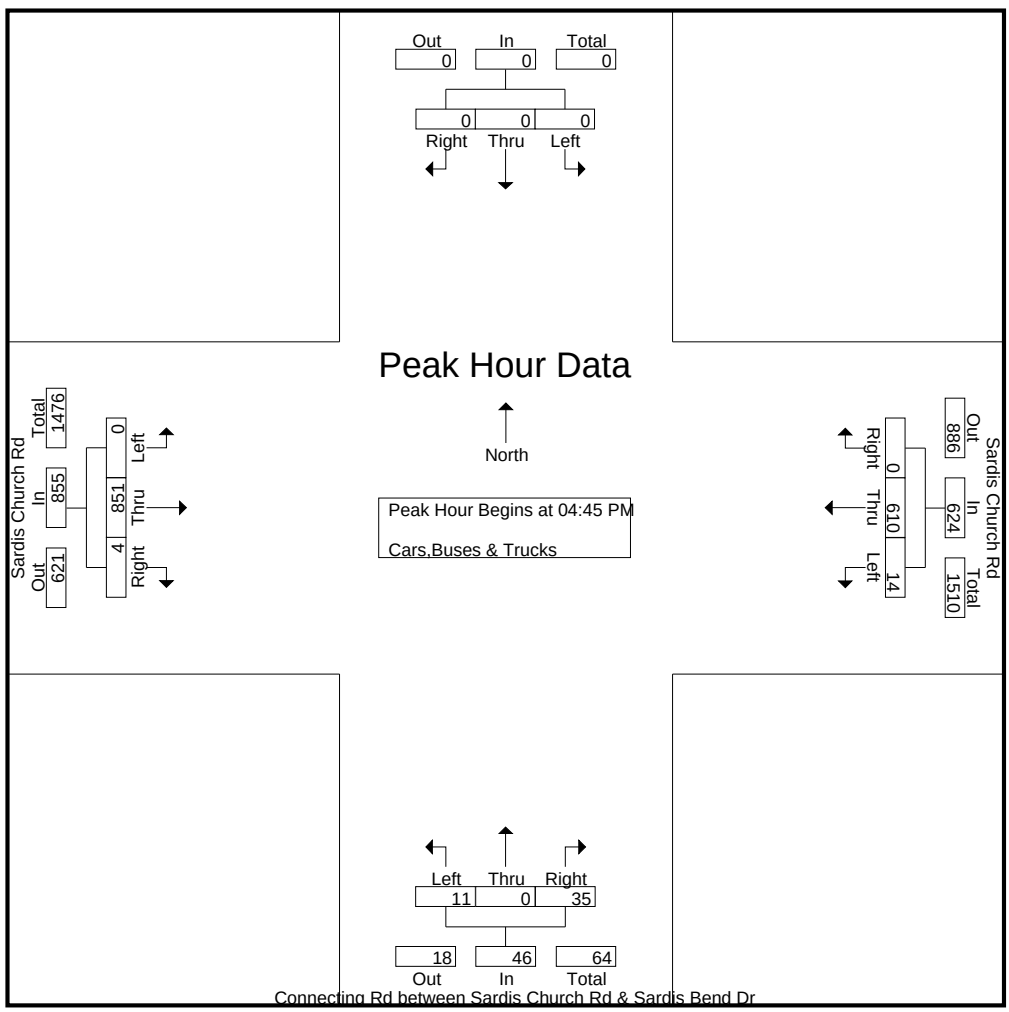
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Church Rd @ Connecting Rd between
Sardis Church Rd & Sardis Bend Dr
7-9 am | 2-3 pm | 4-6 pm

File Name : 20220473
Site Code : 20220473
Start Date : 11/2/2022
Page No : 4

	Connecting Rd between Sardis Church Rd & Sardis Bend Dr Northbound				Southbound				Sardis Church Rd Eastbound				Sardis Church 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 04:45 PM																	
04:45 PM	**4**	0	**11**	**15**	0	0	0	0	0	185	**2**	187	2	164	0	166	368
05:00 PM	3	0	8	11	0	0	0	0	0	**236**	1	**237**	2	131	0	133	381
05:15 PM	3	0	7	10	0	0	0	0	0	210	1	211	**6**	**167**	0	**173**	**394**
05:30 PM	1	0	9	10	0	0	0	0	0	220	0	220	4	148	0	152	382
Total Volume	11	0	35	46	0	0	0	0	0	851	4	855	14	610	0	624	1525
% App. Total	23.9	0	76.1		0	0	0		0	99.5	0.5		2.2	97.8	0		
PHF	.688	.000	.795	.767	.000	.000	.000	.000	.000	.901	.500	.902	.583	.913	.000	.902	.968



A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Church Rd @ Sardis Bend Dr
7-9 am | 4-6 pm

File Name : 20220474
Site Code : 20220474
Start Date : 11/2/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Sardis Bend Dr Northbound				Sardis Bend Dr Southbound				Sardis Church Rd Eastbound				Sardis Church 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	6	0	3	9	3	0	10	13	2	69	2	73	5	204	4	213	308
07:15 AM	3	0	1	4	5	1	12	18	3	55	8	66	4	154	0	158	246
07:30 AM	4	0	1	5	4	0	12	16	1	55	9	65	3	157	2	162	248
07:45 AM	4	0	5	9	3	0	14	17	3	65	5	73	8	170	6	184	283
Total	17	0	10	27	15	1	48	64	9	244	24	277	20	685	12	717	1085
08:00 AM	2	0	4	6	2	3	20	25	3	63	6	72	5	146	3	154	257
08:15 AM	3	0	4	7	2	0	18	20	2	71	6	79	8	136	6	150	256
08:30 AM	9	0	2	11	0	1	14	15	7	68	6	81	2	140	6	148	255
08:45 AM	11	0	8	19	0	3	16	19	6	52	21	79	8	120	4	132	249
Total	25	0	18	43	4	7	68	79	18	254	39	311	23	542	19	584	1017
*** BREAK ***																	
04:00 PM	27	5	10	42	13	3	21	37	13	151	25	189	8	103	13	124	392
04:15 PM	13	2	23	38	15	2	19	36	13	157	33	203	5	153	5	163	440
04:30 PM	23	0	13	36	18	0	32	50	12	168	23	203	9	142	17	168	457
04:45 PM	19	4	14	37	7	0	29	36	16	166	24	206	11	144	13	168	447
Total	82	11	60	153	53	5	101	159	54	642	105	801	33	542	48	623	1736
05:00 PM	21	6	17	44	20	1	29	50	11	200	25	236	6	120	8	134	464
05:15 PM	18	3	8	29	14	4	22	40	18	189	30	237	7	156	7	170	476
05:30 PM	15	5	11	31	15	3	19	37	17	194	27	238	9	132	8	149	455
05:45 PM	13	4	9	26	11	2	16	29	14	181	21	216	6	128	5	139	410
Total	67	18	45	130	60	10	86	156	60	764	103	927	28	536	28	592	1805
Grand Total	191	29	133	353	132	23	303	458	141	1904	271	2316	104	2305	107	2516	5643
Apprch %	54.1	8.2	37.7		28.8	5	66.2		6.1	82.2	11.7		4.1	91.6	4.3		
Total %	3.4	0.5	2.4	6.3	2.3	0.4	5.4	8.1	2.5	33.7	4.8	41	1.8	40.8	1.9	44.6	

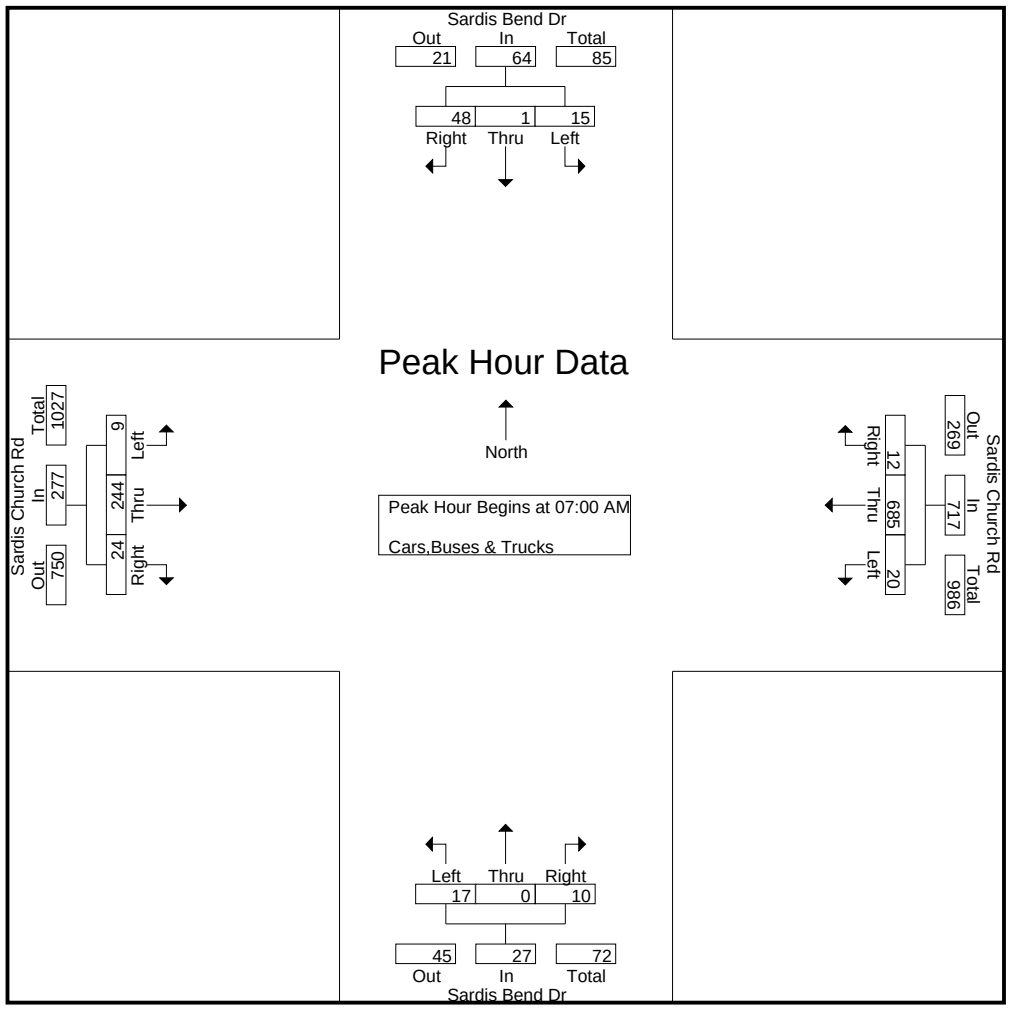
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Church Rd @ Sardis Bend Dr
7-9 am | 4-6 pm

File Name : 20220474
Site Code : 20220474
Start Date : 11/2/2022
Page No : 2

	Sardis Bend Dr Northbound				Sardis Bend Dr Southbound				Sardis Church Rd Eastbound				Sardis Church 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	**6**	0	3	**9**	3	0	10	13	2	**69**	2	**73**	5	**204**	4	**213**	**308**
07:15 AM	3	0	1	4	**5**	**1**	12	**18**	**3**	55	8	66	4	154	0	158	246
07:30 AM	4	0	1	5	4	0	12	16	1	55	**9**	65	3	157	2	162	248
07:45 AM	4	0	**5**	9	3	0	**14**	17	3	65	5	73	**8**	170	**6**	184	283
Total Volume	17	0	10	27	15	1	48	64	9	244	24	277	20	685	12	717	1085
% App. Total	63	0	37		23.4	1.6	75		3.2	88.1	8.7		2.8	95.5	1.7		
PHF	.708	.000	.500	.750	.750	.250	.857	.889	.750	.884	.667	.949	.625	.839	.500	.842	.881



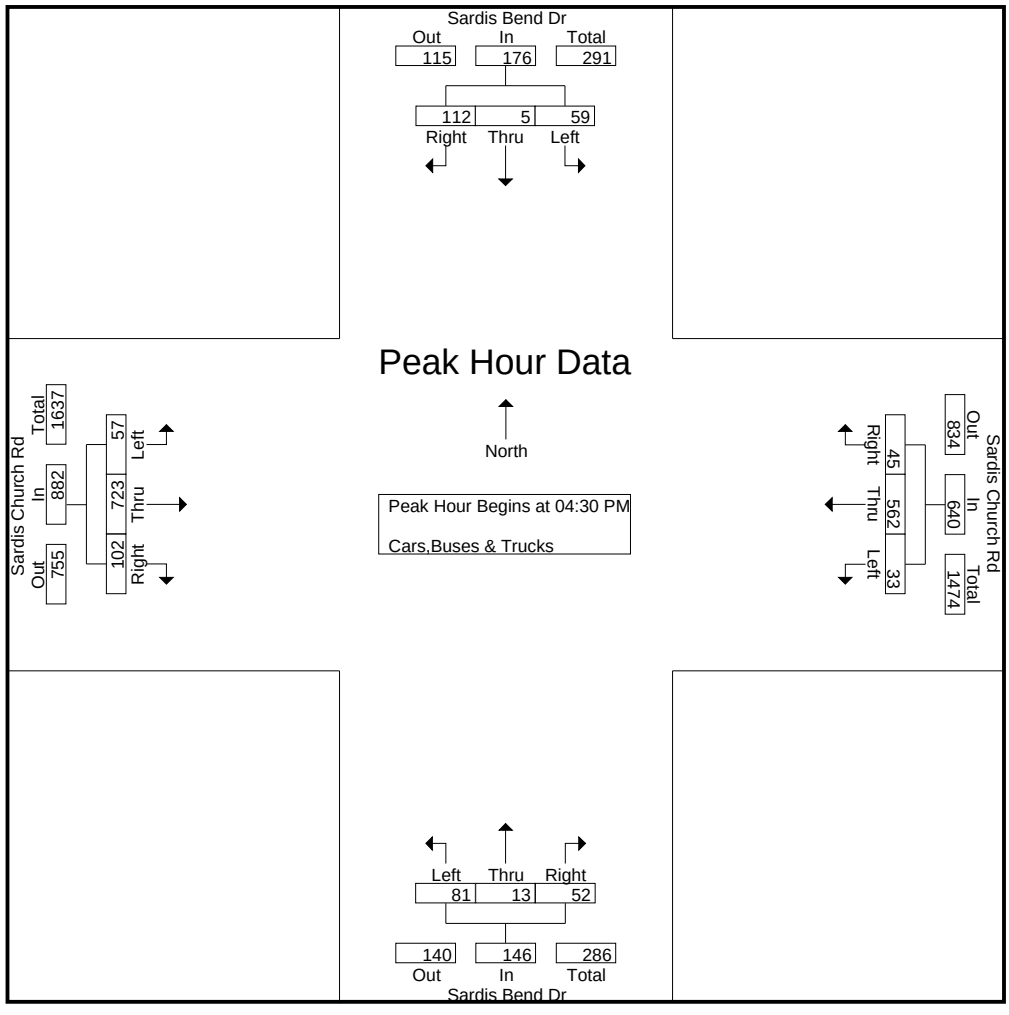
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Church Rd @ Sardis Bend Dr
7-9 am | 4-6 pm

File Name : 20220474
Site Code : 20220474
Start Date : 11/2/2022
Page No : 3

	Sardis Bend Dr Northbound				Sardis Bend Dr Southbound				Sardis Church Rd Eastbound				Sardis Church 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 04:30 PM																	
04:30 PM	**23**	0	13	36	18	0	**32**	**50**	12	168	23	203	9	142	**17**	168	457
04:45 PM	19	4	14	37	7	0	29	36	16	166	24	206	**11**	144	13	168	447
05:00 PM	21	**6**	**17**	**44**	**20**	1	29	50	11	**200**	25	236	6	120	8	134	464
05:15 PM	18	3	8	29	14	**4**	22	40	**18**	189	**30**	**237**	7	**156**	7	**170**	**476**
Total Volume	81	13	52	146	59	5	112	176	57	723	102	882	33	562	45	640	1844
% App. Total	55.5	8.9	35.6		33.5	2.8	63.6		6.5	82	11.6		5.2	87.8	7		
PHF	.880	.542	.765	.830	.738	.313	.875	.880	.792	.904	.850	.930	.750	.901	.662	.941	.968



A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ RIRO Drwy of Town Center
7-9 am | 4-6 pm

File Name : 20220476
Site Code : 20220476
Start Date : 11/2/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				RIRO Drwy of Town Center 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	7	232	0	239	0	278	1	279	0	0	12	12	0	0	0	0	530
07:15 AM	7	248	0	255	0	295	4	299	0	0	29	29	0	0	0	0	583
07:30 AM	8	230	0	238	0	281	0	281	0	0	22	22	0	0	0	0	541
07:45 AM	5	221	0	226	0	296	1	297	0	0	17	17	0	0	0	0	540
Total	27	931	0	958	0	1150	6	1156	0	0	80	80	0	0	0	0	2194
08:00 AM	10	252	0	262	0	280	0	280	0	0	21	21	0	0	0	0	563
08:15 AM	3	256	0	259	0	281	2	283	0	0	16	16	0	0	0	0	558
08:30 AM	14	251	0	265	0	234	1	235	0	0	23	23	0	0	0	0	523
08:45 AM	12	277	0	289	0	261	0	261	0	0	32	32	0	0	0	0	582
Total	39	1036	0	1075	0	1056	3	1059	0	0	92	92	0	0	0	0	2226
*** BREAK ***																	
04:00 PM	17	368	0	385	0	332	2	334	0	0	68	68	0	0	0	0	787
04:15 PM	15	418	0	433	0	382	1	383	0	0	62	62	0	0	0	0	878
04:30 PM	14	416	0	430	0	392	0	392	0	0	74	74	0	0	0	0	896
04:45 PM	11	390	0	401	0	394	1	395	0	0	74	74	0	0	0	0	870
Total	57	1592	0	1649	0	1500	4	1504	0	0	278	278	0	0	0	0	3431
05:00 PM	14	383	0	397	0	350	1	351	0	0	80	80	0	0	0	0	828
05:15 PM	21	418	0	439	0	376	2	378	0	0	64	64	0	0	0	0	881
05:30 PM	15	445	0	460	0	319	1	320	0	0	57	57	0	0	0	0	837
05:45 PM	19	373	0	392	0	333	0	333	0	0	60	60	0	0	0	0	785
Total	69	1619	0	1688	0	1378	4	1382	0	0	261	261	0	0	0	0	3331
Grand Total	192	5178	0	5370	0	5084	17	5101	0	0	711	711	0	0	0	0	11182
Apprch %	3.6	96.4	0		0	99.7	0.3		0	0	100		0	0	0		
Total %	1.7	46.3	0	48	0	45.5	0.2	45.6	0	0	6.4	6.4	0	0	0	0	

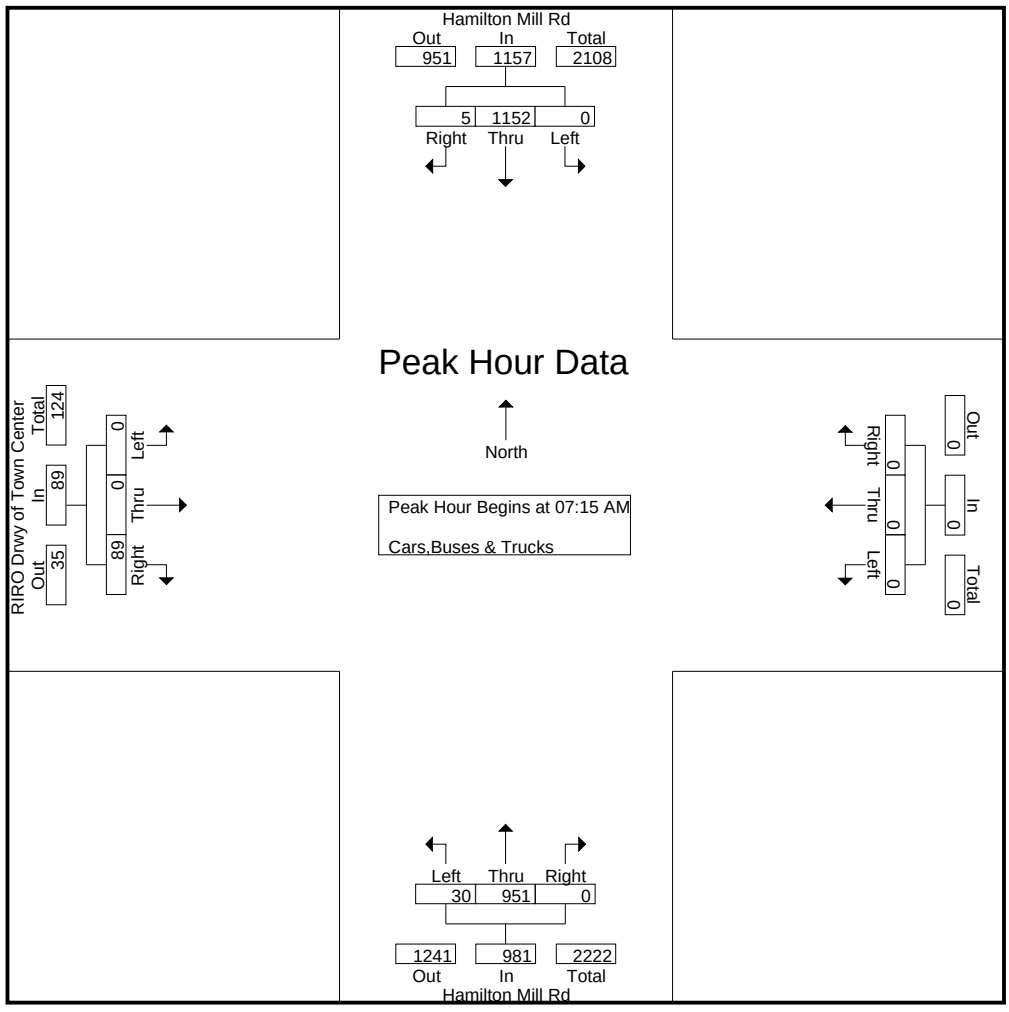
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ RIRO Drwy of Town Center
7-9 am | 4-6 pm

File Name : 20220476
Site Code : 20220476
Start Date : 11/2/2022

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				RIRO Drwy of Town Center 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	7	248	0	255	0	295	**4**	**299**	0	0	**29**	**29**	0	0	0	0	**583**
07:30 AM	8	230	0	238	0	281	0	281	0	0	22	22	0	0	0	0	541
07:45 AM	5	221	0	226	0	**296**	1	297	0	0	17	17	0	0	0	0	540
08:00 AM	**10**	**252**	0	**262**	0	280	0	280	0	0	21	21	0	0	0	0	563
Total Volume	30	951	0	981	0	1152	5	1157	0	0	89	89	0	0	0	0	2227
% App. Total	3.1	96.9	0		0	99.6	0.4		0	0	100		0	0	0		
PHF	.750	.943	.000	.936	.000	.973	.313	.967	.000	.000	.767	.767	.000	.000	.000	.000	.955



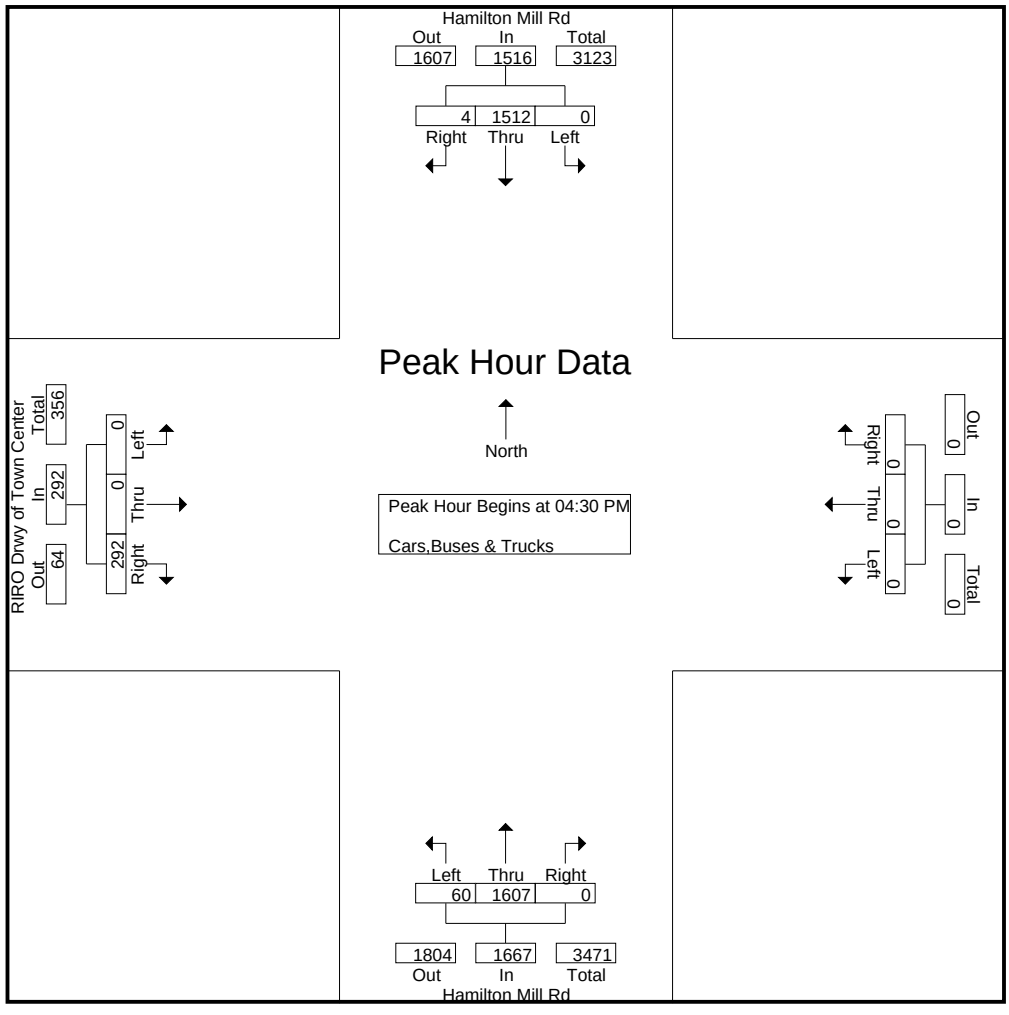
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ RIRO Drwy of Town Center
7-9 am | 4-6 pm

File Name : 20220476
Site Code : 20220476
Start Date : 11/2/2022
Page No : 3

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				RIRO Drwy of Town Center 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 04:30 PM																	
04:30 PM	14	416	0	430	0	392	0	392	0	0	74	74	0	0	0	0	**896**
04:45 PM	11	390	0	401	0	**394**	1	**395**	0	0	74	74	0	0	0	0	870
05:00 PM	14	383	0	397	0	350	1	351	0	0	**80**	**80**	0	0	0	0	828
05:15 PM	**21**	**418**	0	**439**	0	376	**2**	378	0	0	64	64	0	0	0	0	881
Total Volume	60	1607	0	1667	0	1512	4	1516	0	0	292	292	0	0	0	0	3475
% App. Total	3.6	96.4	0		0	99.7	0.3		0	0	100		0	0	0		
PHF	.714	.961	.000	.949	.000	.959	.500	.959	.000	.000	.913	.913	.000	.000	.000	.000	.970



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Braselton Hwy
7-9 am | 4-6 pm

File Name : 20220477
Site Code : 20220477
Start Date : 11/1/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Braselton Hwy Eastbound				Braselton Hwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	68	15	85	64	19	52	135	69	39	3	111	10	83	138	231	562
07:15 AM	3	59	7	69	72	21	76	169	62	39	4	105	19	82	151	252	595
07:30 AM	11	72	13	96	91	31	68	190	75	59	1	135	15	100	146	261	682
07:45 AM	24	86	31	141	113	38	58	209	59	61	4	124	12	76	150	238	712
Total	40	285	66	391	340	109	254	703	265	198	12	475	56	341	585	982	2551
08:00 AM	20	85	29	134	119	35	57	211	71	114	17	202	12	75	157	244	791
08:15 AM	7	70	24	101	151	34	43	228	71	84	9	164	16	84	152	252	745
08:30 AM	4	67	25	96	137	22	53	212	62	66	3	131	18	66	170	254	693
08:45 AM	3	66	28	97	145	31	41	217	71	62	6	139	14	55	160	229	682
Total	34	288	106	428	552	122	194	868	275	326	35	636	60	280	639	979	2911
*** BREAK ***																	
04:00 PM	2	43	15	60	232	86	87	405	68	109	4	181	24	84	182	290	936
04:15 PM	5	46	28	79	231	90	64	385	83	76	6	165	23	89	185	297	926
04:30 PM	6	40	28	74	227	87	70	384	90	83	15	188	31	90	181	302	948
04:45 PM	6	65	25	96	233	108	71	412	78	79	5	162	21	84	173	278	948
Total	19	194	96	309	923	371	292	1586	319	347	30	696	99	347	721	1167	3758
05:00 PM	2	52	27	81	251	108	94	453	90	92	3	185	28	82	170	280	999
05:15 PM	5	58	32	95	277	99	76	452	70	98	16	184	34	86	162	282	1013
05:30 PM	4	47	25	76	275	112	75	462	71	108	7	186	28	88	159	275	999
05:45 PM	5	68	30	103	278	86	79	443	80	96	8	184	26	82	147	255	985
Total	16	225	114	355	1081	405	324	1810	311	394	34	739	116	338	638	1092	3996
Grand Total	109	992	382	1483	2896	1007	1064	4967	1170	1265	111	2546	331	1306	2583	4220	13216
Apprch %	7.3	66.9	25.8		58.3	20.3	21.4		46	49.7	4.4		7.8	30.9	61.2		
Total %	0.8	7.5	2.9	11.2	21.9	7.6	8.1	37.6	8.9	9.6	0.8	19.3	2.5	9.9	19.5	31.9	

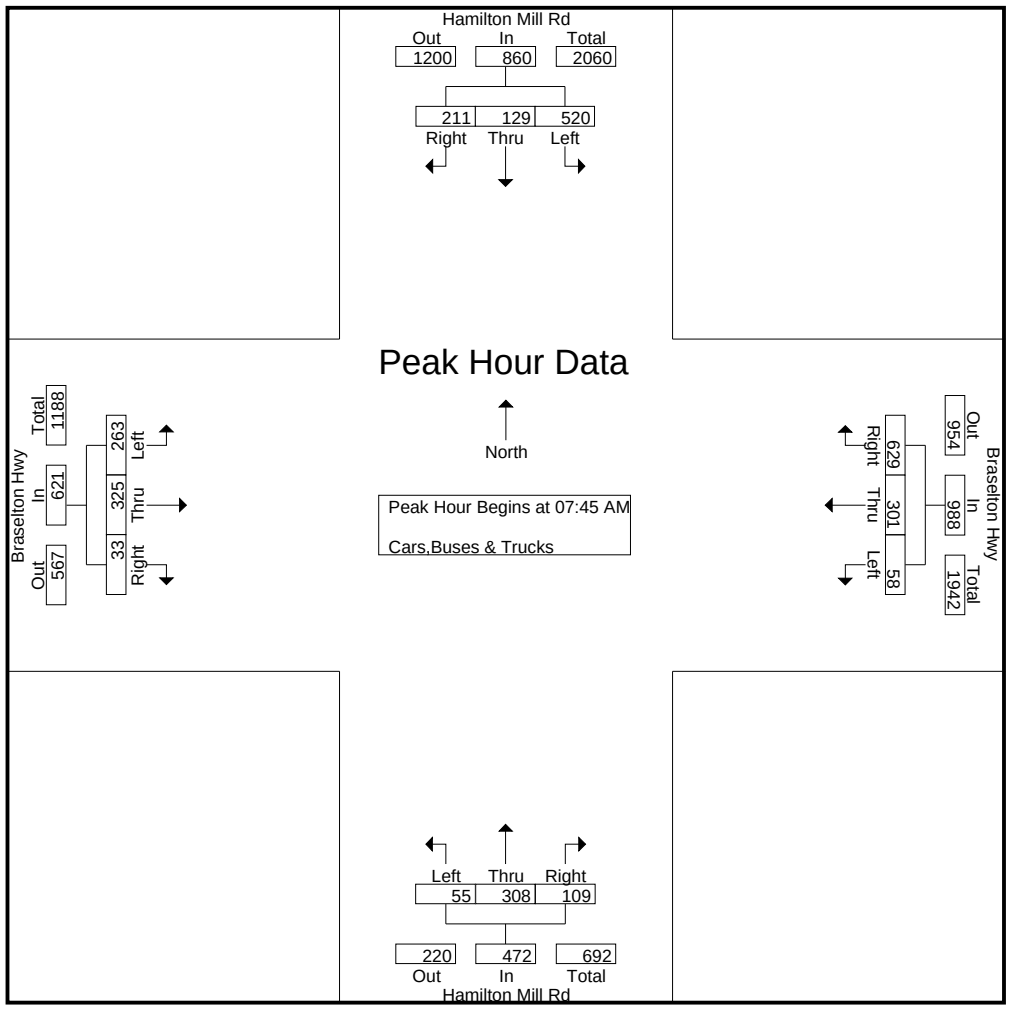
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Braselton Hwy
7-9 am | 4-6 pm

File Name : 20220477
Site Code : 20220477
Start Date : 11/1/2022

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Braselton Hwy Eastbound				Braselton Hwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**24**	**86**	**31**	**141**	113	**38**	**58**	209	59	61	4	124	12	76	150	238	712
08:00 AM	20	85	29	134	119	35	57	211	**71**	**114**	**17**	**202**	12	75	157	244	**791**
08:15 AM	7	70	24	101	**151**	34	43	**228**	71	84	9	164	16	**84**	152	252	745
08:30 AM	4	67	25	96	137	22	53	212	62	66	3	131	**18**	66	**170**	**254**	693
Total Volume	55	308	109	472	520	129	211	860	263	325	33	621	58	301	629	988	2941
% App. Total	11.7	65.3	23.1		60.5	15	24.5		42.4	52.3	5.3		5.9	30.5	63.7		
PHF	.573	.895	.879	.837	.861	.849	.909	.943	.926	.713	.485	.769	.806	.896	.925	.972	.930



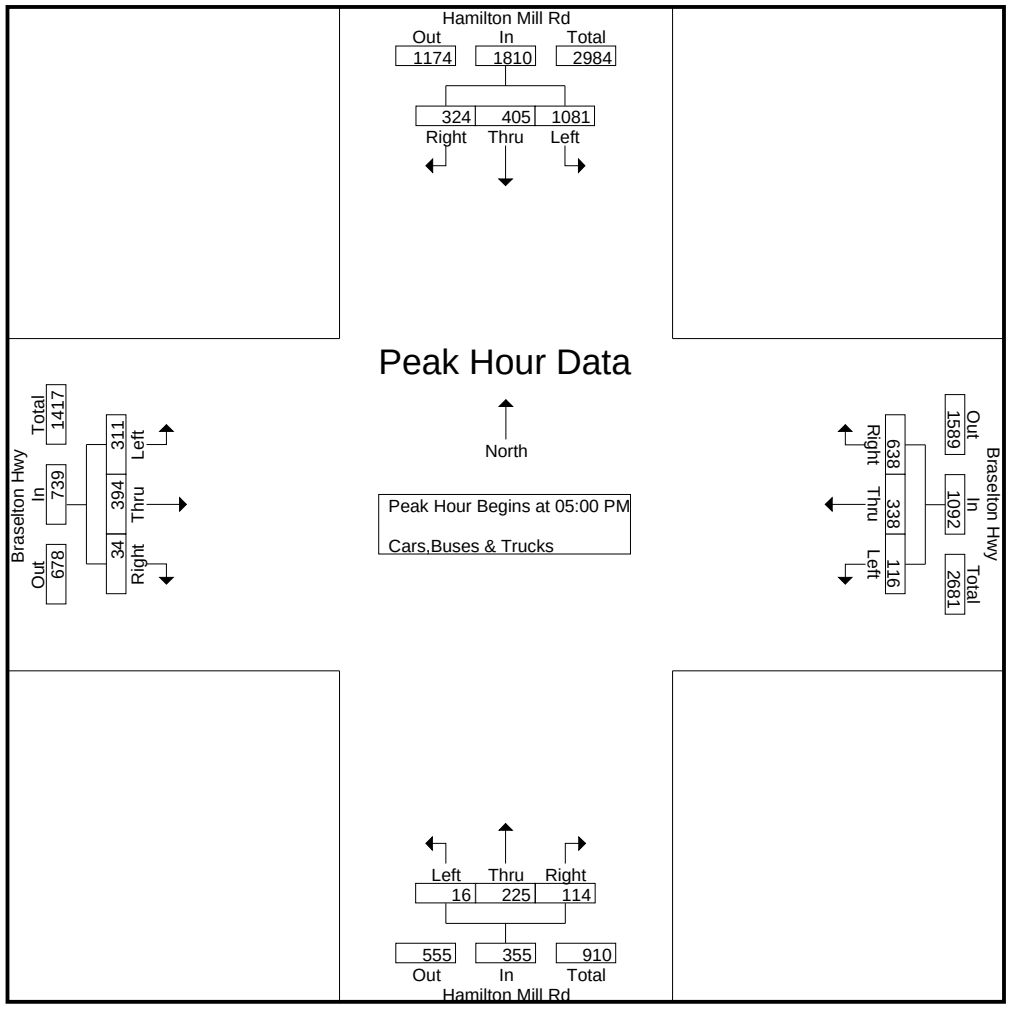
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Braselton Hwy
7-9 am | 4-6 pm

File Name : 20220477
Site Code : 20220477
Start Date : 11/1/2022
Page No : 3

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Braselton Hwy Eastbound				Braselton Hwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	2	52	27	81	251	108	**94**	453	**90**	92	3	185	28	82	**170**	280	999
05:15 PM	**5**	58	**32**	95	277	99	76	452	70	98	**16**	184	**34**	86	162	**282**	**1013**
05:30 PM	4	47	25	76	275	**112**	75	**462**	71	**108**	7	**186**	28	**88**	159	275	999
05:45 PM	5	**68**	30	**103**	**278**	86	79	443	80	96	8	184	26	82	147	255	985
Total Volume	16	225	114	355	1081	405	324	1810	311	394	34	739	116	338	638	1092	3996
% App. Total	4.5	63.4	32.1		59.7	22.4	17.9		42.1	53.3	4.6		10.6	31	58.4		
PHF	.800	.827	.891	.862	.972	.904	.862	.979	.864	.912	.531	.993	.853	.960	.938	.968	.986



A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ I-85 NB Ramps
7-9 am | 4-6 pm

File Name : 20220478
Site Code : 20220478
Start Date : 11/1/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				I-85 NB Ramps Eastbound				I-85 NB Ramps 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	251	23	274	40	113	0	153	57	0	59	116	0	0	0	0	543
07:15 AM	0	259	20	279	62	140	0	202	55	0	58	113	0	0	0	0	594
07:30 AM	0	264	34	298	37	172	0	209	52	0	76	128	0	0	0	0	635
07:45 AM	0	271	16	287	30	181	0	211	54	0	78	132	0	0	0	0	630
Total	0	1045	93	1138	169	606	0	775	218	0	271	489	0	0	0	0	2402
08:00 AM	0	282	28	310	44	200	0	244	66	0	90	156	0	0	0	0	710
08:15 AM	0	279	27	306	37	172	0	209	64	0	105	169	0	0	0	0	684
08:30 AM	0	286	19	305	43	163	0	206	70	0	74	144	0	0	0	0	655
08:45 AM	0	273	20	293	37	153	0	190	53	0	99	152	0	0	0	0	635
Total	0	1120	94	1214	161	688	0	849	253	0	368	621	0	0	0	0	2684
*** BREAK ***																	
04:00 PM	0	241	32	273	91	297	0	388	168	0	166	334	0	0	0	0	995
04:15 PM	0	279	43	322	79	307	0	386	165	0	158	323	0	0	0	0	1031
04:30 PM	0	286	36	322	75	297	0	372	148	0	189	337	0	0	0	0	1031
04:45 PM	0	297	35	332	76	281	0	357	179	0	232	411	0	0	0	0	1100
Total	0	1103	146	1249	321	1182	0	1503	660	0	745	1405	0	0	0	0	4157
05:00 PM	0	299	38	337	53	266	0	319	127	0	181	308	0	0	0	0	964
05:15 PM	0	310	34	344	74	264	0	338	129	0	213	342	0	0	0	0	1024
05:30 PM	0	279	38	317	60	268	0	328	142	0	215	357	0	0	0	0	1002
05:45 PM	0	263	27	290	58	261	0	319	158	0	213	371	0	0	0	0	980
Total	0	1151	137	1288	245	1059	0	1304	556	0	822	1378	0	0	0	0	3970
Grand Total	0	4419	470	4889	896	3535	0	4431	1687	0	2206	3893	0	0	0	0	13213
Apprch %	0	90.4	9.6		20.2	79.8	0		43.3	0	56.7		0	0	0		
Total %	0	33.4	3.6	37	6.8	26.8	0	33.5	12.8	0	16.7	29.5	0	0	0	0	

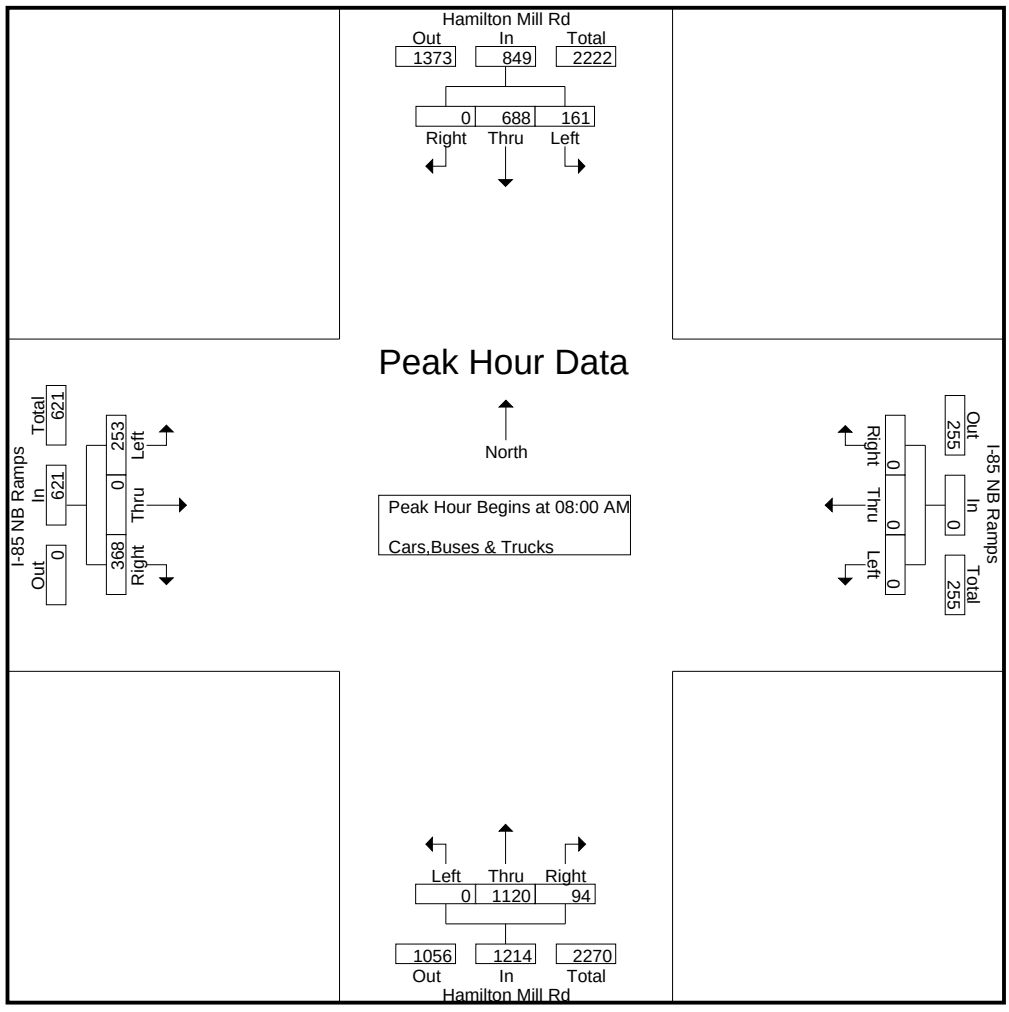
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ I-85 NB Ramps
7-9 am | 4-6 pm

File Name : 20220478
Site Code : 20220478
Start Date : 11/1/2022
Page No : 2

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				I-85 NB Ramps Eastbound				I-85 NB Ramps 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 08:00 AM																	
08:00 AM	0	282	**28**	**310**	**44**	**200**	0	**244**	66	0	90	156	0	0	0	0	**710**
08:15 AM	0	279	27	306	37	172	0	209	64	0	**105**	**169**	0	0	0	0	684
08:30 AM	0	**286**	19	305	43	163	0	206	**70**	0	74	144	0	0	0	0	655
08:45 AM	0	273	20	293	37	153	0	190	53	0	99	152	0	0	0	0	635
Total Volume	0	1120	94	1214	161	688	0	849	253	0	368	621	0	0	0	0	2684
% App. Total	0	92.3	7.7		19	81	0		40.7	0	59.3		0	0	0		
PHF	.000	.979	.839	.979	.915	.860	.000	.870	.904	.000	.876	.919	.000	.000	.000	.000	.945



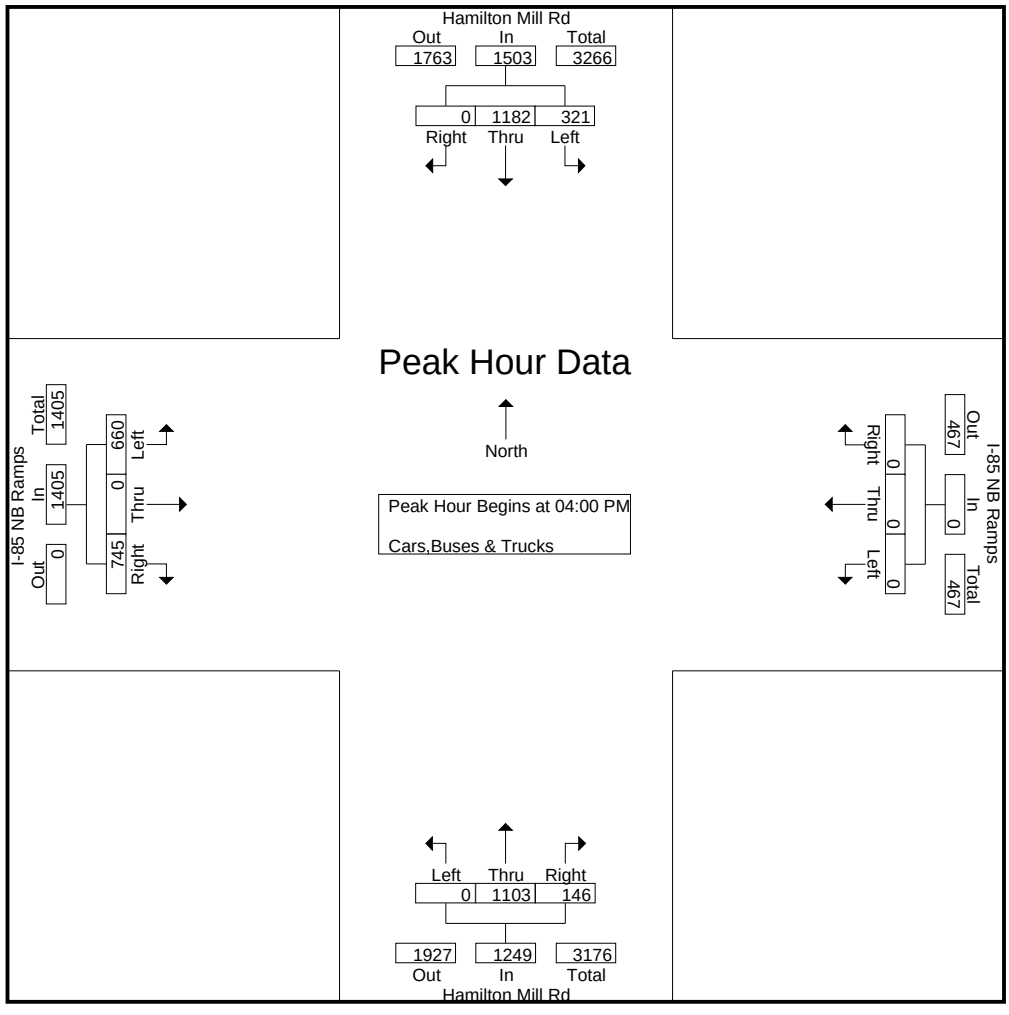
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ I-85 NB Ramps
7-9 am | 4-6 pm

File Name : 20220478
Site Code : 20220478
Start Date : 11/1/2022
Page No : 3

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				I-85 NB Ramps Eastbound				I-85 NB Ramps 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	241	32	273	**91**	297	0	**388**	168	0	166	334	0	0	0	0	995
04:15 PM	0	279	**43**	322	79	**307**	0	386	165	0	158	323	0	0	0	0	1031
04:30 PM	0	286	36	322	75	297	0	372	148	0	189	337	0	0	0	0	1031
04:45 PM	0	**297**	35	**332**	76	281	0	357	**179**	0	**232**	**411**	0	0	0	0	**1100**
Total Volume	0	1103	146	1249	321	1182	0	1503	660	0	745	1405	0	0	0	0	4157
% App. Total	0	88.3	11.7		21.4	78.6	0		47	0	53		0	0	0		
PHF	.000	.928	.849	.941	.882	.963	.000	.968	.922	.000	.803	.855	.000	.000	.000	.000	.945



A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ I-85 SB Ramps
7-9 am | 4-6 pm

File Name : 20220479
Site Code : 20220479
Start Date : 11/2/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				I-85 SB Ramps Eastbound				I-85 SB Ramps 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	176	159	0	335	0	111	181	292	0	0	0	0	20	0	69	89	716
07:15 AM	144	163	0	307	0	123	207	330	0	0	0	0	55	0	69	124	761
07:30 AM	156	196	0	352	0	136	177	313	0	0	0	0	54	0	81	135	800
07:45 AM	159	150	0	309	0	141	164	305	0	0	0	0	52	0	63	115	729
Total	635	668	0	1303	0	511	729	1240	0	0	0	0	181	0	282	463	3006
08:00 AM	155	199	0	354	0	118	208	326	0	0	0	0	51	0	56	107	787
08:15 AM	144	186	0	330	0	149	161	310	0	0	0	0	23	0	55	78	718
08:30 AM	162	227	0	389	0	134	155	289	0	0	0	0	33	0	64	97	775
08:45 AM	134	241	0	375	0	129	147	276	0	0	0	0	42	0	61	103	754
Total	595	853	0	1448	0	530	671	1201	0	0	0	0	149	0	236	385	3034
*** BREAK ***																	
04:00 PM	102	335	0	437	0	325	94	419	0	0	0	0	35	0	58	93	949
04:15 PM	98	363	0	461	0	333	101	434	0	0	0	0	43	0	53	96	991
04:30 PM	105	355	0	460	0	338	141	479	0	0	0	0	47	0	61	108	1047
04:45 PM	109	363	0	472	0	342	152	494	0	0	0	0	41	0	37	78	1044
Total	414	1416	0	1830	0	1338	488	1826	0	0	0	0	166	0	209	375	4031
05:00 PM	115	341	0	456	0	331	129	460	0	0	0	0	45	0	55	100	1016
05:15 PM	103	346	0	449	0	316	141	457	0	0	0	0	39	0	75	114	1020
05:30 PM	107	355	0	462	0	292	121	413	0	0	0	0	44	0	78	122	997
05:45 PM	108	342	0	450	0	287	112	399	0	0	0	0	38	0	51	89	938
Total	433	1384	0	1817	0	1226	503	1729	0	0	0	0	166	0	259	425	3971
Grand Total	2077	4321	0	6398	0	3605	2391	5996	0	0	0	0	662	0	986	1648	14042
Apprch %	32.5	67.5	0		0	60.1	39.9		0	0	0		40.2	0	59.8		
Total %	14.8	30.8	0	45.6	0	25.7	17	42.7	0	0	0	0	4.7	0	7	11.7	

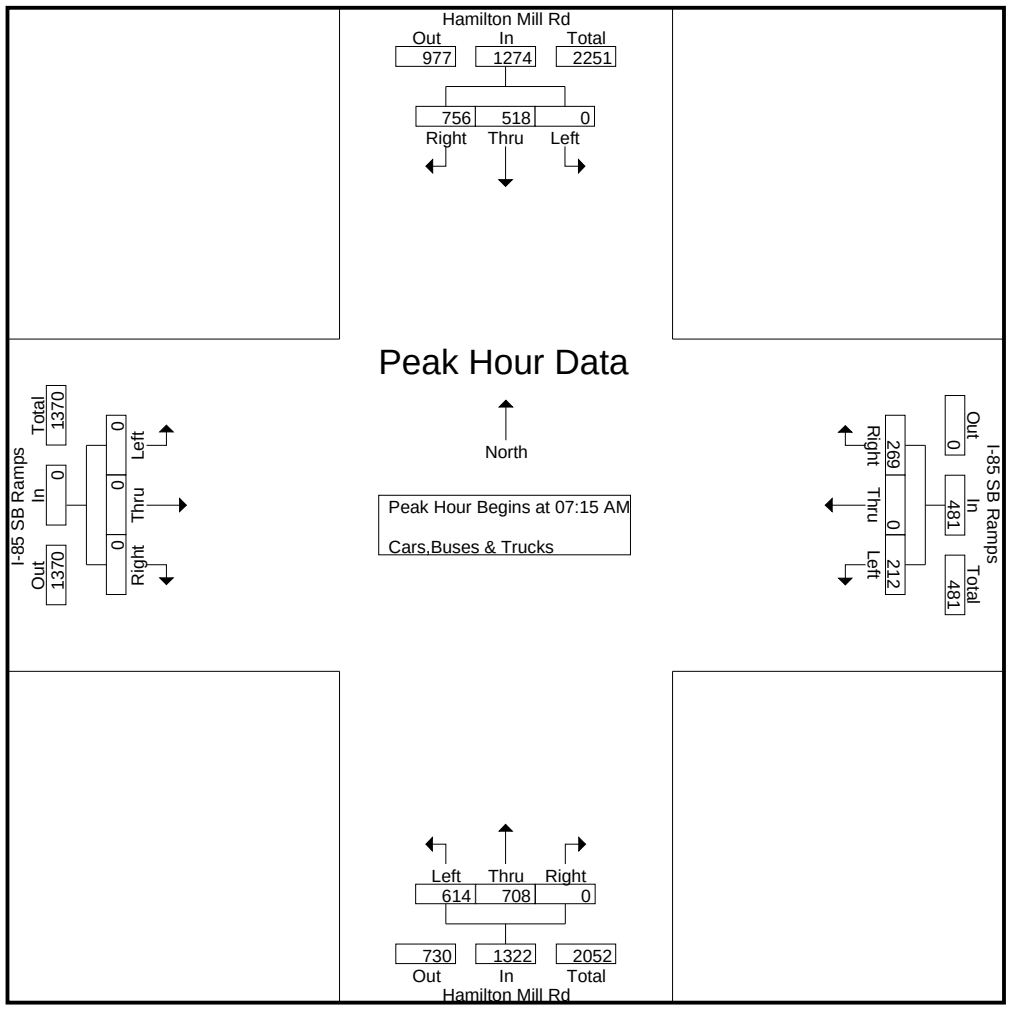
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ I-85 SB Ramps
7-9 am | 4-6 pm

File Name : 20220479
Site Code : 20220479
Start Date : 11/2/2022
Page No : 2

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				I-85 SB Ramps Eastbound				I-85 SB Ramps 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	144	163	0	307	0	123	207	**330**	0	0	0	0	**55**	0	69	124	761
07:30 AM	156	196	0	352	0	136	177	313	0	0	0	0	54	0	**81**	**135**	**800**
07:45 AM	**159**	150	0	309	0	**141**	164	305	0	0	0	0	52	0	63	115	729
08:00 AM	155	**199**	0	**354**	0	118	**208**	326	0	0	0	0	51	0	56	107	787
Total Volume	614	708	0	1322	0	518	756	1274	0	0	0	0	212	0	269	481	3077
% App. Total	46.4	53.6	0		0	40.7	59.3		0	0	0		44.1	0	55.9		
PHF	.965	.889	.000	.934	.000	.918	.909	.965	.000	.000	.000	.000	.964	.000	.830	.891	.962



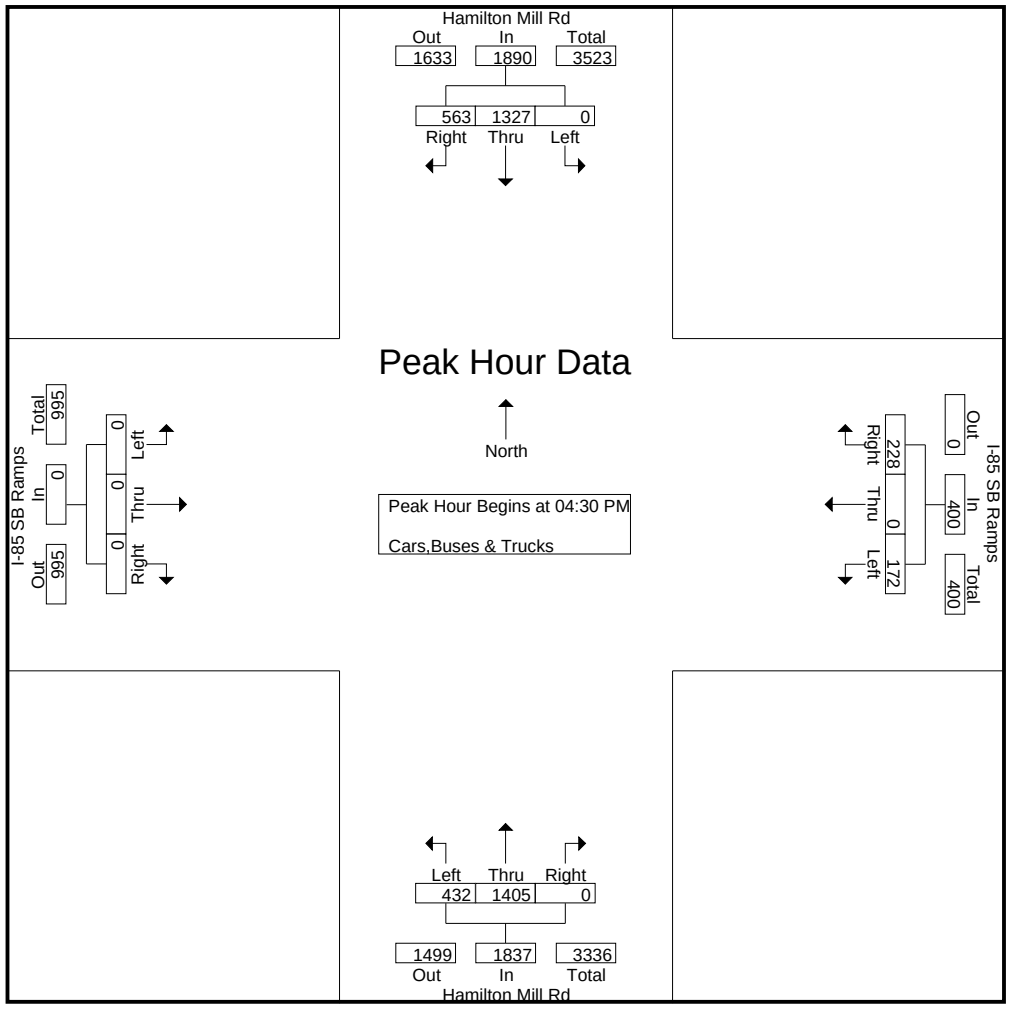
A & R Engineering, Inc.

2160 Kingston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ I-85 SB Ramps
7-9 am | 4-6 pm

File Name : 20220479
Site Code : 20220479
Start Date : 11/2/2022

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				I-85 SB Ramps Eastbound				I-85 SB Ramps 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 04:30 PM																	
04:30 PM	105	355	0	460	0	338	141	479	0	0	0	0	**47**	0	61	108	**1047**
04:45 PM	109	**363**	0	**472**	0	**342**	**152**	**494**	0	0	0	0	41	0	37	78	1044
05:00 PM	**115**	341	0	456	0	331	129	460	0	0	0	0	45	0	55	100	1016
05:15 PM	103	346	0	449	0	316	141	457	0	0	0	0	39	0	**75**	**114**	1020
Total Volume	432	1405	0	1837	0	1327	563	1890	0	0	0	0	172	0	228	400	4127
% App. Total	23.5	76.5	0		0	70.2	29.8		0	0	0		43	0	57		
PHF	.939	.968	.000	.973	.000	.970	.926	.956	.000	.000	.000	.000	.915	.000	.760	.877	.985



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Bend Rd @ Connecting Rd to Sardis Church Rd
7-9 am | 4-6 pm

File Name : 20220480
Site Code : 20220480
Start Date : 11/1/2022

Groups Printed- Cars,Buses & Trucks

	Sardis Bend Rd Northbound				Sardis Bend Rd Southbound				Eastbound				Connecting Rd to Sardis Church 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	1	0	1	0	3	0	3	0	0	0	0	6	4	1	11	15
07:15 AM	2	1	3	6	1	5	1	7	1	0	3	4	9	0	1	10	27
07:30 AM	1	4	5	10	0	4	0	4	2	2	0	4	7	0	0	7	25
07:45 AM	0	1	2	3	1	5	0	6	2	2	4	8	8	2	1	11	28
Total	3	7	10	20	2	17	1	20	5	4	7	16	30	6	3	39	95
08:00 AM	3	0	2	5	1	1	1	3	1	0	3	4	7	0	0	7	19
08:15 AM	0	1	0	1	0	6	0	6	0	1	1	2	3	0	4	7	16
08:30 AM	2	3	2	7	0	3	0	3	0	1	0	1	1	1	1	3	14
08:45 AM	1	3	5	9	1	1	0	2	1	1	2	4	0	0	2	2	17
Total	6	7	9	22	2	11	1	14	2	3	6	11	11	1	7	19	66
*** BREAK ***																	
04:00 PM	1	4	11	16	3	7	1	11	2	0	0	2	2	2	1	5	34
04:15 PM	0	2	4	6	1	5	1	7	2	0	1	3	1	1	1	3	19
04:30 PM	2	5	5	12	1	7	1	9	0	2	2	4	2	0	1	3	28
04:45 PM	2	2	9	13	6	3	0	9	1	1	0	2	2	0	1	3	27
Total	5	13	29	47	11	22	3	36	5	3	3	11	7	3	4	14	108
05:00 PM	0	3	7	10	2	5	0	7	0	2	1	3	3	0	0	3	23
05:15 PM	2	3	12	17	2	12	1	15	3	4	0	7	5	2	0	7	46
05:30 PM	1	4	12	17	1	7	0	8	0	3	1	4	7	3	4	14	43
05:45 PM	0	4	14	18	1	7	0	8	2	1	1	4	1	0	3	4	34
Total	3	14	45	62	6	31	1	38	5	10	3	18	16	5	7	28	146
Grand Total	17	41	93	151	21	81	6	108	17	20	19	56	64	15	21	100	415
Apprch %	11.3	27.2	61.6		19.4	75	5.6		30.4	35.7	33.9		64	15	21		
Total %	4.1	9.9	22.4	36.4	5.1	19.5	1.4	26	4.1	4.8	4.6	13.5	15.4	3.6	5.1	24.1	

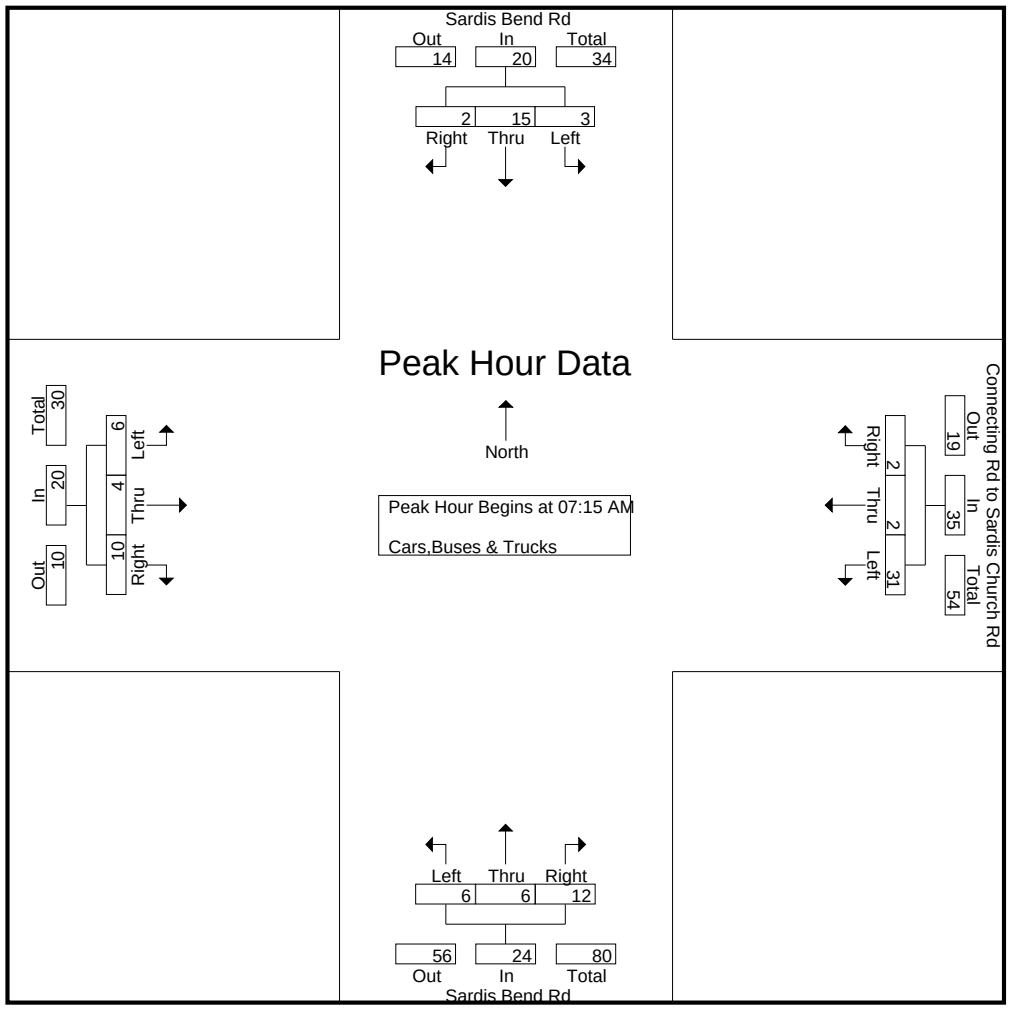
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Bend Rd @ Connecting Rd to Sardis Church Rd
7-9 am | 4-6 pm

File Name : 20220480
Site Code : 20220480
Start Date : 11/1/2022
Page No : 2

	Sardis Bend Rd Northbound				Sardis Bend Rd Southbound				Eastbound				Connecting Rd to Sardis Church 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	2	1	3	6	**1**	**5**	**1**	**7**	1	0	3	4	**9**	0	**1**	10	27
07:30 AM	1	**4**	**5**	**10**	0	4	0	4	**2**	**2**	0	4	7	0	0	7	25
07:45 AM	0	1	2	3	1	5	0	6	2	2	**4**	**8**	8	**2**	1	**11**	**28**
08:00 AM	**3**	0	2	5	1	1	1	3	1	0	3	4	7	0	0	7	19
Total Volume	6	6	12	24	3	15	2	20	6	4	10	20	31	2	2	35	99
% App. Total	25	25	50		15	75	10		30	20	50		88.6	5.7	5.7		
PHF	.500	.375	.600	.600	.750	.750	.500	.714	.750	.500	.625	.625	.861	.250	.500	.795	.884



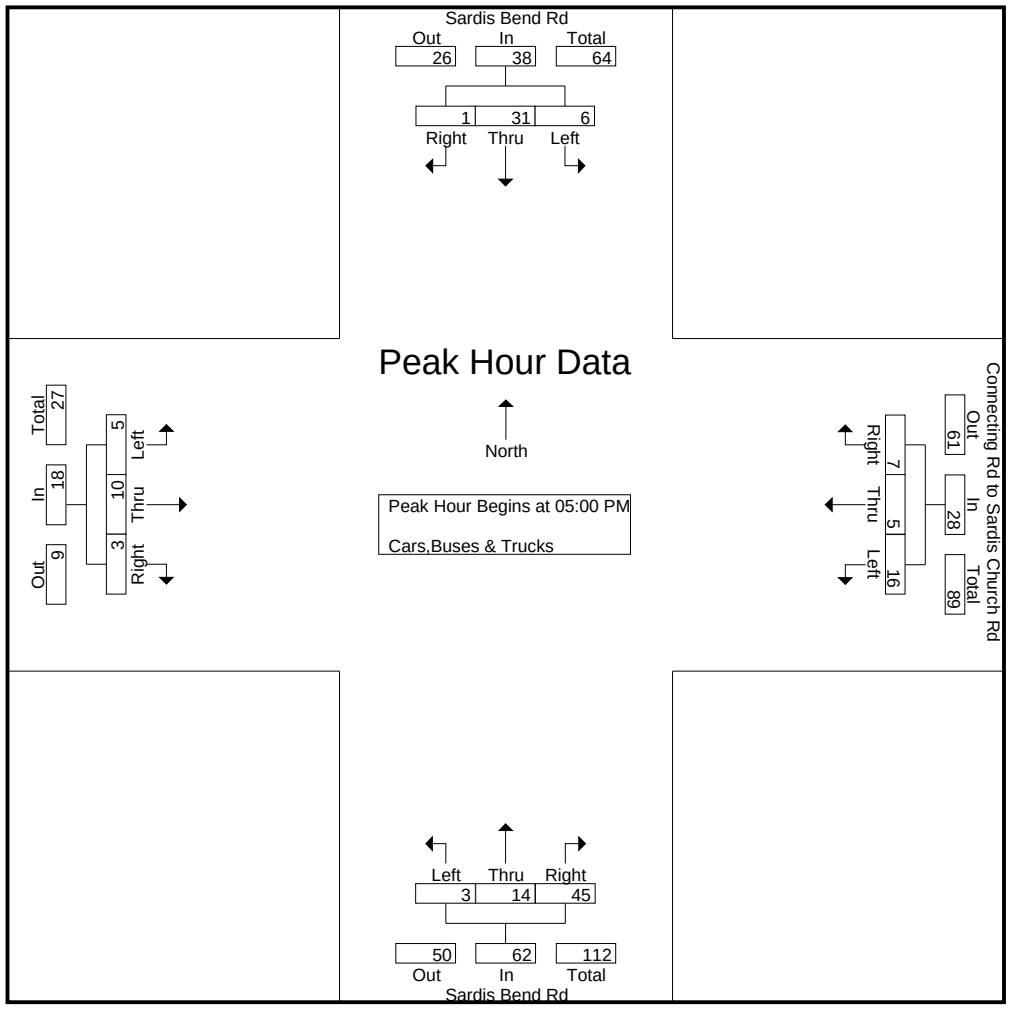
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Sardis Bend Rd @ Connecting Rd to Sardis Church Rd
7-9 am | 4-6 pm

File Name : 20220480
Site Code : 20220480
Start Date : 11/1/2022
Page No : 3

	Sardis Bend Rd Northbound				Sardis Bend Rd Southbound				Eastbound				Connecting Rd to Sardis Church 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	3	7	10	**2**	5	0	7	0	2	**1**	3	3	0	0	3	23
05:15 PM	**2**	3	12	17	2	**12**	**1**	**15**	**3**	**4**	0	**7**	5	2	0	7	**46**
05:30 PM	1	**4**	12	17	1	7	0	8	0	3	1	4	**7**	**3**	**4**	**14**	43
05:45 PM	0	4	**14**	**18**	1	7	0	8	2	1	1	4	1	0	3	4	34
Total Volume	3	14	45	62	6	31	1	38	5	10	3	18	16	5	7	28	146
% App. Total	4.8	22.6	72.6		15.8	81.6	2.6		27.8	55.6	16.7		57.1	17.9	25		
PHF	.375	.875	.804	.861	.750	.646	.250	.633	.417	.625	.750	.643	.571	.417	.438	.500	.793



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2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Bend Dr
7am - 7pm

File Name : 20220481
Site Code : 20220481
Start Date : 11/1/2022

Groups Printed- Cars,Buses & Trucks

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Eastbound				Sardis Bend Dr 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	202	2	204	10	206	0	216	0	0	0	0	11	0	0	11	431
07:15 AM	0	238	2	240	4	254	0	258	0	0	0	0	10	0	1	11	509
07:30 AM	0	205	1	206	1	298	0	299	0	0	0	0	12	0	1	13	518
07:45 AM	0	222	4	226	6	286	0	292	0	0	0	0	11	0	2	13	531
Total	0	867	9	876	21	1044	0	1065	0	0	0	0	44	0	4	48	1989
08:00 AM	0	213	5	218	1	293	0	294	0	0	0	0	18	0	0	18	530
08:15 AM	0	253	3	256	3	237	0	240	0	0	0	0	10	0	0	10	506
08:30 AM	0	241	0	241	3	274	0	277	0	0	0	0	11	0	2	13	531
08:45 AM	0	226	4	230	1	271	0	272	0	0	0	0	13	0	0	13	515
Total	0	933	12	945	8	1075	0	1083	0	0	0	0	52	0	2	54	2082
09:00 AM	0	234	7	241	0	226	0	226	0	0	0	0	4	0	1	5	472
09:15 AM	0	221	7	228	1	252	0	253	0	0	0	0	5	0	1	6	487
09:30 AM	0	249	5	254	4	232	0	236	0	0	0	0	5	0	2	7	497
09:45 AM	0	223	10	233	3	241	0	244	0	0	0	0	8	0	3	11	488
Total	0	927	29	956	8	951	0	959	0	0	0	0	22	0	7	29	1944
10:00 AM	0	228	11	239	4	226	0	230	0	0	0	0	5	0	1	6	475
10:15 AM	0	204	9	213	1	245	0	246	0	0	0	0	16	0	2	18	477
10:30 AM	0	205	7	212	4	267	0	271	0	0	0	0	8	0	4	12	495
10:45 AM	0	193	4	197	0	228	0	228	0	0	0	0	6	0	1	7	432
Total	0	830	31	861	9	966	0	975	0	0	0	0	35	0	8	43	1879
11:00 AM	0	255	9	264	2	216	0	218	0	0	0	0	5	0	1	6	488
11:15 AM	0	256	11	267	2	208	0	210	0	0	0	0	4	0	0	4	481
11:30 AM	0	234	12	246	2	269	0	271	0	0	0	0	5	0	1	6	523
11:45 AM	0	231	15	246	2	233	0	235	0	0	0	0	14	0	3	17	498
Total	0	976	47	1023	8	926	0	934	0	0	0	0	28	0	5	33	1990
12:00 PM	0	266	13	279	3	246	0	249	0	0	0	0	11	0	1	12	540
12:15 PM	0	223	14	237	7	231	0	238	0	0	0	0	6	0	5	11	486
12:30 PM	0	252	14	266	4	249	0	253	0	0	0	0	3	0	2	5	524
12:45 PM	0	251	11	262	4	237	0	241	0	0	0	0	11	0	1	12	515
Total	0	992	52	1044	18	963	0	981	0	0	0	0	31	0	9	40	2065
01:00 PM	0	281	10	291	4	258	0	262	0	0	0	0	7	0	4	11	564
01:15 PM	0	263	11	274	2	246	0	248	0	0	0	0	9	0	3	12	534
01:30 PM	0	242	15	257	3	278	0	281	0	0	0	0	11	0	7	18	556
01:45 PM	0	261	14	275	4	251	0	255	0	0	0	0	9	0	2	11	541
Total	0	1047	50	1097	13	1033	0	1046	0	0	0	0	36	0	16	52	2195
02:00 PM	0	283	13	296	3	257	0	260	0	0	0	0	10	0	4	14	570
02:15 PM	0	262	9	271	2	287	0	289	0	0	0	0	7	0	2	9	569
02:30 PM	0	301	13	314	2	328	0	330	0	0	0	0	9	0	2	11	655
02:45 PM	0	302	11	313	2	294	0	296	0	0	0	0	3	0	4	7	616
Total	0	1148	46	1194	9	1166	0	1175	0	0	0	0	29	0	12	41	2410
03:00 PM	0	294	9	303	1	273	0	274	0	0	0	0	6	0	1	7	584
03:15 PM	0	319	8	327	3	312	0	315	0	0	0	0	13	0	2	15	657
03:30 PM	0	294	19	313	3	326	0	329	0	0	0	0	8	0	4	12	654
03:45 PM	0	288	17	305	3	336	0	339	0	0	0	0	11	0	5	16	660
Total	0	1195	53	1248	10	1247	0	1257	0	0	0	0	38	0	12	50	2555
04:00 PM	0	331	19	350	3	325	0	328	0	0	0	0	8	0	1	9	687

A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Bend Dr
7am - 7pm

File Name : 20220481
Site Code : 20220481
Start Date : 11/1/2022

Groups Printed- Cars,Buses & Trucks

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Eastbound				Sardis Bend Dr 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
04:15 PM	0	323	8	331	2	359	0	361	0	0	0	0	5	0	3	8	700
04:30 PM	0	330	6	336	2	372	0	374	0	0	0	0	7	0	2	9	719
04:45 PM	0	367	16	383	4	381	0	385	0	0	0	0	8	0	6	14	782
Total	0	1351	49	1400	11	1437	0	1448	0	0	0	0	28	0	12	40	2888
05:00 PM	0	334	8	342	3	356	0	359	0	0	0	0	7	0	3	10	711
05:15 PM	0	388	9	397	2	408	0	410	0	0	0	0	8	0	6	14	821
05:30 PM	0	354	19	373	5	389	0	394	0	0	0	0	7	0	7	14	781
05:45 PM	0	386	12	398	3	353	0	356	0	0	0	0	6	0	1	7	761
Total	0	1462	48	1510	13	1506	0	1519	0	0	0	0	28	0	17	45	3074
06:00 PM	0	369	9	378	3	341	0	344	0	0	0	0	9	0	7	16	738
06:15 PM	0	359	17	376	4	305	0	309	0	0	0	0	8	0	6	14	699
06:30 PM	0	334	15	349	3	387	0	390	0	0	0	0	6	0	5	11	750
06:45 PM	0	314	11	325	3	276	0	279	0	0	0	0	13	0	4	17	621
Total	0	1376	52	1428	13	1309	0	1322	0	0	0	0	36	0	22	58	2808
Grand Total	0	13104	478	13582	141	13623	0	13764	0	0	0	0	407	0	126	533	27879
Apprch %	0	96.5	3.5		1	99	0		0	0	0		76.4	0	23.6		
Total %	0	47	1.7	48.7	0.5	48.9	0	49.4	0	0	0	0	1.5	0	0.5	1.9	

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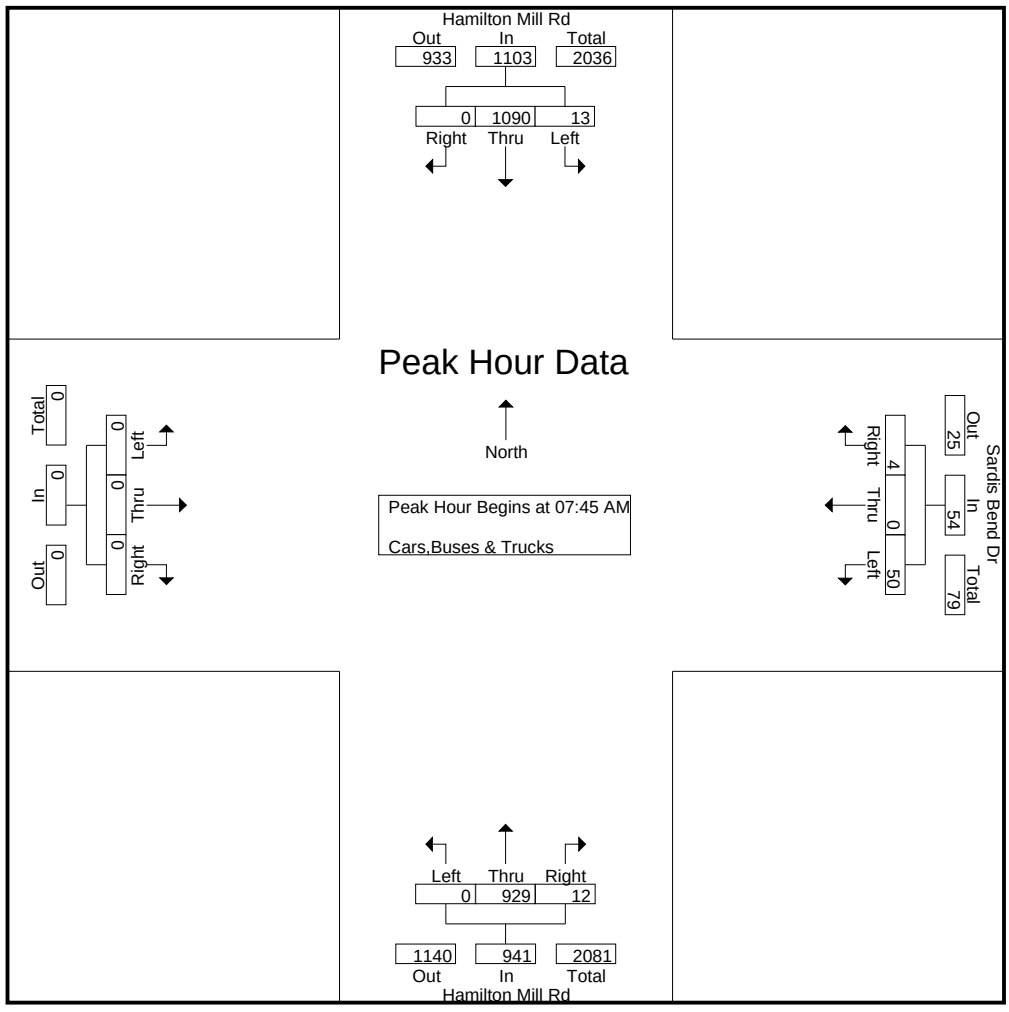
2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Bend Dr
7am - 7pm

File Name : 20220481
Site Code : 20220481
Start Date : 11/1/2022

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Eastbound				Sardis Bend Dr Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	222	4	226	**6**	286	0	292	0	0	0	0	11	0	**2**	13	**531**
08:00 AM	0	213	**5**	218	1	**293**	0	**294**	0	0	0	0	**18**	0	0	**18**	530
08:15 AM	0	**253**	3	**256**	3	237	0	240	0	0	0	0	10	0	0	10	506
08:30 AM	0	241	0	241	3	274	0	277	0	0	0	0	11	0	2	13	531
Total Volume	0	929	12	941	13	1090	0	1103	0	0	0	0	50	0	4	54	2098
% App. Total	0	98.7	1.3		1.2	98.8	0		0	0	0		92.6	0	7.4		
PHF	.000	.918	.600	.919	.542	.930	.000	.938	.000	.000	.000	.000	.694	.000	.500	.750	.988



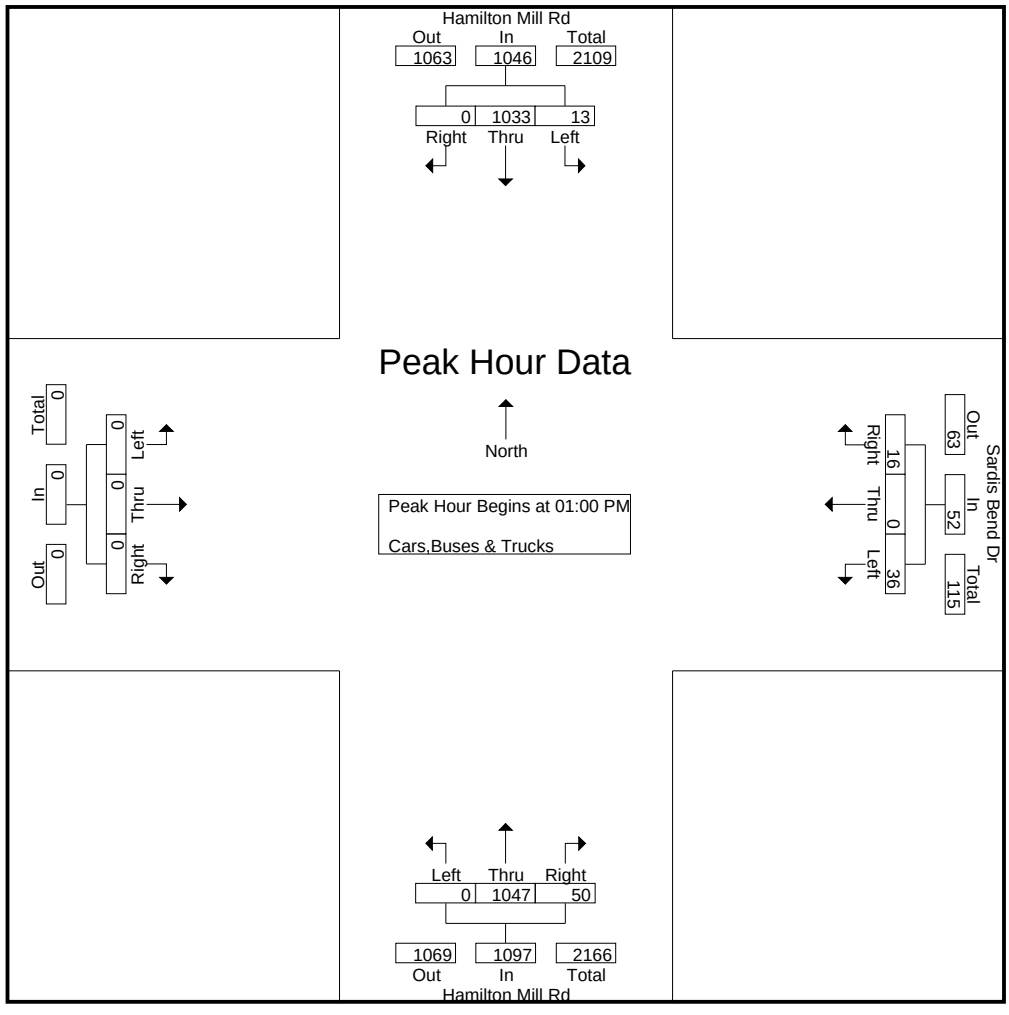
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Bend Dr
7am - 7pm

File Name : 20220481
Site Code : 20220481
Start Date : 11/1/2022
Page No : 4

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Eastbound				Sardis Bend Dr Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	0	**281**	10	**291**	**4**	258	0	262	0	0	0	0	7	0	4	11	**564**
01:15 PM	0	263	11	274	2	246	0	248	0	0	0	0	9	0	3	12	534
01:30 PM	0	242	**15**	257	3	**278**	0	**281**	0	0	0	0	**11**	0	**7**	**18**	556
01:45 PM	0	261	14	275	4	251	0	255	0	0	0	0	9	0	2	11	541
Total Volume	0	1047	50	1097	13	1033	0	1046	0	0	0	0	36	0	16	52	2195
% App. Total	0	95.4	4.6		1.2	98.8	0		0	0	0		69.2	0	30.8		
PHF	.000	.931	.833	.942	.813	.929	.000	.931	.000	.000	.000	.000	.818	.000	.571	.722	.973



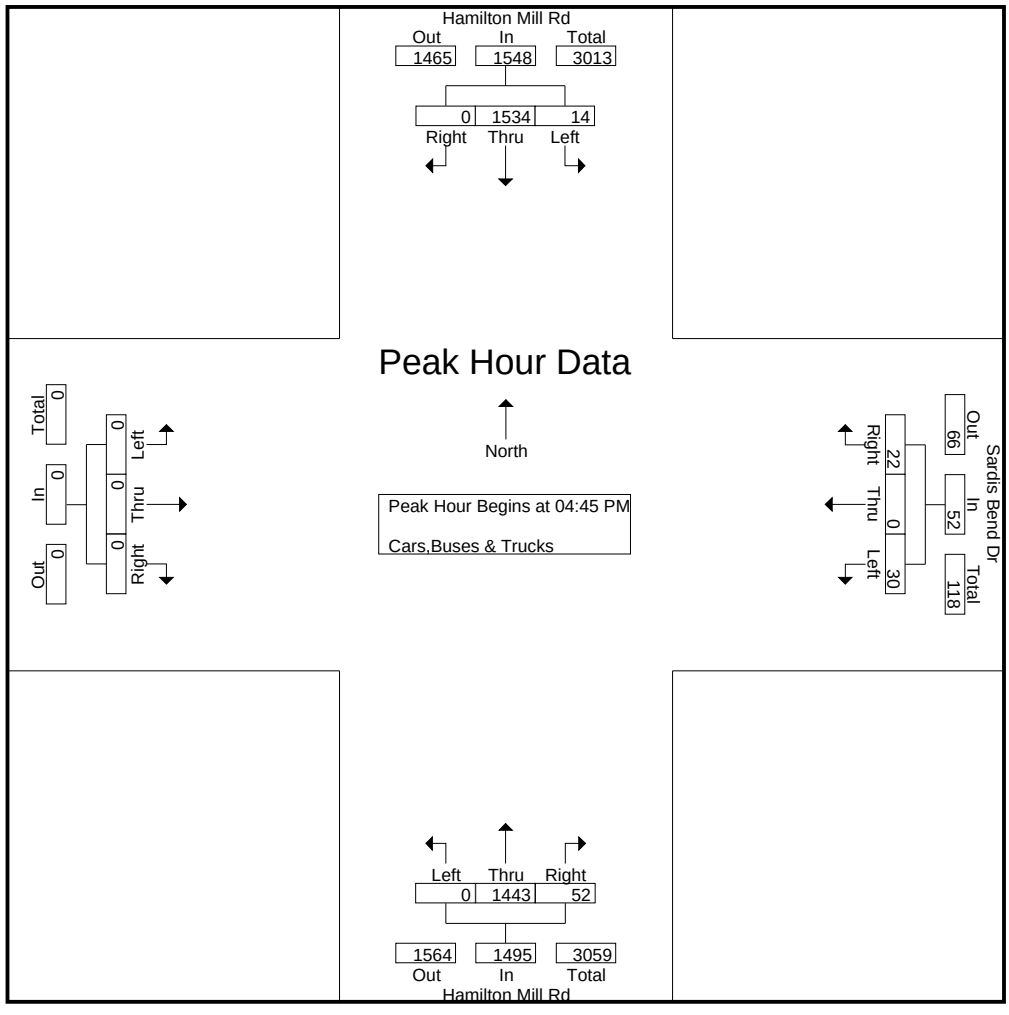
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA
Hamilton Mill Rd @ Sardis Bend Dr
7am - 7pm

File Name : 20220481
Site Code : 20220481
Start Date : 11/1/2022

	Hamilton Mill Rd Northbound				Hamilton Mill Rd Southbound				Eastbound				Sardis Bend Dr 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	0	367	16	383	4	381	0	385	0	0	0	0	**8**	0	6	**14**	782
05:00 PM	0	334	8	342	3	356	0	359	0	0	0	0	7	0	3	10	711
05:15 PM	0	**388**	9	**397**	2	**408**	0	**410**	0	0	0	0	8	0	6	14	**821**
05:30 PM	0	354	**19**	373	**5**	389	0	394	0	0	0	0	7	0	**7**	14	781
Total Volume	0	1443	52	1495	14	1534	0	1548	0	0	0	0	30	0	22	52	3095
% App. Total	0	96.5	3.5		0.9	99.1	0		0	0	0		57.7	0	42.3		
PHF	.000	.930	.684	.941	.700	.940	.000	.944	.000	.000	.000	.000	.938	.000	.786	.929	.942



GRTA Letter of Understanding

LETTER OF UNDERSTANDING

November 14, 2022

Jonathon Barge
3328 Peachtree Road NE
Suite 100
Atlanta, GA 30326

RE: **Hamilton Mill Road Mixed-Use** (**DRI#: 3812)**

Dear Jonathon Barge:

The purpose of this Letter of Understanding is to document the discussions during the Methodology Meeting held virtually on October 17th, 2022 regarding **Hamilton Mill Road Mixed-Use** 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 3527 Sardis Church Road, to the northeast of I-85 and Hamilton Mill Road..
- The proposed development includes 700 multifamily housing units and 17,000 square feet of retail space .
- The projected build-out is two phases to be completed by 2026.
- The proposed development includes (2) full site accesses along Hamilton Mill Road and Sardis Church Road/Sardis Bend Drive and (1) right-in/right-out along Hamilton Mill Road.
- The DRI trigger for this development is a rezoning.
- The vehicular trip generation is estimated to be 4,297 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. Hamilton Mill Road @ I-85 Southbound Ramps
2. Hamilton Mill Road @ Right-in/right-out driveway between Sardis Bend Drive and I-85 Southbound Ramps
3. Hamilton Mill Road @ Sardis Bend Drive
4. Hamilton Mill Road @ Sardis Church Road
5. Sardis Church Road @ Sardis Bend Drive
6. Sardis Church Road @ connecting road between Sardis Church Road and Sardis Bend Drive
7. Connecting road between Sardis Church Road and Sardis Bend Drive @ Driveway 3

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 two phases to be completed by 2026.

- 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. 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 1.4% 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,

Beth Davis
Senior Transit Planner

Cc:

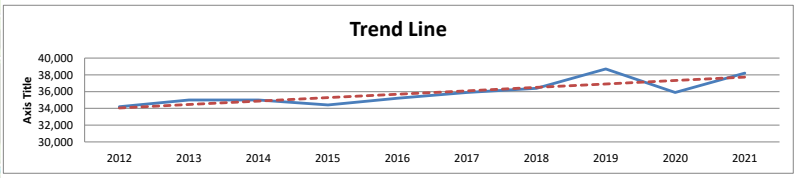
Donald Shockey, ARC
Reginald James, ARC
December Weir, ATL
Kim Wolfe, City of Buford
Hunter Hill, GEFA
Sushmita Arjyal, Gwinnett County
Lorraine Campagne, Gwinnett County
Maria Serban, Gwinnett County
Michelle Arnold, Gwinnett County
Jerry Oberholtzer, Gwinnett County
Lewis Cooksey, Gwinnett County
Brent Hodges, Gwinnett County
Michael D. (DOT) Johnson,
Gwinnett County
Catherine Long, Gwinnett County
Cyndi Sloan, Gwinnett County
Daniel Robinson, Gwinnett County
David Barber, Gwinnett County Schools

Naila Amer, A&R Engineering
Abdul Amer, A&R Engineering
Jonathon Barge, Brand Properties

Linear Regression of Daily Traffic

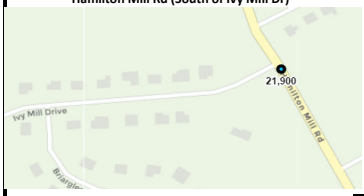
Location	Growth Rate	R Squared	Station ID	Route	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Hamilton Mill Rd (South of I-85)	1.1%	0.67	135-0487	00013400	34,200	35,000	35,000	34,400	35,200	35,900	36,400	38,700	35,900	38,200
Hamilton Mill Rd (South of Ivy M	3.2%	0.70	135-0485	00013400	16,400	18,700	18,700	19,500	20,000	22,800	23,100	23,600	21,900	21,500
SR 124 Braselton Hwy (Northea	1.6%	0.61	135-0207	00012400	16,000	16,200	16,200	17,600	18,200	18,100	18,100	18,400	17,000	19,100
SR 124 Braselton Hwy (East of S	1.9%	0.62	135-0209	00012400	16,100	16,200	17,100	18,400	17,900	18,900	17,300	17,500	18,800	20,300
Hamilton Mill Rd (Southeast of I	2.1%	0.74	135-0483	00013400	12,500	12,800	12,800	13,300	13,600	14,800	15,000	15,300	14,200	14,700
Weighted Average	**1.9%**	0.86	Sum of Count Stations =		95,200	98,900	99,800	103,200	104,900	110,500	109,900	113,500	107,800	113,800

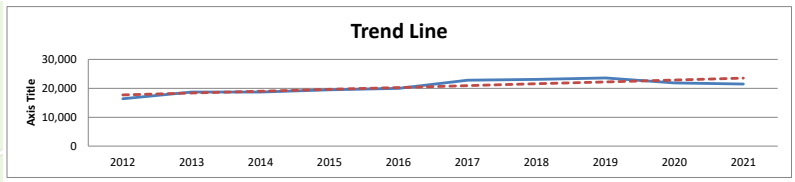
Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Hamilton Mill Rd (South of I-85)	135-0487	00013400	34,200	35,000	35,000	34,400	35,200	35,900	36,400	38,700	35,900	38,200



Growth Rate	1.1%	Intercept	-789,042								Slope	409.09
Trend Line			34,049	34,458	34,867	35,276	35,685	36,095	36,504	36,913	37,322	37,731

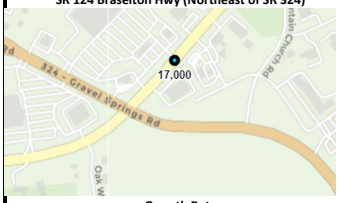
Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Hamilton Mill Rd (South of Ivy Mill Dr)	135-0485	00013400	16,400	18,700	18,700	19,500	20,000	22,800	23,100	23,600	21,900	21,500

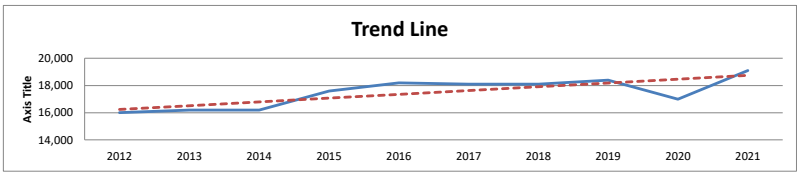




Growth Rate	3.2%	Intercept	-1,279,717								Slope	644.85
Trend Line			17,718	18,363	19,008	19,653	20,298	20,942	21,587	22,232	22,877	23,522

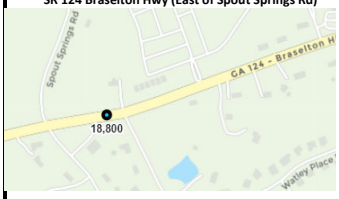
Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
SR 124 Braselton Hwy (Northeast of SR 324)	135-0207	00012400	16,000	16,200	16,200	17,600	18,200	18,100	18,100	18,400	17,000	19,100

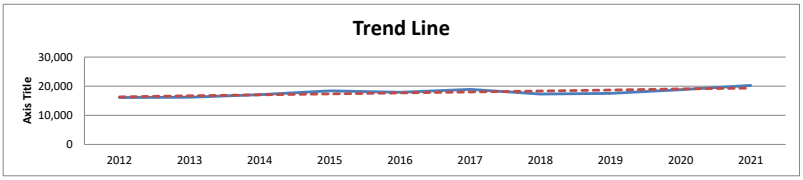




Growth Rate	1.6%	Intercept	-543,464								Slope	278.18
Trend Line			16,238	16,516	16,795	17,073	17,351	17,629	17,907	18,185	18,464	18,742

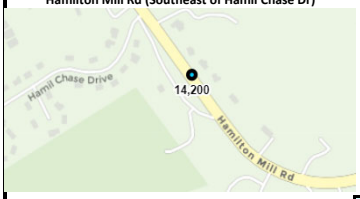
Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
SR 124 Braselton Hwy (East of Spout Springs Rd)	135-0209	00012400	16,100	16,200	17,100	18,400	17,900	18,900	17,300	17,500	18,800	20,300

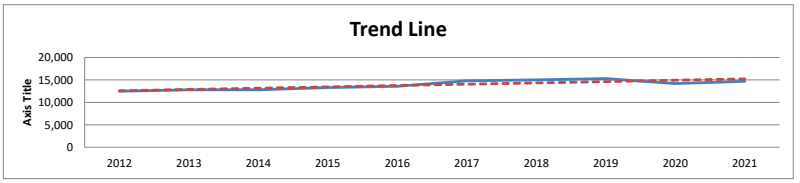




Growth Rate	1.9%	Intercept	-662,872								Slope	337.58
Trend Line			16,331	16,668	17,006	17,344	17,681	18,019	18,356	18,694	19,032	19,369

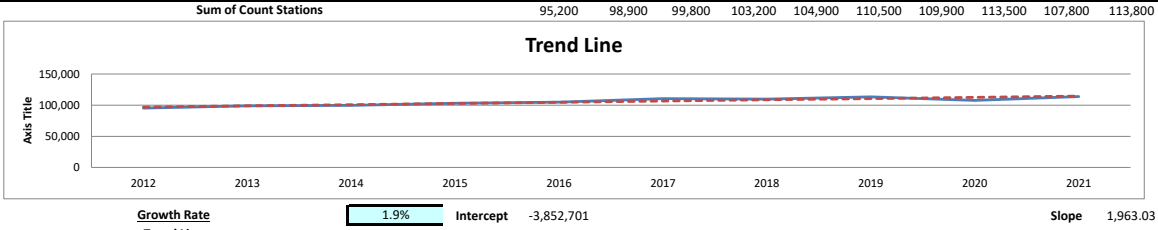
Location	Traffic Counter	RCLINK	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Hamilton Mill Rd (Southeast of Hamil Chase Dr)	135-0483	00013400	12,500	12,800	12,800	13,300	13,600	14,800	15,000	15,300	14,200	14,700





Growth Rate	2.1%	Intercept	-577,607								Slope	293.33
Trend Line			12,580	12,873	13,167	13,460	13,753	14,047	14,340	14,633	14,927	15,220

Weighted Average	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Sum of Count Stations	95,200	98,900	99,800	103,200	104,900	110,500	109,900	113,500	107,800	113,800



Growth Rate	1.9%	Intercept	-3,852,701								Slope	1,963.03
Trend Line			96,916	98,879	100,842	102,805	104,768	106,732	108,695	110,658	112,621	114,584

Fact Sheets for Planned and Programmed Improvements

GW-361B

Atlanta Region's Plan RTP (2020) PROJECT FACT SHEET

Short Title	SR 124 (BRASELTON HIGHWAY) WIDENING FROM OLD PEACHTREE ROAD TO HAMILTON MILL PARKWAY
GDOT Project No.	0014926
Federal ID No.	N/A
Status	Long Range
Service Type	Roadway / General Purpose Capacity
Sponsor	GDOT
Jurisdiction	Gwinnett County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	2	**LCI**		**Network Year**	2040
Planned Thru Lane	4	**Flex**		**Corridor Length**	3.6 miles

Detailed Description and Justification

This project will widen SR 124 to 4 lanes from Old Peachtree Road to Hamilton Mill Parkway.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Transportation Funding Act (HB 170)		LR 2026-2030	**$2,735,000**	$0,000	$2,735,000	$0,000	$0,000
ALL	Transportation Funding Act (HB 170)		LR 2031-2040	**$54,429,000**	$0,000	$54,429,000	$0,000	$0,000
				$57,164,000	**$0,000**	**$57,164,000**	**$0,000**	**$0,000**

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

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

Report Generated: 8/26/2022

GW-415

Atlanta Region's Plan RTP (2020) PROJECT FACT SHEET

Short Title	GWINNETT COUNTY ITS ENHANCEMENTS - PHASE 2
GDOT Project No.	0016070
Federal ID No.	N/A
Status	Completed
Service Type	Roadway / Operations & Safety
Sponsor	Gwinnett County
Jurisdiction	Gwinnett County
Analysis Level	Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane	N/A	**LCI**		**Network Year**	TBD
Planned Thru Lane	N/A	**Flex**		**Corridor Length**	N/A miles

Detailed Description and Justification

This project supports regional mobility objectives by expanding the fiber optic network, provide additional video surveillance of major intersections, monitor and adjust traffic signal timing schemes and broadcast important messages to drivers along these corridors.

This project a countywide upgrade of ITS and related infrastructure. There are three major components to the project:

Video surveillance system upgrades - This component will upgrade approximately 180 CCTV cameras (at the time this ITS Master Plan update is published) throughout Gwinnett County with Ethernet capable, high definition, IP-based, CCTV cameras. Any upgrades or expansion to the TCC required to support the expansion will be provided.

Network upgrades and operational enhancements - This component will provide Cisco IE-4000 hardened Layer 2 switches or equivalent with appropriate power supplies as directed by the County in existing traffic cabinets and CCTV camera cabinets throughout the County. Existing switches will be removed and disposed of as directed by the County. Project would also replace some selected Layer 3 switches that are in need of upgrade/replacement.

ITS communications upgrades - This project will provide consistent (standardized) fiber count / size throughout the County (minimum 72-strand single-mode). Project will include an evaluation of the overall fiber infrastructure using the ITS Communications and Asset Management Software tool and database to determine "pinch" or "choke" points in the fiber count along the corridors and recommend for providing additional

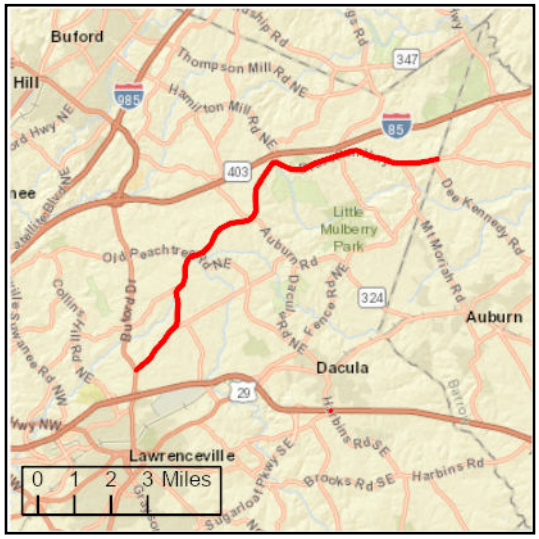
Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
CST	Surface Transportation Block Grant (STBG) Program - Urban (>200K) (ARC)	AUTH	2021	**$2,818,537**	~~$2,000,000~~	~~$0,000~~	~~$0,000~~	~~$818,537~~
				$2,818,537	**$2,000,000**	**$0,000**	**$0,000**	**$818,537**

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

GW-426

Atlanta Region's Plan RTP (2020) PROJECT FACT SHEET

Short Title	ITS EXPANSION SR 124 (BRASELTON HIGHWAY) - PHASE 1 FROM SR 20 TO BARROW COUNTY LINE
GDOT Project No.	0017998
Federal ID No.	N/A
Status	Programmed
Service Type	Roadway Operational Upgrades
Sponsor	Gwinnett County
Jurisdiction	Gwinnett County
Analysis Level	Exempt from Air Quality Analysis (40 CFR 93)



Existing Thru Lane	N/A	**LCI**		**Network Year**	TBD
Planned Thru Lane	N/A	**Flex**		**Corridor Length**	N/A miles

Detailed Description and Justification

This project will provide communications on SR 124/Braselton Highway from SR 20 to Barrow County. As part of the Countywide ITS expansion this segment will provide a fiber communications system providing greater network reliability and availability, improved signal coordination, reduces vehicle delay and facilitate traffic flow, improve overall safety along the corridor and facilitate incident management along this corridor.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
CST	Congestion Mitigation & Air Quality Improvement (CMAQ)		2022	**$2,900,000**	$2,320,000	$0,000	$0,000	$580,000
				$2,900,000	**$2,320,000**	**$0,000**	**$0,000**	**$580,000**

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

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

Report Generated: 6/14/2022

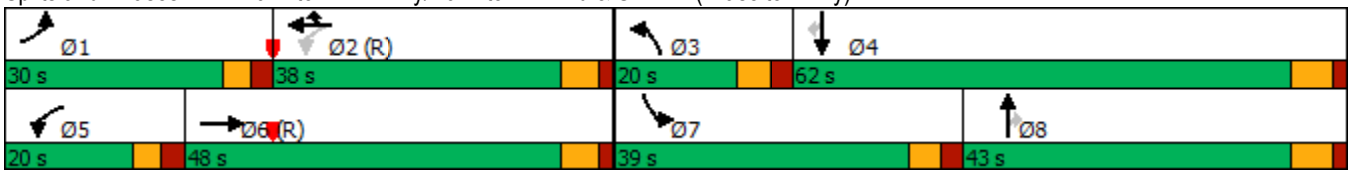
Existing Intersection Analysis

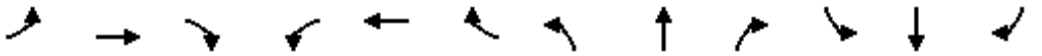
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	263	325	58	301	629	55	308	109	520	129	211
Future Volume (vph)	263	325	58	301	629	55	308	109	520	129	211
Lane Group Flow (vph)	283	384	62	324	676	59	331	117	559	139	227
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	30.0	48.0	20.0	38.0	38.0	20.0	43.0	43.0	39.0	62.0	62.0
Total Split (%)	20.0%	32.0%	13.3%	25.3%	25.3%	13.3%	28.7%	28.7%	26.0%	41.3%	41.3%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.74	0.27	0.15	0.53	0.74	0.54	0.87	0.24	0.87	0.22	0.32
Control Delay	76.3	32.7	25.6	47.9	51.9	84.8	79.6	1.2	58.0	34.2	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.3	32.7	25.6	47.9	52.4	84.8	79.6	1.2	58.0	34.2	8.8
Queue Length 50th (ft)	140	134	33	262	338	57	314	0	278	113	51
Queue Length 95th (ft)	186	200	69	413	#543	105	420	0	322	188	145
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	556	1418	492	613	917	162	445	533	750	679	731
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	48	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.27	0.13	0.53	0.78	0.36	0.74	0.22	0.75	0.20	0.31

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 5 (3%), Referenced to phase 2:WBTL and 6:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	325	33	58	301	629	55	308	109	520	129	211
Future Volume (veh/h)	263	325	33	58	301	629	55	308	109	520	129	211
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	283	349	0	62	324	0	59	331	0	559	139	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	333	1542		488	692		75	362		605	606	
Arrive On Green	0.10	0.43	0.00	0.03	0.37	0.00	0.04	0.20	0.00	0.29	0.55	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	283	349	0	62	324	0	59	331	0	559	139	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	12.1	9.2	0.0	3.2	19.8	0.0	4.9	26.4	0.0	23.5	5.8	0.0
Cycle Q Clear(g_c), s	12.1	9.2	0.0	3.2	19.8	0.0	4.9	26.4	0.0	23.5	5.8	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	1542		488	692		75	362		605	606	
V/C Ratio(X)	0.85	0.23		0.13	0.47		0.78	0.91		0.92	0.23	
Avail Cap(c_a), veh/h	560	1542		600	692		164	449		756	682	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	66.7	26.7	0.0	27.7	36.0	0.0	71.1	59.0	0.0	52.1	24.0	0.0
Incr Delay (d2), s/veh	2.7	0.3	0.0	0.0	2.3	0.0	6.5	20.5	0.0	12.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	3.9	0.0	1.4	9.3	0.0	2.4	14.1	0.0	10.1	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.4	27.0	0.0	27.8	38.3	0.0	77.6	79.5	0.0	65.0	24.0	0.0
LnGrp LOS	E	C		C	D		E	E		E	C	
Approach Vol, veh/h		632			386			390			698	
Approach Delay, s/veh		46.0			36.6			79.2			56.8	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.2	61.5	12.5	55.8	10.6	71.1	32.5	35.9
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	24.3	* 32	* 14	* 56	14.3	* 42	* 33	* 37
Max Q Clear Time (g_c+I1), s	14.1	21.8	6.9	7.8	5.2	11.2	25.5	28.4
Green Ext Time (p_c), s	0.4	2.6	0.0	0.4	0.0	5.3	0.7	1.1

Intersection Summary	
HCM 6th Ctrl Delay	54.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

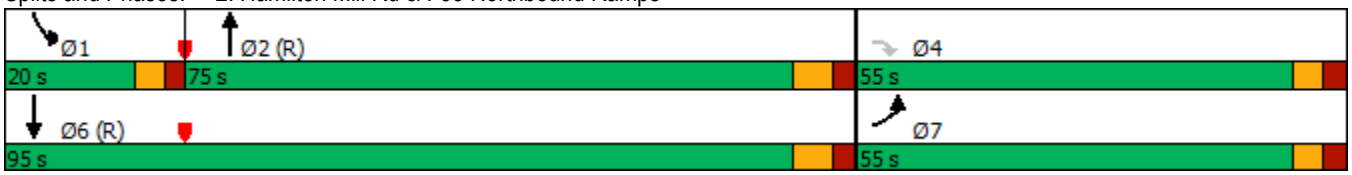
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

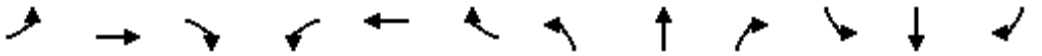
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	253	368	1120	161	688
Future Volume (vph)	253	368	1120	161	688
Lane Group Flow (vph)	269	391	1291	171	732
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	32.2	35.5	45.0	15.6	36.0
Total Split (s)	55.0	55.0	75.0	20.0	95.0
Total Split (%)	36.7%	36.7%	50.0%	13.3%	63.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.79	0.47	0.62	0.62	0.29
Control Delay	73.8	7.0	33.1	99.8	9.2
Queue Delay	0.0	0.0	2.0	0.0	0.0
Total Delay	73.8	7.0	35.1	99.8	9.2
Queue Length 50th (ft)	254	6	234	90	90
Queue Length 95th (ft)	335	52	660	131	119
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)		370		165	
Base Capacity (vph)	575	1160	2067	334	2497
Starvation Cap Reductn	0	0	587	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.34	0.87	0.51	0.29

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 46 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	0	368	0	0	0	0	1120	94	161	688	0
Future Volume (veh/h)	253	0	368	0	0	0	0	1120	94	161	688	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	269	0	0				0	1191	0	171	732	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	300	0					0	2238		230	2601	0
Arrive On Green	0.17	0.00	0.00				0.00	1.00	0.00	0.02	0.25	0.00
Sat Flow, veh/h	1781	0	2790				0	3681	0	3456	3589	0
Grp Volume(v), veh/h	269	0	0				0	1191	0	171	732	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	0	1728	1749	0
Q Serve(g_s), s	22.2	0.0	0.0				0.0	0.0	0.0	7.4	25.4	0.0
Cycle Q Clear(g_c), s	22.2	0.0	0.0				0.0	0.0	0.0	7.4	25.4	0.0
Prop In Lane	1.00		1.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	300	0					0	2238		230	2601	0
V/C Ratio(X)	0.90	0.00					0.00	0.53		0.74	0.28	0.00
Avail Cap(c_a), veh/h	580	0					0	2238		332	2601	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.55	0.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	61.1	0.0	0.0				0.0	0.0	0.0	72.1	24.1	0.0
Incr Delay (d2), s/veh	11.1	0.0	0.0				0.0	0.5	0.0	2.2	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
%ile BackOfQ(50%),veh/ln	11.0	0.0	0.0				0.0	0.2	0.0	3.4	12.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	0.0	0.0				0.0	0.5	0.0	74.3	24.3	0.0
LnGrp LOS	E	A					A	A		E	C	A
Approach Vol, veh/h		269						1191			903	
Approach Delay, s/veh		72.2						0.5			33.8	
Approach LOS		E						A			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.6	103.0		31.4		118.6
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	68.0		* 49		88.0
Max Q Clear Time (g_c+I1), s	9.4	2.0		24.2		27.4
Green Ext Time (p_c), s	0.1	24.6		1.0		11.5

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

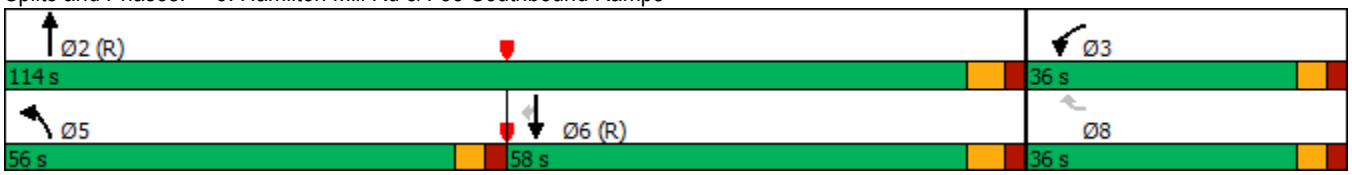
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

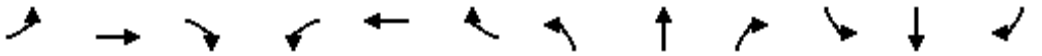
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	212	269	614	708	518	756
Future Volume (vph)	212	269	614	708	518	756
Lane Group Flow (vph)	221	280	640	738	540	788
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	36.0	36.0	56.0	114.0	58.0	58.0
Total Split (%)	24.0%	24.0%	37.3%	76.0%	38.7%	38.7%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.67	0.69	0.84	0.26	0.28	0.72
Control Delay	75.1	15.8	62.0	3.4	19.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	15.8	62.0	3.4	19.4	19.7
Queue Length 50th (ft)	109	0	302	61	103	130
Queue Length 95th (ft)	151	92	374	115	256	685
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	693	543	1151	2849	1946	1091
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.52	0.56	0.26	0.28	0.72

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 42 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	212	0	269	614	708	0	0	518	756
Future Volume (veh/h)	0	0	0	212	0	269	614	708	0	0	518	756
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				221	0	0	640	738	0	0	540	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				275	0		693	2932	0	0	2097	
Arrive On Green				0.08	0.00	0.00	0.40	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				221	0	0	640	738	0	0	540	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				9.4	0.0	0.0	26.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				9.4	0.0	0.0	26.4	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				275	0		693	2932	0	0	2097	
V/C Ratio(X)				0.80	0.00		0.92	0.25	0.00	0.00	0.26	
Avail Cap(c_a), veh/h				698	0		1159	2932	0	0	2097	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	0.00	0.00	0.71	0.71	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				67.9	0.0	0.0	43.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				4.1	0.0	0.0	4.8	0.1	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				4.3	0.0	0.0	9.5	0.1	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				72.0	0.0	0.0	48.6	0.1	0.0	0.0	0.3	0.0
LnGrp LOS				E	A		D	A	A	A	A	
Approach Vol, veh/h					221			1378			540	
Approach Delay, s/veh					72.0			22.7			0.3	
Approach LOS					E			C			A	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	132.4		35.8	96.6		17.6						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1.1E2		* 50	* 51		30.3						
Max Q Clear Time (g_c+I1), s	2.0		28.4	2.0		11.4						
Green Ext Time (p_c), s	8.3		1.7	5.4		0.5						

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	89	0	951	1152	5
Future Vol, veh/h	0	89	0	951	1152	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	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	4	4	2
Mvmt Flow	0	94	0	1001	1213	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	607	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	439	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	439	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	439	-
HCM Lane V/C Ratio	-	0.213	-
HCM Control Delay (s)	-	15.4	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	0.8	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	4	929	12	13	1090
Future Vol, veh/h	50	4	929	12	13	1090
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	51	4	938	12	13	1101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1515	469	0	-	938	0
Stage 1	938	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	110	541	-	0	726	-
Stage 1	341	-	-	0	-	-
Stage 2	525	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	108	541	-	-	726	-
Mov Cap-2 Maneuver	234	-	-	-	-	-
Stage 1	341	-	-	-	-	-
Stage 2	516	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.6	0	0.1
HCM LOS	C		

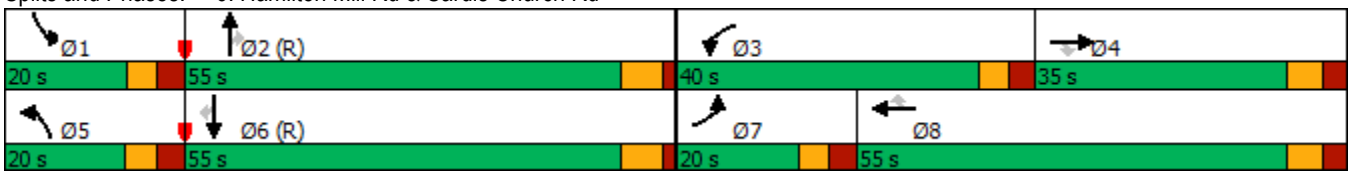
Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	234	541	726	-
HCM Lane V/C Ratio	-	0.216	0.007	0.018	-
HCM Control Delay (s)	-	24.6	11.7	10.1	-
HCM Lane LOS	-	C	B	B	-
HCM 95th %tile Q(veh)	-	0.8	0	0.1	-

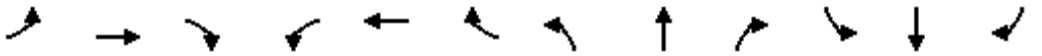
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	34	96	433	80	237	114	579	153	90	519	49
Future Volume (vph)	63	34	96	433	80	237	114	579	153	90	519	49
Lane Group Flow (vph)	66	35	100	451	83	247	119	603	159	94	541	51
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	15.0	36.5	36.5	15.0	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	20.0	35.0	35.0	40.0	55.0	55.0	20.0	55.0	55.0	20.0	55.0	55.0
Total Split (%)	13.3%	23.3%	23.3%	26.7%	36.7%	36.7%	13.3%	36.7%	36.7%	13.3%	36.7%	36.7%
Yellow Time (s)	3.4	3.9	3.9	3.5	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	2.9	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.4	6.9	6.9	6.4	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
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	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.40	0.36	0.42	0.82	0.25	0.51	0.54	0.31	0.17	0.48	0.28	0.05
Control Delay	75.7	77.9	5.3	73.2	54.8	9.5	93.6	19.8	4.3	76.6	19.8	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	0.0
Total Delay	75.7	77.9	5.3	73.2	54.8	9.5	93.6	19.8	4.3	76.6	19.8	0.1
Queue Length 50th (ft)	32	34	0	222	72	0	62	150	6	46	144	0
Queue Length 95th (ft)	58	72	0	273	119	77	98	222	42	77	216	0
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	311	349	430	768	597	675	304	1933	957	311	1900	943
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	0.21	0.10	0.23	0.59	0.14	0.37	0.39	0.31	0.17	0.30	0.28	0.05

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 96 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	34	96	433	80	237	114	579	153	90	519	49
Future Volume (veh/h)	63	34	96	433	80	237	114	579	153	90	519	49
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	66	35	0	451	83	0	119	603	0	94	541	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	105	75		506	292		165	2103		138	2068	
Arrive On Green	0.03	0.04	0.00	0.15	0.16	0.00	0.02	0.20	0.00	0.04	0.59	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	66	35	0	451	83	0	119	603	0	94	541	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	2.8	2.7	0.0	19.2	5.9	0.0	5.1	22.0	0.0	4.0	11.2	0.0
Cycle Q Clear(g_c), s	2.8	2.7	0.0	19.2	5.9	0.0	5.1	22.0	0.0	4.0	11.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	75		506	292		165	2103		138	2068	
V/C Ratio(X)	0.63	0.47		0.89	0.28		0.72	0.29		0.68	0.26	
Avail Cap(c_a), veh/h	313	350		774	600		306	2103		313	2068	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	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	71.9	70.4	0.0	62.9	55.9	0.0	72.8	32.8	0.0	71.1	14.8	0.0
Incr Delay (d2), s/veh	2.3	3.3	0.0	6.1	0.4	0.0	2.2	0.3	0.0	2.2	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	1.3	1.4	0.0	8.8	2.8	0.0	2.4	10.4	0.0	1.8	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.2	73.8	0.0	68.9	56.3	0.0	75.0	33.1	0.0	73.3	15.1	0.0
LnGrp LOS	E	E		E	E		E	C		E	B	
Approach Vol, veh/h		101			534			722			635	
Approach Delay, s/veh		74.0			67.0			40.0			23.7	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	96.4	28.4	12.9	13.9	94.9	11.0	30.3
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	13.6	* 49	33.6	28.1	* 13	* 49	13.6	48.1
Max Q Clear Time (g_c+I1), s	6.0	24.0	21.2	4.7	7.1	13.2	4.8	7.9
Green Ext Time (p_c), s	0.1	8.9	0.7	0.1	0.1	9.2	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	244	24	20	685	12	17	0	10	15	1	48
Future Vol, veh/h	9	244	24	20	685	12	17	0	10	15	1	48
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	90	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	277	27	23	778	14	19	0	11	17	1	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	792	0	0	304	0	0	747	1149	152	990	1155	396
Stage 1	-	-	-	-	-	-	311	311	-	831	831	-
Stage 2	-	-	-	-	-	-	436	838	-	159	324	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	824	-	-	1254	-	-	301	197	867	201	196	603
Stage 1	-	-	-	-	-	-	674	657	-	330	383	-
Stage 2	-	-	-	-	-	-	569	380	-	827	648	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	824	-	-	1254	-	-	266	191	867	194	190	603
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	191	-	194	190	-
Stage 1	-	-	-	-	-	-	666	649	-	326	376	-
Stage 2	-	-	-	-	-	-	507	373	-	806	640	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	15.7	15.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	266	867	824	-	-	1254	-	-	194	603
HCM Lane V/C Ratio	0.073	0.013	0.012	-	-	0.018	-	-	0.094	0.09
HCM Control Delay (s)	19.6	9.2	9.4	-	-	7.9	-	-	25.5	11.6
HCM Lane LOS	C	A	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	0	0	-	-	0.1	-	-	0.3	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	269	0	32	712	5	11
Future Vol, veh/h	269	0	32	712	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	316	0	38	838	6	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	316	0	1230	316
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	914	-
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	-	-	1244	-	196	724
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	391	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1244	-	185	724
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	369	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	379	-	-	1244	-
HCM Lane V/C Ratio	0.05	-	-	0.03	-
HCM Control Delay (s)	15	-	-	8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	10	31	2	2	6	6	12	3	15	2
Future Vol, veh/h	6	4	10	31	2	2	6	6	12	3	15	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	5	11	35	2	2	7	7	14	3	17	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	54	59	18	60	53	14	19	0	0	21	0	0
Stage 1	24	24	-	28	28	-	-	-	-	-	-	-
Stage 2	30	35	-	32	25	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	944	832	1061	936	838	1066	1597	-	-	1595	-	-
Stage 1	994	875	-	989	872	-	-	-	-	-	-	-
Stage 2	987	866	-	984	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	936	827	1061	918	833	1066	1597	-	-	1595	-	-
Mov Cap-2 Maneuver	936	827	-	918	833	-	-	-	-	-	-	-
Stage 1	990	873	-	985	869	-	-	-	-	-	-	-
Stage 2	978	863	-	966	872	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.1	1.8	1.1
HCM LOS	A	A		

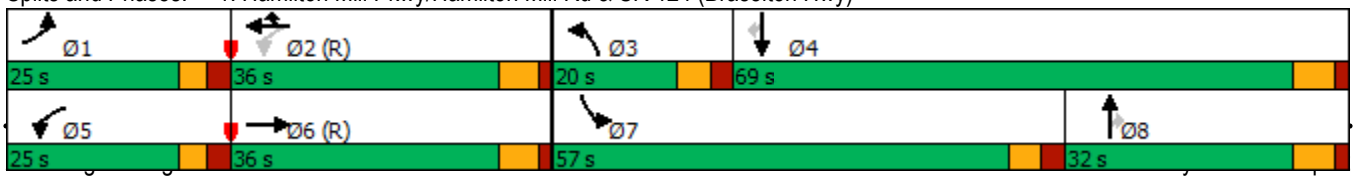
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	967	920	1595	-	-
HCM Lane V/C Ratio	0.004	-	-	0.024	0.043	0.002	-	-
HCM Control Delay (s)	7.3	0	-	8.8	9.1	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

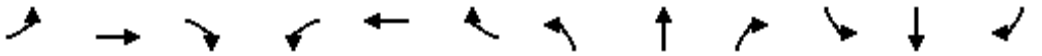
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	311	394	116	338	638	16	225	114	1081	405	324
Future Volume (vph)	311	394	116	338	638	16	225	114	1081	405	324
Lane Group Flow (vph)	314	432	117	341	644	16	227	115	1092	409	327
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	25.0	36.0	25.0	36.0	36.0	20.0	32.0	32.0	57.0	69.0	69.0
Total Split (%)	16.7%	24.0%	16.7%	24.0%	24.0%	13.3%	21.3%	21.3%	38.0%	46.0%	46.0%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.80	0.43	0.35	0.75	0.95	0.23	0.83	0.31	0.96	0.46	0.35
Control Delay	80.3	46.8	34.4	65.4	79.9	76.8	86.0	4.9	59.0	24.8	3.1
Queue Delay	0.0	0.0	0.0	0.0	44.5	0.0	0.0	0.0	2.1	1.3	0.0
Total Delay	80.3	46.8	34.4	65.4	124.5	76.8	86.0	4.9	61.1	26.1	3.1
Queue Length 50th (ft)	155	185	76	322	~389	16	216	0	575	232	23
Queue Length 95th (ft)	208	254	126	#517	#559	42	#312	23	#668	383	60
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	441	994	428	452	676	162	311	397	1162	888	937
Starvation Cap Reductn	0	0	0	0	0	0	0	0	26	278	0
Spillback Cap Reductn	0	0	0	0	203	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.43	0.27	0.75	1.36	0.10	0.73	0.29	0.96	0.67	0.35

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 147 (98%), Referenced to phase 2:WBTL and 6:EBT, 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: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	311	394	34	116	338	638	16	225	114	1081	405	324
Future Volume (veh/h)	311	394	34	116	338	638	16	225	114	1081	405	324
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	314	398	0	117	341	0	16	227	0	1092	409	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	361	1089		373	492		23	254		1150	842	
Arrive On Green	0.10	0.31	0.00	0.06	0.26	0.00	0.01	0.14	0.00	0.00	0.61	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	314	398	0	117	341	0	16	227	0	1092	409	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	13.4	13.1	0.0	7.1	24.6	0.0	1.3	18.2	0.0	47.4	18.5	0.0
Cycle Q Clear(g_c), s	13.4	13.1	0.0	7.1	24.6	0.0	1.3	18.2	0.0	47.4	18.5	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	1089		373	492		23	254		1150	842	
V/C Ratio(X)	0.87	0.37		0.31	0.69		0.69	0.89		0.95	0.49	
Avail Cap(c_a), veh/h	445	1089		493	492		164	314		1170	842	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.65	0.65	0.00
Uniform Delay (d), s/veh	66.2	40.6	0.0	36.8	49.8	0.0	73.7	63.6	0.0	73.7	19.6	0.0
Incr Delay (d2), s/veh	12.7	0.9	0.0	0.2	7.8	0.0	12.9	23.0	0.0	11.3	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	6.5	5.8	0.0	3.1	12.4	0.0	0.7	10.0	0.0	1.8	6.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.8	41.6	0.0	37.0	57.6	0.0	86.6	86.6	0.0	85.0	19.7	0.0
LnGrp LOS	E	D		D	E		F	F		F	B	
Approach Vol, veh/h		712			458			243			1501	
Approach Delay, s/veh		58.0			52.4			86.6			67.2	
Approach LOS		E			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.4	45.5	8.1	75.0	14.8	52.0	56.1	27.1
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	19.3	* 30	* 14	* 63	19.3	* 30	* 51	* 26
Max Q Clear Time (g_c+I1), s	15.4	26.6	3.3	20.5	9.1	15.1	49.4	20.2
Green Ext Time (p_c), s	0.2	1.1	0.0	1.4	0.1	4.3	0.5	0.5

Intersection Summary	
HCM 6th Ctrl Delay	64.2
HCM 6th LOS	E

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

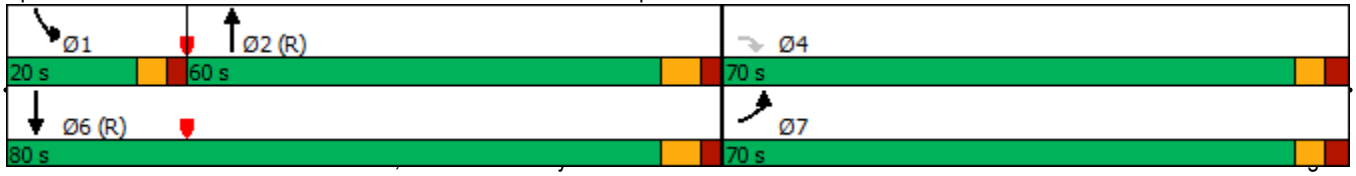
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

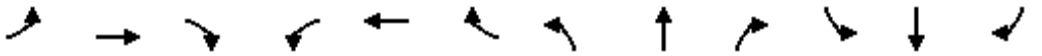
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	660	745	1103	321	1182
Future Volume (vph)	660	745	1103	321	1182
Lane Group Flow (vph)	702	793	1328	341	1257
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	15.0	35.5	45.0	15.6	36.0
Total Split (s)	70.0	70.0	60.0	20.0	80.0
Total Split (%)	46.7%	46.7%	40.0%	13.3%	53.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.96	0.66	1.09	0.94	0.73
Control Delay	67.2	35.0	98.8	111.8	21.4
Queue Delay	0.0	0.0	4.4	0.0	0.4
Total Delay	67.2	35.0	103.2	111.8	21.8
Queue Length 50th (ft)	648	317	~785	~179	137
Queue Length 95th (ft)	#908	397	m#897	#297	262
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)		370		165	
Base Capacity (vph)	752	1225	1218	364	1729
Starvation Cap Reductn	0	0	97	0	86
Spillback Cap Reductn	0	2	0	0	126
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.93	0.65	1.18	0.94	0.78

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 25 (17%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	660	0	745	0	0	0	0	1103	146	321	1182	0
Future Volume (veh/h)	660	0	745	0	0	0	0	1103	146	321	1182	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	702	0	0				0	1173	0	341	1257	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	726	0					0	1298		332	1764	0
Arrive On Green	0.41	0.00	0.00				0.00	0.37	0.00	0.10	0.50	0.00
Sat Flow, veh/h	1781	0	2790				0	3681	0	3456	3589	0
Grp Volume(v), veh/h	702	0	0				0	1173	0	341	1257	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	0	1728	1749	0
Q Serve(g_s), s	57.8	0.0	0.0				0.0	47.6	0.0	14.4	41.7	0.0
Cycle Q Clear(g_c), s	57.8	0.0	0.0				0.0	47.6	0.0	14.4	41.7	0.0
Prop In Lane	1.00		1.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	726	0					0	1298		332	1764	0
V/C Ratio(X)	0.97	0.00					0.00	0.90		1.03	0.71	0.00
Avail Cap(c_a), veh/h	758	0					0	1298		332	1764	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.34	0.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	43.4	0.0	0.0				0.0	44.6	0.0	67.8	28.8	0.0
Incr Delay (d2), s/veh	24.4	0.0	0.0				0.0	4.1	0.0	49.2	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
%ile BackOfQ(50%),veh/ln	30.2	0.0	0.0				0.0	20.7	0.0	8.5	17.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	0.0	0.0				0.0	48.7	0.0	117.0	30.6	0.0
LnGrp LOS	E	A					A	D		F	C	A
Approach Vol, veh/h		702						1173			1598	
Approach Delay, s/veh		67.9						48.7			49.0	
Approach LOS		E						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	62.7		67.3		82.7
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	53.0		* 64		73.0
Max Q Clear Time (g_c+I1), s	16.4	49.6		59.8		43.7
Green Ext Time (p_c), s	0.0	2.8		1.3		17.8

Intersection Summary	
HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

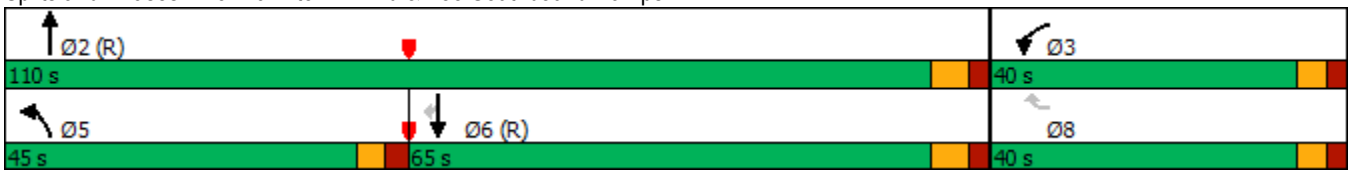
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

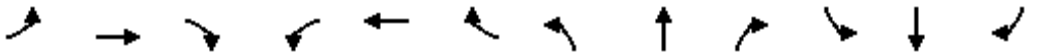
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	172	228	432	1405	1327	563
Future Volume (vph)	172	228	432	1405	1327	563
Lane Group Flow (vph)	176	233	441	1434	1354	574
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	40.0	40.0	45.0	110.0	65.0	65.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.36	0.83	0.80	0.53	0.68	0.59
Control Delay	58.9	66.6	55.1	5.0	37.1	29.1
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	58.9	66.6	55.1	5.3	37.1	29.1
Queue Length 50th (ft)	81	162	218	189	637	424
Queue Length 95th (ft)	111	245	m204	m232	782	587
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	785	414	899	2696	2003	980
Starvation Cap Reductn	0	0	0	608	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.56	0.49	0.69	0.68	0.59

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 28 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	172	0	228	432	1405	0	0	1327	563
Future Volume (veh/h)	0	0	0	172	0	228	432	1405	0	0	1327	563
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				176	0	0	441	1434	0	0	1354	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				229	0		494	2979	0	0	2346	
Arrive On Green				0.07	0.00	0.00	0.29	1.00	0.00	0.00	0.89	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				176	0	0	441	1434	0	0	1354	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				7.5	0.0	0.0	18.4	0.0	0.0	0.0	12.9	0.0
Cycle Q Clear(g_c), s				7.5	0.0	0.0	18.4	0.0	0.0	0.0	12.9	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				229	0		494	2979	0	0	2346	
V/C Ratio(X)				0.77	0.00		0.89	0.48	0.00	0.00	0.58	
Avail Cap(c_a), veh/h				790	0		905	2979	0	0	2346	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.33	1.33
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				68.9	0.0	0.0	52.5	0.0	0.0	0.0	3.4	0.0
Incr Delay (d2), s/veh				4.0	0.0	0.0	0.4	0.1	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				3.5	0.0	0.0	6.7	0.0	0.0	0.0	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				72.9	0.0	0.0	52.9	0.1	0.0	0.0	4.4	0.0
LnGrp LOS				E	A		D	A	A	A	A	
Approach Vol, veh/h					176			1875			1354	
Approach Delay, s/veh					72.9			12.5			4.4	
Approach LOS					E			B			A	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	134.4		27.1	107.2		15.6						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1E2		* 39	* 58		34.3						
Max Q Clear Time (g_c+I1), s	2.0		20.4	14.9		9.5						
Green Ext Time (p_c), s	25.9		1.1	18.8		0.4						

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	292	0	1607	1512	4
Future Vol, veh/h	0	292	0	1607	1512	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	135
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	4	4	2
Mvmt Flow	0	301	0	1657	1559	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	780	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	338	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	338	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	60.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	338	-
HCM Lane V/C Ratio	-	0.891	-
HCM Control Delay (s)	-	60.9	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	8.6	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	22	1443	52	14	1534
Future Vol, veh/h	30	22	1443	52	14	1534
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	32	23	1535	55	15	1632

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2381	768	0	-	1535	0
Stage 1	1535	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 29	344	-	0	429	-
Stage 1	164	-	-	0	-	-
Stage 2	381	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 28	344	-	-	429	-
Mov Cap-2 Maneuver	114	-	-	-	-	-
Stage 1	164	-	-	-	-	-
Stage 2	368	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.8	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	114	344	429	-
HCM Lane V/C Ratio	-	0.28	0.068	0.035	-
HCM Control Delay (s)	-	48.4	16.2	13.7	-
HCM Lane LOS	-	E	C	B	-
HCM 95th %tile Q(veh)	-	1.1	0.2	0.1	-

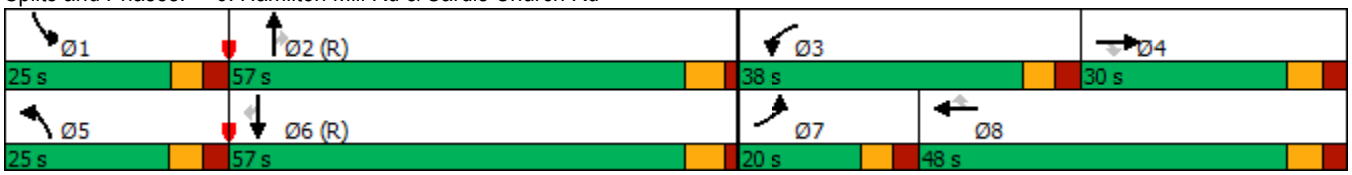
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

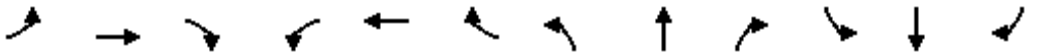
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	217	192	425	155	175	292	688	426	239	745	110
Future Volume (vph)	177	217	192	425	155	175	292	688	426	239	745	110
Lane Group Flow (vph)	181	221	196	434	158	179	298	702	435	244	760	112
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	15.0	36.5	36.5	15.0	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	20.0	30.0	30.0	38.0	48.0	48.0	25.0	57.0	57.0	25.0	57.0	57.0
Total Split (%)	13.3%	20.0%	20.0%	25.3%	32.0%	32.0%	16.7%	38.0%	38.0%	16.7%	38.0%	38.0%
Yellow Time (s)	3.4	3.9	3.9	3.5	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	2.9	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.4	6.9	6.9	6.4	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
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	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.67	0.80	0.49	0.81	0.38	0.36	0.79	0.48	0.48	0.72	0.53	0.15
Control Delay	79.7	82.6	12.0	73.7	50.6	7.6	89.8	31.4	7.7	77.4	36.9	0.9
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	79.7	82.6	12.0	73.7	50.6	7.6	89.8	31.4	7.7	77.4	36.9	0.9
Queue Length 50th (ft)	90	211	4	214	132	0	159	217	64	121	297	0
Queue Length 95th (ft)	131	302	77	265	190	59	195	375	113	165	404	5
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	311	302	417	723	510	563	422	1473	913	425	1426	750
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	0.58	0.73	0.47	0.60	0.31	0.32	0.71	0.48	0.48	0.57	0.53	0.15

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 72 (48%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	217	192	425	155	175	292	688	426	239	745	110
Future Volume (veh/h)	177	217	192	425	155	175	292	688	426	239	745	110
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	181	221	0	434	158	0	298	702	0	244	760	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	4	2	2	4	2
Cap, veh/h	227	247		488	388		344	1643		292	1583	
Arrive On Green	0.07	0.13	0.00	0.14	0.21	0.00	0.10	0.47	0.00	0.08	0.45	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	181	221	0	434	158	0	298	702	0	244	760	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	7.7	17.4	0.0	18.5	11.0	0.0	12.7	20.0	0.0	10.4	22.8	0.0
Cycle Q Clear(g_c), s	7.7	17.4	0.0	18.5	11.0	0.0	12.7	20.0	0.0	10.4	22.8	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	227	247		488	388		344	1643		292	1583	
V/C Ratio(X)	0.80	0.90		0.89	0.41		0.87	0.43		0.84	0.48	
Avail Cap(c_a), veh/h	313	288		728	512		422	1643		429	1583	
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	69.1	64.1	0.0	63.3	51.5	0.0	66.5	26.4	0.0	67.6	28.7	0.0
Incr Delay (d2), s/veh	6.5	25.0	0.0	6.7	0.5	0.0	12.8	0.8	0.0	6.1	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	3.7	10.1	0.0	8.6	5.2	0.0	6.1	8.3	0.0	4.8	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.6	89.1	0.0	70.0	52.0	0.0	79.3	27.2	0.0	73.7	29.8	0.0
LnGrp LOS	E	F		E	D		E	C		E	C	
Approach Vol, veh/h		402			592			1000			1004	
Approach Delay, s/veh		83.0			65.2			42.7			40.4	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.1	76.7	27.6	26.7	21.6	74.1	16.3	38.0
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	18.6	* 51	31.6	23.1	* 18	* 51	13.6	41.1
Max Q Clear Time (g_c+I1), s	12.4	22.0	20.5	19.4	14.7	24.8	9.7	13.0
Green Ext Time (p_c), s	0.2	11.3	0.7	0.3	0.2	11.7	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	51.8
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	14.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	723	102	33	562	45	81	13	52	59	5	112
Future Vol, veh/h	57	723	102	33	562	45	81	13	52	59	5	112
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	90	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	745	105	34	579	46	84	13	54	61	5	115

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	625	0	0	850	0	0	1276	1609	425	1167	1638	313
Stage 1	-	-	-	-	-	-	916	916	-	670	670	-
Stage 2	-	-	-	-	-	-	360	693	-	497	968	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	952	-	-	784	-	-	124	104	578	149	100	683
Stage 1	-	-	-	-	-	-	293	349	-	413	454	-
Stage 2	-	-	-	-	-	-	631	443	-	523	330	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	952	-	-	784	-	-	91	93	578	111	90	683
Mov Cap-2 Maneuver	-	-	-	-	-	-	91	93	-	111	90	-
Stage 1	-	-	-	-	-	-	275	327	-	387	434	-
Stage 2	-	-	-	-	-	-	496	424	-	427	310	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.5	131.5	36
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	91	578	952	-	-	784	-	-	109	683
HCM Lane V/C Ratio	1.065	0.093	0.062	-	-	0.043	-	-	0.605	0.169
HCM Control Delay (s)	197.6	11.9	9	-	-	9.8	-	-	79.2	11.3
HCM Lane LOS	F	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	6.4	0.3	0.2	-	-	0.1	-	-	3	0.6

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	851	4	14	610	11	35
Future Vol, veh/h	851	4	14	610	11	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	877	4	14	629	11	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	881	0	1536	879
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	657	-
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	-	-	767	-	128	347
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	516	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	767	-	124	347
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	23.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	243	-	-	767	-
HCM Lane V/C Ratio	0.195	-	-	0.019	-
HCM Control Delay (s)	23.4	-	-	9.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	10	3	16	5	7	3	14	45	6	31	1
Future Vol, veh/h	5	10	3	16	5	7	3	14	45	6	31	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	13	4	20	6	9	4	18	57	8	39	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	118	139	40	119	111	47	40	0	0	75	0	0
Stage 1	56	56	-	55	55	-	-	-	-	-	-	-
Stage 2	62	83	-	64	56	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	858	752	1031	857	779	1022	1570	-	-	1524	-	-
Stage 1	956	848	-	957	849	-	-	-	-	-	-	-
Stage 2	949	826	-	947	848	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	840	746	1031	837	773	1022	1570	-	-	1524	-	-
Mov Cap-2 Maneuver	840	746	-	837	773	-	-	-	-	-	-	-
Stage 1	953	844	-	954	846	-	-	-	-	-	-	-
Stage 2	931	824	-	925	844	-	-	-	-	-	-	-

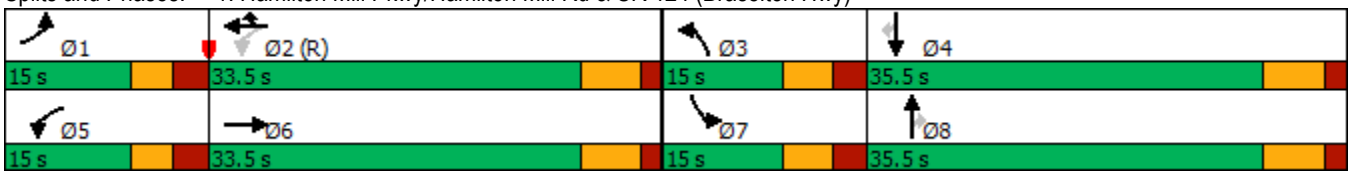
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	9.4	0.4	1.2
HCM LOS	A	A		

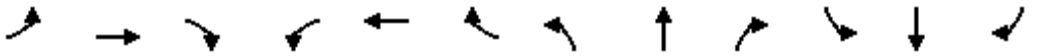
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1570	-	-	808	863	1524	-	-
HCM Lane V/C Ratio	0.002	-	-	0.028	0.041	0.005	-	-
HCM Control Delay (s)	7.3	0	-	9.6	9.4	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	4.0	12.0	4.0	6.0	4.0	12.0	4.0	6.0
Minimum Split (s)	15.0	36.5	15.0	32.5	15.0	36.5	15.0	35.5
Total Split (s)	15.0	33.5	15.0	35.5	15.0	33.5	15.0	35.5
Total Split (%)	15%	34%	15%	36%	15%	34%	15%	36%
Yellow Time (s)	3.1	4.3	3.7	4.6	3.1	4.3	3.7	4.6
All-Red Time (s)	2.6	1.7	2.5	1.8	2.6	1.7	2.5	1.8
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (ft)								
Queue Length 95th (ft)								
Internal Link Dist (ft)								
Turn Bay Length (ft)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	3	3338		1406	1757		2	2		3	2	
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), 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
Cycle Q Clear(g_c), 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
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	3338		1406	1757		2	2		3	2	
V/C Ratio(X)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Avail Cap(c_a), veh/h	325	3338		1572	1757		158	541		307	541	
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	A	A		A	A		A	A		A	A	
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	0.0	0.0	99.0	0.0	0.0
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	9.3	* 28	* 8.8	* 29	9.3	* 28	* 8.8	* 29
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

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

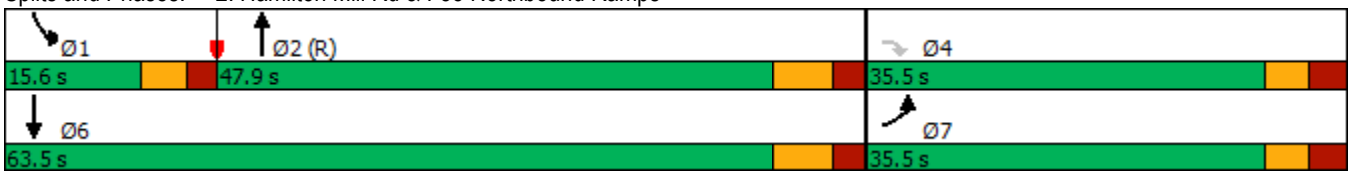
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

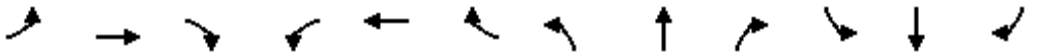
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	1	2	4	6	7
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	12.0	6.0	12.0	6.0
Minimum Split (s)	15.6	45.0	35.5	36.0	15.0
Total Split (s)	15.6	47.9	35.5	63.5	35.5
Total Split (%)	16%	48%	36%	64%	36%
Yellow Time (s)	3.4	4.5	3.2	4.5	3.2
All-Red Time (s)	2.2	2.5	3.0	2.5	3.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	C-Min	None	Min	None
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	0	0	0				0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	2	0					0	3250		3	3250	0
Arrive On Green	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	0	2790				0	3681	0	3456	3589	0
Grp Volume(v), veh/h	0	0	0				0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	0	1728	1749	0
Q Serve(g_s), s	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	2	0					0	3250		3	3250	0
V/C Ratio(X)	0.00	0.00					0.00	0.00		0.00	0.00	0.00
Avail Cap(c_a), veh/h	527	0					0	3250		349	3250	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	A	A					A	A		A	A	A
Approach Vol, veh/h		0						0			0	
Approach Delay, s/veh		0.0						0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	99.0
Change Period (Y+Rc), s	* 5.6	7.0	* 6.2	7.0
Max Green Setting (Gmax), s	* 10	40.9	* 29	56.5
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

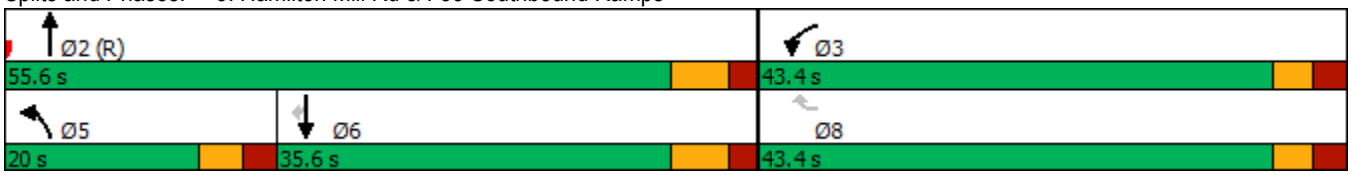
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

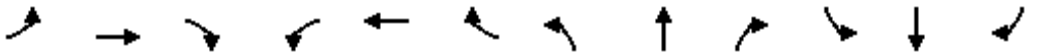
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	Ø2	Ø3	Ø5	Ø6	Ø8
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	2	3	5	6	8
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	12.0	6.0	4.0	12.0	6.0
Minimum Split (s)	36.6	15.0	15.0	33.5	37.5
Total Split (s)	55.6	43.4	20.0	35.6	43.4
Total Split (%)	56%	44%	20%	36%	44%
Yellow Time (s)	4.3	3.0	3.2	4.3	3.0
All-Red Time (s)	2.3	2.6	2.5	2.3	2.6
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	C-Min	None	Min	Min	None
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				0	0	0	0	0	0	0	0	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				3	0		3	3264	0	0	3264	
Arrive On Green				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				3	0		3	3264	0	0	3264	
V/C Ratio(X)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	
Avail Cap(c_a), veh/h				1319	0		499	3264	0	0	3264	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS				A	A		A	A	A	A	A	
Approach Vol, veh/h					0			0			0	
Approach Delay, s/veh					0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	99.0		0.0	99.0		0.0						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.6						
Max Green Setting (Gmax), s	* 49		* 14	* 29		37.8						
Max Q Clear Time (g_c+I1), s	0.0		0.0	0.0		0.0						
Green Ext Time (p_c), s	0.0		0.0	0.0		0.0						

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	135
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	4	4	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1083	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	1083	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	-	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	1021	-	-	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	1022	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	933	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

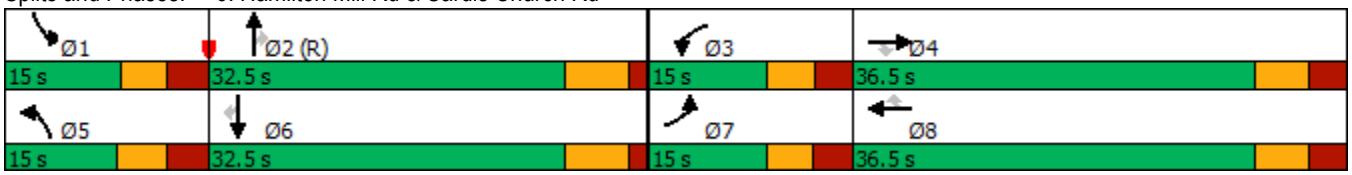
Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

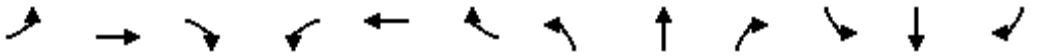
Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	0	0	0	-
HCM Lane LOS	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	4.0	12.0	4.0	6.0	4.0	12.0	4.0	6.0
Minimum Split (s)	15.0	31.5	15.0	36.5	15.0	31.5	15.0	35.5
Total Split (s)	15.0	32.5	15.0	36.5	15.0	32.5	15.0	36.5
Total Split (%)	15%	33%	15%	37%	15%	33%	15%	37%
Yellow Time (s)	3.4	4.6	3.5	3.9	3.7	4.6	3.4	3.9
All-Red Time (s)	3.0	1.6	2.9	3.0	3.0	1.6	3.0	3.0
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (ft)								
Queue Length 95th (ft)								
Internal Link Dist (ft)								
Turn Bay Length (ft)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	3	2		3	2		3	3278		3	3278	
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), 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
Cycle Q Clear(g_c), 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
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	3	2		3	2		3	3278		3	3278	
V/C Ratio(X)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Avail Cap(c_a), veh/h	300	559		300	559		290	3278		300	3278	
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	A	A		A	A		A	A		A	A	
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	0.0	0.0	99.0	0.0	0.0
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	8.6	* 26	8.6	29.6	* 8.3	* 26	8.6	29.6
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	185	-	-	-	-	0	-	-	0
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	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	1	0	0	2	2	1	2	2	1
Stage 1	-	-	-	-	-	-	1	1	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	1	1	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1620	-	-	1620	-	-	1019	893	1083	1019	893	1083
Stage 1	-	-	-	-	-	-	1021	895	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	1021	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1620	-	-	1620	-	-	1019	893	1083	1019	893	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-	1019	893	-	1019	893	-
Stage 1	-	-	-	-	-	-	1021	895	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	1021	895	-

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

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1620	-	-	1620	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	0	-	-	0	-	-	0	0
HCM Lane LOS	A	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	580	3	9	576	11	33
Future Vol, veh/h	580	3	9	576	11	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	637	3	10	633	12	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	640	0	1292	639
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	653	-
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	-	-	944	-	180	476
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	518	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	944	-	177	476
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	510	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	335	-	-	944	-
HCM Lane V/C Ratio	0.144	-	-	0.01	-
HCM Control Delay (s)	17.6	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1	1	1	1	1	0	1	0	0	0	0	0
Stage 1	1	1	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1022	895	1084	1022	895	-	1622	-	-	-	-	-
Stage 1	1022	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	895	1084	1022	895	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	1022	895	-	-	-	-	-	-	-
Stage 1	1022	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

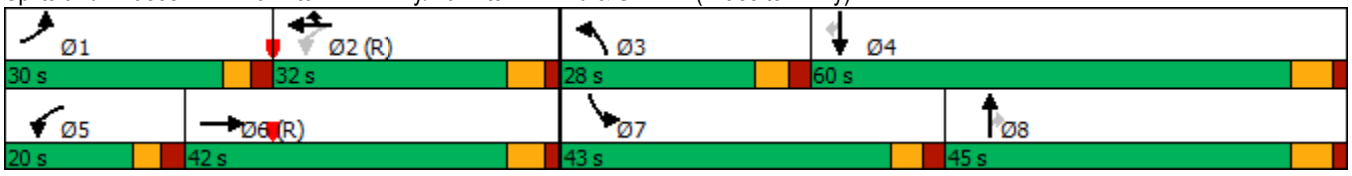
Future “No-Build” Intersection Analysis

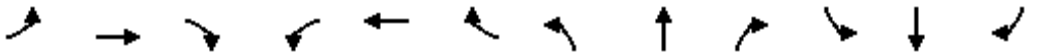
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	293	351	63	325	688	59	342	118	566	143	232
Future Volume (vph)	293	351	63	325	688	59	342	118	566	143	232
Lane Group Flow (vph)	308	407	66	342	724	62	360	124	596	151	244
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	30.0	42.0	20.0	32.0	32.0	28.0	45.0	45.0	43.0	60.0	60.0
Total Split (%)	20.0%	28.0%	13.3%	21.3%	21.3%	18.7%	30.0%	30.0%	28.7%	40.0%	40.0%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.76	0.31	0.18	0.63	0.89	0.55	0.87	0.24	0.86	0.22	0.32
Control Delay	76.1	36.9	29.0	54.6	64.7	84.9	77.6	1.1	54.8	28.1	5.3
Queue Delay	0.0	0.0	0.0	0.0	5.5	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	76.1	36.9	29.0	54.6	70.2	84.9	78.3	1.1	54.8	28.1	5.3
Queue Length 50th (ft)	153	151	37	295	391	60	340	0	281	125	65
Queue Length 95th (ft)	199	227	77	#546	#678	109	453	0	286	129	36
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	556	1301	449	543	812	257	472	553	842	699	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	56	0	16	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.31	0.15	0.63	0.96	0.24	0.79	0.22	0.71	0.22	0.32

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 5 (3%), Referenced to phase 2:WBTL and 6:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	293	351	36	63	325	688	59	342	118	566	143	232
Future Volume (veh/h)	293	351	36	63	325	688	59	342	118	566	143	232
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	308	369	0	66	342	0	62	360	0	596	151	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	358	1435		450	628		79	391		644	652	
Arrive On Green	0.10	0.40	0.00	0.04	0.34	0.00	0.04	0.21	0.00	0.31	0.59	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	308	369	0	66	342	0	62	360	0	596	151	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	13.2	10.4	0.0	3.6	22.3	0.0	5.2	28.7	0.0	25.0	5.8	0.0
Cycle Q Clear(g_c), s	13.2	10.4	0.0	3.6	22.3	0.0	5.2	28.7	0.0	25.0	5.8	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	1435		450	628		79	391		644	652	
V/C Ratio(X)	0.86	0.26		0.15	0.54		0.78	0.92		0.93	0.23	
Avail Cap(c_a), veh/h	560	1435		557	628		259	474		848	658	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	66.2	29.7	0.0	30.8	40.5	0.0	70.9	57.8	0.0	50.7	21.0	0.0
Incr Delay (d2), s/veh	4.9	0.4	0.0	0.1	3.4	0.0	6.2	20.9	0.0	11.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.5	0.0	1.6	10.7	0.0	2.5	15.4	0.0	10.5	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	30.2	0.0	30.9	43.9	0.0	77.1	78.7	0.0	61.8	21.0	0.0
LnGrp LOS	E	C		C	D		E	E		E	C	
Approach Vol, veh/h		677			408			422			747	
Approach Delay, s/veh		48.8			41.8			78.5			53.5	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.2	56.3	12.9	59.5	11.0	66.6	34.1	38.3
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	24.3	* 26	* 22	* 54	14.3	* 36	* 37	* 39
Max Q Clear Time (g_c+I1), s	15.2	24.3	7.2	7.8	5.6	12.4	27.0	30.7
Green Ext Time (p_c), s	0.4	0.6	0.0	0.5	0.0	5.1	0.9	1.2

Intersection Summary	
HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

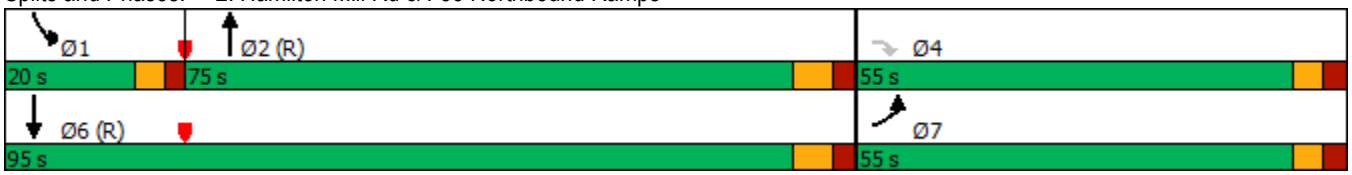
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

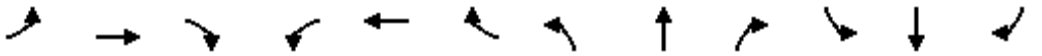
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	353	397	1237	191	756
Future Volume (vph)	353	397	1237	191	756
Lane Group Flow (vph)	376	422	1425	203	804
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	32.2	35.5	45.0	15.6	36.0
Total Split (s)	55.0	55.0	75.0	20.0	95.0
Total Split (%)	36.7%	36.7%	50.0%	13.3%	63.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.84	0.45	0.77	0.68	0.35
Control Delay	70.2	12.2	42.9	103.3	11.3
Queue Delay	0.0	0.0	3.3	0.0	0.0
Total Delay	70.2	12.2	46.1	103.3	11.3
Queue Length 50th (ft)	352	45	584	106	102
Queue Length 95th (ft)	440	89	786	152	134
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)		370		165	
Base Capacity (vph)	575	1121	1845	337	2292
Starvation Cap Reductn	0	0	316	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.38	0.93	0.60	0.35

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 46 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	0	397	0	0	0	0	1237	102	191	756	0
Future Volume (veh/h)	353	0	397	0	0	0	0	1237	102	191	756	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	376	0	0				0	1316	0	203	804	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	408	0					0	2005		251	2389	0
Arrive On Green	0.23	0.00	0.00				0.00	1.00	0.00	0.02	0.23	0.00
Sat Flow, veh/h	1781	0	2790				0	3681	0	3456	3589	0
Grp Volume(v), veh/h	376	0	0				0	1316	0	203	804	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	0	1728	1749	0
Q Serve(g_s), s	31.0	0.0	0.0				0.0	0.0	0.0	8.8	28.9	0.0
Cycle Q Clear(g_c), s	31.0	0.0	0.0				0.0	0.0	0.0	8.8	28.9	0.0
Prop In Lane	1.00		1.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	408	0					0	2005		251	2389	0
V/C Ratio(X)	0.92	0.00					0.00	0.66		0.81	0.34	0.00
Avail Cap(c_a), veh/h	580	0					0	2005		332	2389	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.40	0.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	56.5	0.0	0.0				0.0	0.0	0.0	72.2	29.6	0.0
Incr Delay (d2), s/veh	17.0	0.0	0.0				0.0	0.7	0.0	7.4	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
%ile BackOfQ(50%),veh/ln	15.9	0.0	0.0				0.0	0.2	0.0	4.3	13.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.6	0.0	0.0				0.0	0.7	0.0	79.6	29.9	0.0
LnGrp LOS	E	A					A	A		E	C	A
Approach Vol, veh/h		376						1316			1007	
Approach Delay, s/veh		73.6						0.7			39.9	
Approach LOS		E						A			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.5	93.0		40.5		109.5
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	68.0		* 49		88.0
Max Q Clear Time (g_c+I1), s	10.8	2.0		33.0		30.9
Green Ext Time (p_c), s	0.1	29.0		1.4		13.0

Intersection Summary		
HCM 6th Ctrl Delay		25.5
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

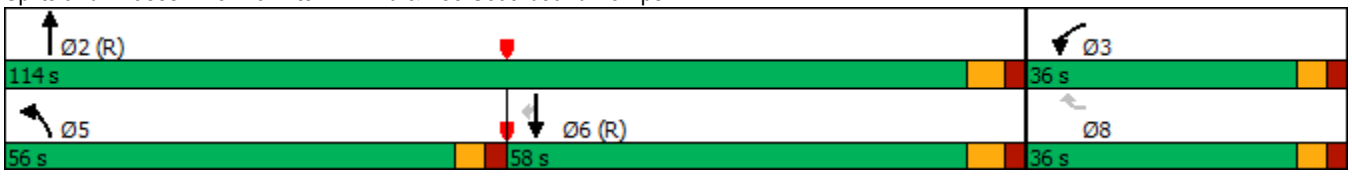
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

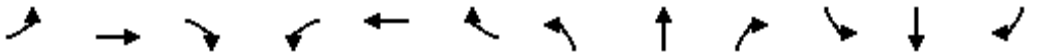
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	229	327	663	872	588	854
Future Volume (vph)	229	327	663	872	588	854
Lane Group Flow (vph)	239	341	691	908	613	890
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	36.0	36.0	56.0	114.0	58.0	58.0
Total Split (%)	24.0%	24.0%	37.3%	76.0%	38.7%	38.7%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.53	0.87	0.85	0.33	0.35	0.86
Control Delay	63.6	46.7	58.6	7.4	27.7	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.6	46.7	58.6	7.4	27.7	33.2
Queue Length 50th (ft)	114	136	334	96	167	603
Queue Length 95th (ft)	147	243	411	262	377	#962
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	693	485	1151	2725	1771	1030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.70	0.60	0.33	0.35	0.86

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 42 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	229	0	327	663	872	0	0	588	854
Future Volume (veh/h)	0	0	0	229	0	327	663	872	0	0	588	854
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				239	0	0	691	908	0	0	612	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				294	0		744	2913	0	0	2028	
Arrive On Green				0.09	0.00	0.00	0.43	1.00	0.00	0.00	0.58	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				239	0	0	691	908	0	0	612	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	13.4	0.0
Cycle Q Clear(g_c), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	13.4	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				294	0		744	2913	0	0	2028	
V/C Ratio(X)				0.81	0.00		0.93	0.31	0.00	0.00	0.30	
Avail Cap(c_a), veh/h				698	0		1159	2913	0	0	2028	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.52	0.52	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				67.5	0.0	0.0	41.6	0.0	0.0	0.0	16.1	0.0
Incr Delay (d2), s/veh				4.1	0.0	0.0	4.6	0.1	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				4.7	0.0	0.0	10.0	0.1	0.0	0.0	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				71.5	0.0	0.0	46.3	0.1	0.0	0.0	16.4	0.0
LnGrp LOS				E	A		D	A	A	A	B	
Approach Vol, veh/h					239			1599			612	
Approach Delay, s/veh					71.5			20.1			16.4	
Approach LOS					E			C			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	131.5		38.0	93.6		18.5						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1.1E2		* 50	* 51		30.3						
Max Q Clear Time (g_c+I1), s	2.0		30.5	15.4		12.2						
Green Ext Time (p_c), s	11.2		1.8	6.1		0.6						

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	96	0	1169	1311	5
Future Vol, veh/h	0	96	0	1169	1311	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	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	4	4	2
Mvmt Flow	0	101	0	1231	1380	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	690	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	388	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	388	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	388	-
HCM Lane V/C Ratio	-	0.26	-
HCM Control Delay (s)	-	17.5	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	1	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	4	1145	13	14	1244
Future Vol, veh/h	54	4	1145	13	14	1244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	55	4	1157	13	14	1257

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1814	579	0	-	1157	0
Stage 1	1157	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	70	458	-	0	600	-
Stage 1	261	-	-	0	-	-
Stage 2	477	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	68	458	-	-	600	-
Mov Cap-2 Maneuver	181	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	466	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.8	0	0.1
HCM LOS	D		

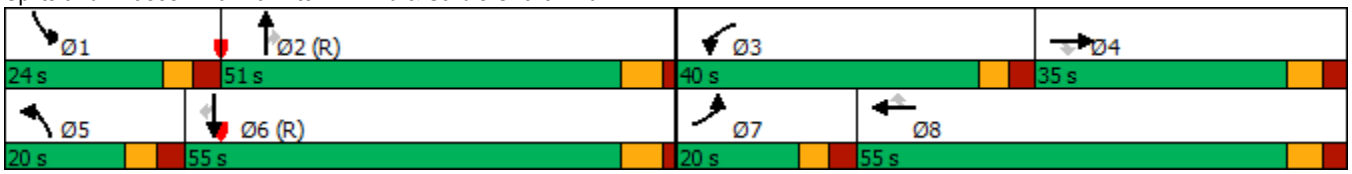
Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	181	458	600	-
HCM Lane V/C Ratio	-	0.301	0.009	0.024	-
HCM Control Delay (s)	-	33.2	12.9	11.1	-
HCM Lane LOS	-	D	B	B	-
HCM 95th %tile Q(veh)	-	1.2	0	0.1	-

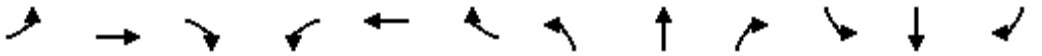
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	59	104	535	96	329	123	625	307	253	561	53
Future Volume (vph)	68	59	104	535	96	329	123	625	307	253	561	53
Lane Group Flow (vph)	71	61	108	557	100	343	128	651	320	264	584	55
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	15.0	36.5	36.5	15.0	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	20.0	35.0	35.0	40.0	55.0	55.0	20.0	51.0	51.0	24.0	55.0	55.0
Total Split (%)	13.3%	23.3%	23.3%	26.7%	36.7%	36.7%	13.3%	34.0%	34.0%	16.0%	36.7%	36.7%
Yellow Time (s)	3.4	3.9	3.9	3.5	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	2.9	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.4	6.9	6.9	6.4	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
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	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.41	0.50	0.42	0.86	0.26	0.60	0.56	0.40	0.35	0.73	0.33	0.06
Control Delay	75.9	81.1	5.9	72.3	50.5	11.5	84.4	31.0	8.7	76.8	24.2	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	0.0
Total Delay	75.9	81.1	5.9	72.3	50.5	11.5	84.4	31.0	8.7	76.8	24.2	0.1
Queue Length 50th (ft)	35	59	0	274	83	23	67	184	12	131	176	0
Queue Length 95th (ft)	62	108	7	330	132	114	m103	327	130	176	258	0
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	311	349	430	768	597	720	304	1621	906	414	1750	882
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	0.23	0.17	0.25	0.73	0.17	0.48	0.42	0.40	0.35	0.64	0.33	0.06

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 96 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	59	104	535	96	329	123	625	307	253	561	53
Future Volume (veh/h)	68	59	104	535	96	329	123	625	307	253	561	53
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	71	61	0	557	100	0	128	651	0	264	584	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	111	87		611	358		175	1797		311	1928	
Arrive On Green	0.03	0.05	0.00	0.18	0.19	0.00	0.02	0.17	0.00	0.09	0.55	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	71	61	0	557	100	0	128	651	0	264	584	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	3.0	4.8	0.0	23.7	6.9	0.0	5.5	24.7	0.0	11.3	13.5	0.0
Cycle Q Clear(g_c), s	3.0	4.8	0.0	23.7	6.9	0.0	5.5	24.7	0.0	11.3	13.5	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	111	87		611	358		175	1797		311	1928	
V/C Ratio(X)	0.64	0.70		0.91	0.28		0.73	0.36		0.85	0.30	
Avail Cap(c_a), veh/h	313	350		774	600		306	1797		405	1928	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	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	71.7	70.4	0.0	60.6	51.8	0.0	72.7	40.5	0.0	67.3	18.1	0.0
Incr Delay (d2), s/veh	2.3	7.2	0.0	11.4	0.3	0.0	2.2	0.6	0.0	10.2	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	1.4	2.5	0.0	11.3	3.3	0.0	2.5	11.7	0.0	5.4	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	77.7	0.0	72.0	52.1	0.0	75.0	41.1	0.0	77.4	18.5	0.0
LnGrp LOS	E	E		E	D		E	D		E	B	
Approach Vol, veh/h		132			657			779			848	
Approach Delay, s/veh		75.7			69.0			46.7			36.9	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.9	83.3	32.9	13.9	14.3	88.9	11.2	35.6
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	17.6	* 45	33.6	28.1	* 13	* 49	13.6	48.1
Max Q Clear Time (g_c+I1), s	13.3	26.7	25.7	6.8	7.5	15.5	5.0	8.9
Green Ext Time (p_c), s	0.2	8.1	0.8	0.2	0.1	9.8	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	584	26	22	890	19	18	0	11	29	1	52
Future Vol, veh/h	10	584	26	22	890	19	18	0	11	29	1	52
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	90	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	664	30	25	1011	22	20	0	13	33	1	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1033	0	0	694	0	0	1257	1784	347	1426	1788	517
Stage 1	-	-	-	-	-	-	701	701	-	1072	1072	-
Stage 2	-	-	-	-	-	-	556	1083	-	354	716	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	668	-	-	897	-	-	128	81	649	96	80	503
Stage 1	-	-	-	-	-	-	395	439	-	235	295	-
Stage 2	-	-	-	-	-	-	483	292	-	636	432	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	668	-	-	897	-	-	108	77	649	91	76	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	77	-	91	76	-
Stage 1	-	-	-	-	-	-	389	432	-	231	287	-
Stage 2	-	-	-	-	-	-	413	284	-	613	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	32.6	33
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	108	649	668	-	-	897	-	-	90	503
HCM Lane V/C Ratio	0.189	0.019	0.017	-	-	0.028	-	-	0.379	0.117
HCM Control Delay (s)	46	10.7	10.5	-	-	9.1	-	-	67.6	13.1
HCM Lane LOS	E	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.7	0.1	0.1	-	-	0.1	-	-	1.5	0.4

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	625	0	35	926	5	12
Future Vol, veh/h	625	0	35	926	5	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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	735	0	41	1089	6	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	735	0	1906	735
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	1171	-
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	-	75	420
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	295	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	870	-	66	420
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	260	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	30.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	163	-	-	870	-
HCM Lane V/C Ratio	0.123	-	-	0.047	-
HCM Control Delay (s)	30.2	-	-	9.3	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	11	33	2	2	6	6	13	3	16	2
Future Vol, veh/h	6	4	11	33	2	2	6	6	13	3	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	5	13	38	2	2	7	7	15	3	18	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	56	61	19	63	55	15	20	0	0	22	0	0
Stage 1	25	25	-	29	29	-	-	-	-	-	-	-
Stage 2	31	36	-	34	26	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	941	830	1059	932	836	1065	1596	-	-	1593	-	-
Stage 1	993	874	-	988	871	-	-	-	-	-	-	-
Stage 2	986	865	-	982	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	933	825	1059	913	831	1065	1596	-	-	1593	-	-
Mov Cap-2 Maneuver	933	825	-	913	831	-	-	-	-	-	-	-
Stage 1	989	872	-	984	868	-	-	-	-	-	-	-
Stage 2	977	862	-	963	872	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.1	1.7	1
HCM LOS	A	A		

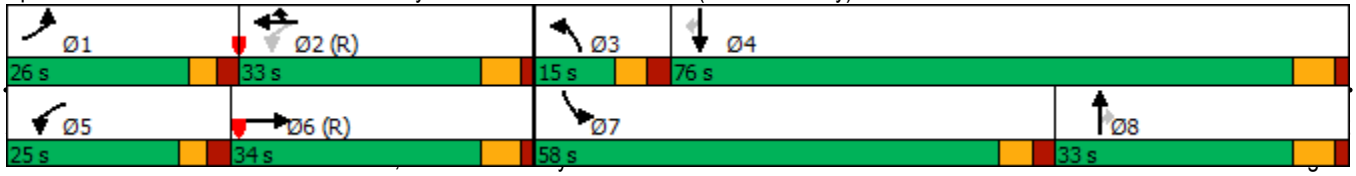
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1596	-	-	969	915	1593	-	-
HCM Lane V/C Ratio	0.004	-	-	0.025	0.046	0.002	-	-
HCM Control Delay (s)	7.3	0	-	8.8	9.1	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

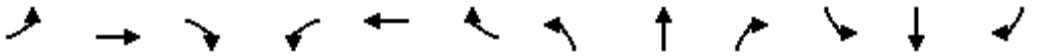
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	338	426	125	365	691	17	245	123	1169	439	352
Future Volume (vph)	338	426	125	365	691	17	245	123	1169	439	352
Lane Group Flow (vph)	341	467	126	369	698	17	247	124	1181	443	356
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	26.0	34.0	25.0	33.0	33.0	15.0	33.0	33.0	58.0	76.0	76.0
Total Split (%)	17.3%	22.7%	16.7%	22.0%	22.0%	10.0%	22.0%	22.0%	38.7%	50.7%	50.7%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.82	0.52	0.43	0.94	1.19	0.24	0.85	0.33	1.00	0.48	0.36
Control Delay	80.4	51.4	38.1	89.4	148.5	77.1	86.4	5.7	62.0	22.7	2.5
Queue Delay	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	9.0	1.5	0.0
Total Delay	80.4	51.4	38.1	89.4	153.3	77.1	86.4	5.7	71.0	24.2	2.5
Queue Length 50th (ft)	169	210	85	~385	~494	16	235	0	574	211	15
Queue Length 95th (ft)	224	283	137	#617	#656	44	#355	33	#750	m416	m48
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	464	894	380	394	589	103	323	406	1185	931	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	37	301	0
Spillback Cap Reductn	0	0	0	0	242	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.52	0.33	0.94	2.01	0.17	0.76	0.31	1.03	0.70	0.36

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 147 (98%), Referenced to phase 2:WBTL and 6:EBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	338	426	37	125	365	691	17	245	123	1169	439	352
Future Volume (veh/h)	338	426	37	125	365	691	17	245	123	1169	439	352
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	341	430	0	126	369	0	17	247	0	1181	443	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	388	985		337	434		24	273		1193	884	
Arrive On Green	0.11	0.28	0.00	0.07	0.23	0.00	0.01	0.15	0.00	0.58	0.80	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	341	430	0	126	369	0	17	247	0	1181	443	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	14.6	14.9	0.0	8.0	28.3	0.0	1.4	19.8	0.0	50.5	11.9	0.0
Cycle Q Clear(g_c), s	14.6	14.9	0.0	8.0	28.3	0.0	1.4	19.8	0.0	50.5	11.9	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	985		337	434		24	273		1193	884	
V/C Ratio(X)	0.88	0.44		0.37	0.85		0.71	0.90		0.99	0.50	
Avail Cap(c_a), veh/h	468	985		447	434		105	326		1193	884	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.55	0.55	0.00
Uniform Delay (d), s/veh	65.6	44.6	0.0	39.9	55.1	0.0	73.7	62.8	0.0	31.5	8.9	0.0
Incr Delay (d2), s/veh	13.6	1.4	0.0	0.3	18.5	0.0	13.0	24.4	0.0	16.8	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	7.0	6.7	0.0	3.5	15.3	0.0	0.7	11.0	0.0	18.9	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	46.0	0.0	40.2	73.7	0.0	86.7	87.2	0.0	48.3	9.0	0.0
LnGrp LOS	E	D		D	E		F	F		D	A	
Approach Vol, veh/h		771			495			264			1624	
Approach Delay, s/veh		60.7			65.1			87.1			37.6	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	40.8	8.2	78.5	15.7	47.6	58.0	28.7
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	20.3	* 27	* 8.8	* 70	19.3	* 28	* 52	* 27
Max Q Clear Time (g_c+I1), s	16.6	30.3	3.4	13.9	10.0	16.9	52.5	21.8
Green Ext Time (p_c), s	0.3	0.0	0.0	1.6	0.1	3.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	51.7
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

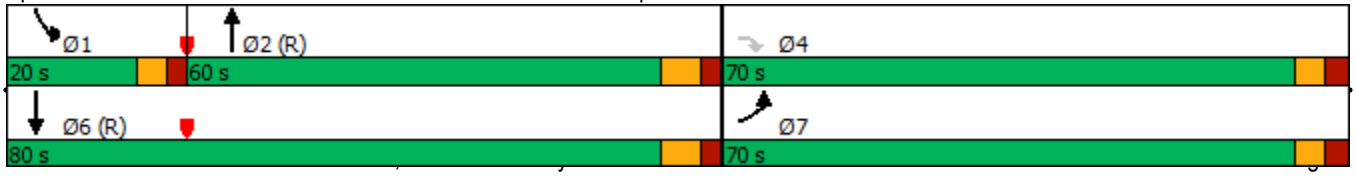
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

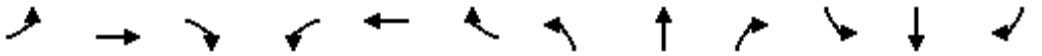
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	728	805	1196	354	1283
Future Volume (vph)	728	805	1196	354	1283
Lane Group Flow (vph)	774	856	1440	377	1365
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	15.0	35.5	45.0	15.6	36.0
Total Split (s)	70.0	70.0	60.0	20.0	80.0
Total Split (%)	46.7%	46.7%	40.0%	13.3%	53.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	1.03	0.70	1.19	1.15	0.81
Control Delay	82.5	35.8	133.4	161.9	25.0
Queue Delay	0.0	0.0	0.4	0.0	3.4
Total Delay	82.5	35.8	133.8	161.9	28.4
Queue Length 50th (ft)	~806	356	~910	~217	137
Queue Length 95th (ft)	#1058	444	m#864	#338	317
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)		370		165	
Base Capacity (vph)	752	1225	1214	329	1689
Starvation Cap Reductn	0	0	97	0	86
Spillback Cap Reductn	0	4	0	0	233
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.03	0.70	1.29	1.15	0.94

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 25 (17%), Referenced to phase 2:NBT and 6:SBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	728	0	805	0	0	0	0	1196	158	354	1283	0
Future Volume (veh/h)	728	0	805	0	0	0	0	1196	158	354	1283	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	774	0	0				0	1272	0	377	1365	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	758	0					0	1236		332	1702	0
Arrive On Green	0.43	0.00	0.00				0.00	0.47	0.00	0.10	0.49	0.00
Sat Flow, veh/h	1781	0	2790				0	3681	0	3456	3589	0
Grp Volume(v), veh/h	774	0	0				0	1272	0	377	1365	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	0	1728	1749	0
Q Serve(g_s), s	63.8	0.0	0.0				0.0	53.0	0.0	14.4	49.3	0.0
Cycle Q Clear(g_c), s	63.8	0.0	0.0				0.0	53.0	0.0	14.4	49.3	0.0
Prop In Lane	1.00		1.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	758	0					0	1236		332	1702	0
V/C Ratio(X)	1.02	0.00					0.00	1.03		1.14	0.80	0.00
Avail Cap(c_a), veh/h	758	0					0	1236		332	1702	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.09	0.00	0.62	0.62	0.00
Uniform Delay (d), s/veh	43.1	0.0	0.0				0.0	39.8	0.0	67.8	32.4	0.0
Incr Delay (d2), s/veh	38.3	0.0	0.0				0.0	16.8	0.0	82.3	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	35.8	0.0	0.0				0.0	23.1	0.0	10.0	20.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.4	0.0	0.0				0.0	56.6	0.0	150.1	35.0	0.0
LnGrp LOS	F	A					A	F		F	C	A
Approach Vol, veh/h		774						1272			1742	
Approach Delay, s/veh		81.4						56.6			59.9	
Approach LOS		F						E			E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	60.0		70.0		80.0
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	53.0		* 64		73.0
Max Q Clear Time (g_c+I1), s	16.4	55.0		65.8		51.3
Green Ext Time (p_c), s	0.0	0.0		0.0		15.5

Intersection Summary	
HCM 6th Ctrl Delay	63.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

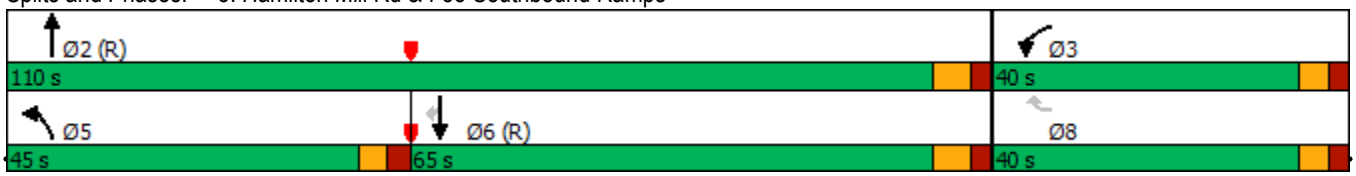
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

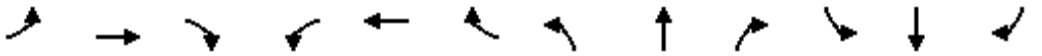
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	186	253	467	1537	1446	625
Future Volume (vph)	186	253	467	1537	1446	625
Lane Group Flow (vph)	190	258	477	1568	1476	638
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	40.0	40.0	45.0	110.0	65.0	65.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.35	0.84	0.81	0.59	0.77	0.68
Control Delay	56.7	67.7	56.5	6.1	43.8	35.9
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	56.7	67.7	56.5	6.6	43.8	35.9
Queue Length 50th (ft)	86	186	237	223	738	509
Queue Length 95th (ft)	116	272	m204	m253	#904	m670
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	785	414	899	2640	1911	944
Starvation Cap Reductn	0	0	0	546	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.53	0.75	0.77	0.68

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 28 (19%), Referenced to phase 2:NBT and 6:SBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	186	0	253	467	1537	0	0	1446	625
Future Volume (veh/h)	0	0	0	186	0	253	467	1537	0	0	1446	625
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				190	0	0	477	1568	0	0	1476	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				244	0		530	2964	0	0	2295	
Arrive On Green				0.07	0.00	0.00	0.31	1.00	0.00	0.00	0.66	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				190	0	0	477	1568	0	0	1476	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	37.6	0.0
Cycle Q Clear(g_c), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	37.6	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				244	0		530	2964	0	0	2295	
V/C Ratio(X)				0.78	0.00		0.90	0.53	0.00	0.00	0.64	
Avail Cap(c_a), veh/h				790	0		905	2964	0	0	2295	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				68.6	0.0	0.0	50.9	0.0	0.0	0.0	15.3	0.0
Incr Delay (d2), s/veh				4.0	0.0	0.0	0.6	0.1	0.0	0.0	1.4	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
%ile BackOfQ(50%),veh/ln				3.7	0.0	0.0	7.2	0.0	0.0	0.0	14.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				72.6	0.0	0.0	51.5	0.1	0.0	0.0	16.7	0.0
LnGrp LOS				E	A		D	A	A	A	B	
Approach Vol, veh/h					190			2045			1476	
Approach Delay, s/veh					72.6			12.1			16.7	
Approach LOS					E			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	133.7		28.7	105.0		16.3						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1E2		* 39	* 58		34.3						
Max Q Clear Time (g_c+I1), s	2.0		21.8	39.6		10.1						
Green Ext Time (p_c), s	31.5		1.2	12.7		0.5						

Intersection Summary		
HCM 6th Ctrl Delay	17.0	
HCM 6th LOS	B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	315	0	1763	1663	4
Future Vol, veh/h	0	315	0	1763	1663	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	135
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	4	4	2
Mvmt Flow	0	325	0	1818	1714	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	857	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	~ 301	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	~ 301	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	112.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	301	-
HCM Lane V/C Ratio	-	1.079	-
HCM Control Delay (s)	-	112.9	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	12.6	-

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

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	24	1585	56	15	1687
Future Vol, veh/h	32	24	1585	56	15	1687
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	34	26	1686	60	16	1795

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2616	843	0	-	1686	0
Stage 1	1686	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 20	307	-	0	375	-
Stage 1	135	-	-	0	-	-
Stage 2	344	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 19	307	-	-	375	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	135	-	-	-	-	-
Stage 2	329	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	44	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	94	307	375	-
HCM Lane V/C Ratio	-	0.362	0.083	0.043	-
HCM Control Delay (s)	-	63.6	17.8	15	-
HCM Lane LOS	-	F	C	C	-
HCM 95th %tile Q(veh)	-	1.4	0.3	0.1	-

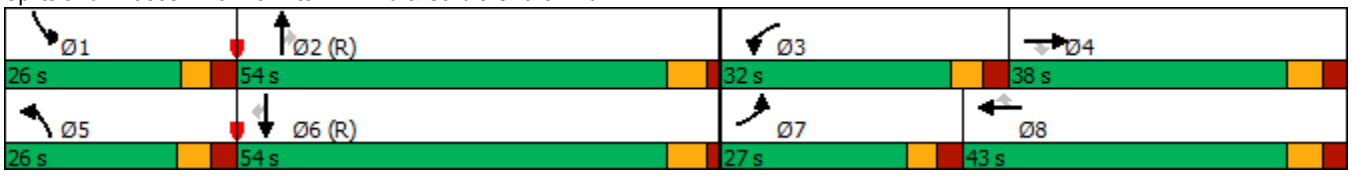
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

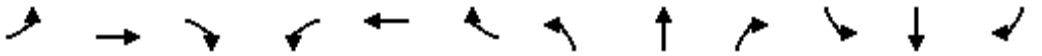
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	238	207	489	172	222	315	743	487	288	805	119
Future Volume (vph)	191	238	207	489	172	222	315	743	487	288	805	119
Lane Group Flow (vph)	195	243	211	499	176	227	321	758	497	294	821	121
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	15.0	36.5	36.5	15.0	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	27.0	38.0	38.0	32.0	43.0	43.0	26.0	54.0	54.0	26.0	54.0	54.0
Total Split (%)	18.0%	25.3%	25.3%	21.3%	28.7%	28.7%	17.3%	36.0%	36.0%	17.3%	36.0%	36.0%
Yellow Time (s)	3.4	3.9	3.9	3.5	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	2.9	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.4	6.9	6.9	6.4	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
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	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.66	0.81	0.50	0.90	0.40	0.41	0.80	0.56	0.56	0.77	0.61	0.18
Control Delay	77.2	80.2	11.9	81.3	50.1	7.4	88.0	35.2	9.8	78.4	41.4	5.9
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	77.2	80.2	11.9	81.3	50.1	7.4	88.0	35.2	9.8	78.4	41.4	5.9
Queue Length 50th (ft)	96	232	9	247	144	0	171	277	84	145	347	0
Queue Length 95th (ft)	137	317	81	#332	214	66	208	433	192	195	457	45
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	471	386	486	585	468	568	446	1360	882	448	1335	684
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	0.41	0.63	0.43	0.85	0.38	0.40	0.72	0.56	0.56	0.66	0.61	0.18

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 72 (48%), Referenced to phase 2:NBT and 6:SBT, 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: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	238	207	489	172	222	315	743	487	288	805	119
Future Volume (veh/h)	191	238	207	489	172	222	315	743	487	288	805	119
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	195	243	0	499	176	0	321	758	0	294	821	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	4	2	2	4	2
Cap, veh/h	244	273		544	436		366	1486		342	1454	
Arrive On Green	0.07	0.15	0.00	0.16	0.23	0.00	0.14	0.57	0.00	0.10	0.42	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	195	243	0	499	176	0	321	758	0	294	821	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	8.3	19.1	0.0	21.3	11.9	0.0	13.7	19.9	0.0	12.6	26.9	0.0
Cycle Q Clear(g_c), s	8.3	19.1	0.0	21.3	11.9	0.0	13.7	19.9	0.0	12.6	26.9	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	244	273		544	436		366	1486		342	1454	
V/C Ratio(X)	0.80	0.89		0.92	0.40		0.88	0.51		0.86	0.56	
Avail Cap(c_a), veh/h	475	388		590	450		445	1486		452	1454	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.7	62.8	0.0	62.2	48.7	0.0	63.5	23.1	0.0	66.6	33.5	0.0
Incr Delay (d2), s/veh	2.3	15.1	0.0	17.7	0.4	0.0	13.7	1.3	0.0	10.1	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	10.3	0.0	10.7	5.7	0.0	6.4	7.4	0.0	5.9	11.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	77.9	0.0	79.9	49.1	0.0	77.2	24.3	0.0	76.6	35.0	0.0
LnGrp LOS	E	E		E	D		E	C		E	D	
Approach Vol, veh/h		438			675			1079			1115	
Approach Delay, s/veh		74.8			71.9			40.1			46.0	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.2	69.9	30.0	28.8	22.6	68.6	17.0	41.9
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	19.6	* 48	25.6	31.1	* 19	* 48	20.6	36.1
Max Q Clear Time (g_c+I1), s	14.6	21.9	23.3	21.1	15.7	28.9	10.3	13.9
Green Ext Time (p_c), s	0.3	11.7	0.3	0.8	0.2	10.4	0.3	0.7

Intersection Summary	
HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	33.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	842	110	36	674	52	87	14	56	67	5	121
Future Vol, veh/h	62	842	110	36	674	52	87	14	56	67	5	121
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	90	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	868	113	37	695	54	90	14	58	69	5	125

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	749	0	0	981	0	0	1477	1876	491	1365	1905	375
Stage 1	-	-	-	-	-	-	1053	1053	-	796	796	-
Stage 2	-	-	-	-	-	-	424	823	-	569	1109	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	856	-	-	699	-	-	~ 88	71	523	106	68	623
Stage 1	-	-	-	-	-	-	242	301	-	347	397	-
Stage 2	-	-	-	-	-	-	578	386	-	474	283	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	699	-	-	~ 60	62	523	70	60	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 60	62	-	70	60	-
Stage 1	-	-	-	-	-	-	224	278	-	321	376	-
Stage 2	-	-	-	-	-	-	432	366	-	370	262	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.5	$ 328.1	95
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	60	523	856	-	-	699	-	-	69	623
HCM Lane V/C Ratio	1.735	0.11	0.075	-	-	0.053	-	-	1.076	0.2
HCM Control Delay (s)	$ 502.9	12.7	9.5	-	-	10.4	-	-	234.1	12.2
HCM Lane LOS	F	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	9.6	0.4	0.2	-	-	0.2	-	-	5.6	0.7

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

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	983	4	15	729	12	38
Future Vol, veh/h	983	4	15	729	12	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1013	4	15	752	12	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1017	0	1797	1015
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	782	-
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	-	-	682	-	88	289
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	682	-	85	289
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	434	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	32.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	183	-	-	682	-
HCM Lane V/C Ratio	0.282	-	-	0.023	-
HCM Control Delay (s)	32.2	-	-	10.4	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	11	3	17	5	8	3	15	49	6	33	1
Future Vol, veh/h	5	11	3	17	5	8	3	15	49	6	33	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	14	4	22	6	10	4	19	62	8	42	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	125	148	43	126	117	50	43	0	0	81	0	0
Stage 1	59	59	-	58	58	-	-	-	-	-	-	-
Stage 2	66	89	-	68	59	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	849	743	1027	848	773	1018	1566	-	-	1517	-	-
Stage 1	953	846	-	954	847	-	-	-	-	-	-	-
Stage 2	945	821	-	942	846	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	830	737	1027	828	767	1018	1566	-	-	1517	-	-
Mov Cap-2 Maneuver	830	737	-	828	767	-	-	-	-	-	-	-
Stage 1	950	842	-	951	844	-	-	-	-	-	-	-
Stage 2	926	819	-	918	842	-	-	-	-	-	-	-

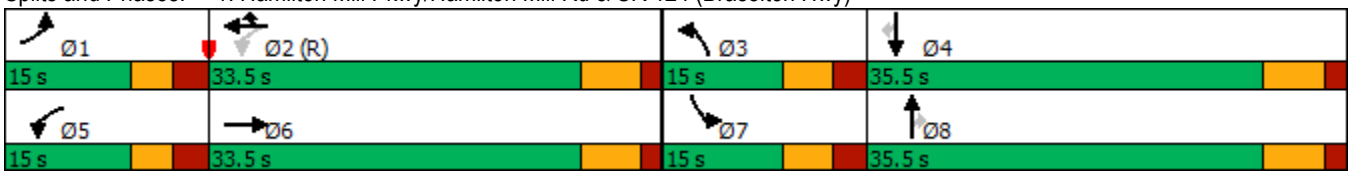
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.4	0.3	1.1
HCM LOS	A	A		

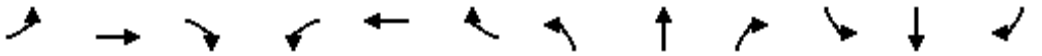
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1566	-	-	796	859	1517	-	-
HCM Lane V/C Ratio	0.002	-	-	0.03	0.044	0.005	-	-
HCM Control Delay (s)	7.3	0	-	9.7	9.4	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	4.0	12.0	4.0	6.0	4.0	12.0	4.0	6.0
Minimum Split (s)	15.0	36.5	15.0	32.5	15.0	36.5	15.0	35.5
Total Split (s)	15.0	33.5	15.0	35.5	15.0	33.5	15.0	35.5
Total Split (%)	15%	34%	15%	36%	15%	34%	15%	36%
Yellow Time (s)	3.1	4.3	3.7	4.6	3.1	4.3	3.7	4.6
All-Red Time (s)	2.6	1.7	2.5	1.8	2.6	1.7	2.5	1.8
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (ft)								
Queue Length 95th (ft)								
Internal Link Dist (ft)								
Turn Bay Length (ft)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	3	3338		1406	1757		2	2		3	2	
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), 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
Cycle Q Clear(g_c), 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
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	3338		1406	1757		2	2		3	2	
V/C Ratio(X)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Avail Cap(c_a), veh/h	325	3338		1572	1757		158	541		307	541	
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	A	A		A	A		A	A		A	A	
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	0.0	0.0	99.0	0.0	0.0
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	9.3	* 28	* 8.8	* 29	9.3	* 28	* 8.8	* 29
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

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

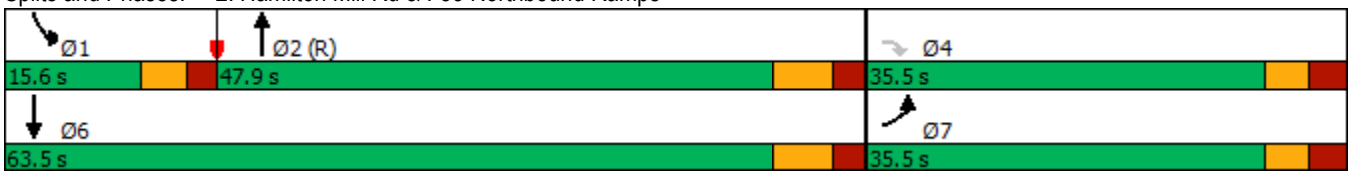
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

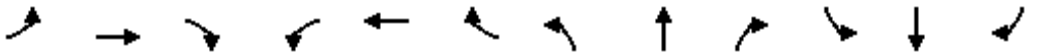
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	1	2	4	6	7
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	12.0	6.0	12.0	6.0
Minimum Split (s)	15.6	45.0	35.5	36.0	15.0
Total Split (s)	15.6	47.9	35.5	63.5	35.5
Total Split (%)	16%	48%	36%	64%	36%
Yellow Time (s)	3.4	4.5	3.2	4.5	3.2
All-Red Time (s)	2.2	2.5	3.0	2.5	3.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	C-Min	None	Min	None
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	0	0	0				0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	2	0					0	3250		3	3250	0
Arrive On Green	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	0	2790				0	3681	0	3456	3589	0
Grp Volume(v), veh/h	0	0	0				0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	0	1728	1749	0
Q Serve(g_s), s	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	2	0					0	3250		3	3250	0
V/C Ratio(X)	0.00	0.00					0.00	0.00		0.00	0.00	0.00
Avail Cap(c_a), veh/h	527	0					0	3250		349	3250	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	A	A					A	A		A	A	A
Approach Vol, veh/h		0						0			0	
Approach Delay, s/veh		0.0						0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	99.0
Change Period (Y+Rc), s	* 5.6	7.0	* 6.2	7.0
Max Green Setting (Gmax), s	* 10	40.9	* 29	56.5
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

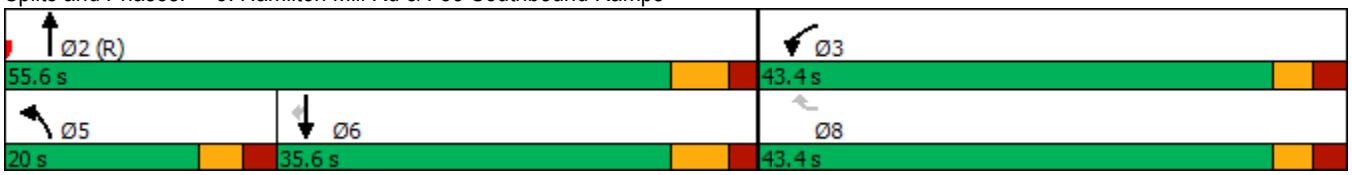
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

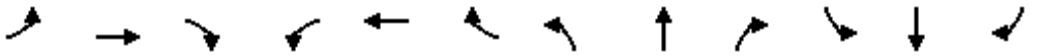
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	Ø2	Ø3	Ø5	Ø6	Ø8
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	2	3	5	6	8
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	12.0	6.0	4.0	12.0	6.0
Minimum Split (s)	36.6	15.0	15.0	33.5	37.5
Total Split (s)	55.6	43.4	20.0	35.6	43.4
Total Split (%)	56%	44%	20%	36%	44%
Yellow Time (s)	4.3	3.0	3.2	4.3	3.0
All-Red Time (s)	2.3	2.6	2.5	2.3	2.6
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	C-Min	None	Min	Min	None
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				0	0	0	0	0	0	0	0	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				3	0		3	3264	0	0	3264	
Arrive On Green				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				3	0		3	3264	0	0	3264	
V/C Ratio(X)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	
Avail Cap(c_a), veh/h				1319	0		499	3264	0	0	3264	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS				A	A		A	A	A	A	A	
Approach Vol, veh/h					0			0			0	
Approach Delay, s/veh					0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	99.0		0.0	99.0		0.0						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.6						
Max Green Setting (Gmax), s	* 49		* 14	* 29		37.8						
Max Q Clear Time (g_c+I1), s	0.0		0.0	0.0		0.0						
Green Ext Time (p_c), s	0.0		0.0	0.0		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	0.0	
HCM 6th LOS	A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	135
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	4	4	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	1083	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	1083	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	-	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	1021	-	-	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	1022	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	933	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

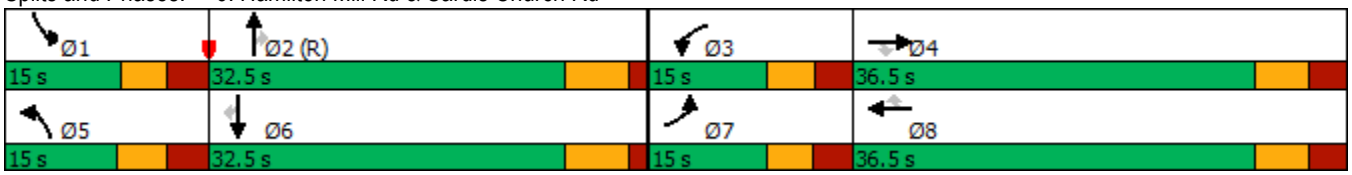
Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

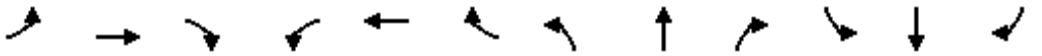
Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	0	0	0	-
HCM Lane LOS	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	4.0	12.0	4.0	6.0	4.0	12.0	4.0	6.0
Minimum Split (s)	15.0	31.5	15.0	36.5	15.0	31.5	15.0	35.5
Total Split (s)	15.0	32.5	15.0	36.5	15.0	32.5	15.0	36.5
Total Split (%)	15%	33%	15%	37%	15%	33%	15%	37%
Yellow Time (s)	3.4	4.6	3.5	3.9	3.7	4.6	3.4	3.9
All-Red Time (s)	3.0	1.6	2.9	3.0	3.0	1.6	3.0	3.0
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (ft)								
Queue Length 95th (ft)								
Internal Link Dist (ft)								
Turn Bay Length (ft)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	3	2		3	2		3	3278		3	3278	
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), 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
Cycle Q Clear(g_c), 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
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	3	2		3	2		3	3278		3	3278	
V/C Ratio(X)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Avail Cap(c_a), veh/h	300	559		300	559		290	3278		300	3278	
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	A	A		A	A		A	A		A	A	
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	0.0	0.0	99.0	0.0	0.0
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	8.6	* 26	8.6	29.6	* 8.3	* 26	8.6	29.6
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	185	-	-	-	-	0	-	-	0
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	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	1	0	0	2	2	1	2	2	1
Stage 1	-	-	-	-	-	-	1	1	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	1	1	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1620	-	-	1620	-	-	1019	893	1083	1019	893	1083
Stage 1	-	-	-	-	-	-	1021	895	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	1021	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1620	-	-	1620	-	-	1019	893	1083	1019	893	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-	1019	893	-	1019	893	-
Stage 1	-	-	-	-	-	-	1021	895	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	1021	895	-

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

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1620	-	-	1620	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	0	-	-	0	-	-	0	0
HCM Lane LOS	A	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	724	3	10	830	12	36
Future Vol, veh/h	724	3	10	830	12	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	796	3	11	912	13	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	799	0	1732	798
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	934	-
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	-	-	824	-	97	386
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	824	-	94	386
Mov Cap-2 Maneuver	-	-	-	-	94	-
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	372	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	26.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	217	-	-	824	-
HCM Lane V/C Ratio	0.243	-	-	0.013	-
HCM Control Delay (s)	26.8	-	-	9.4	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1	1	1	1	1	0	1	0	0	0	0	0
Stage 1	1	1	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1022	895	1084	1022	895	-	1622	-	-	-	-	-
Stage 1	1022	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	895	1084	1022	895	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	1022	895	-	-	-	-	-	-	-
Stage 1	1022	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Future “No-Build” Intersection Analysis with Improvements

1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)

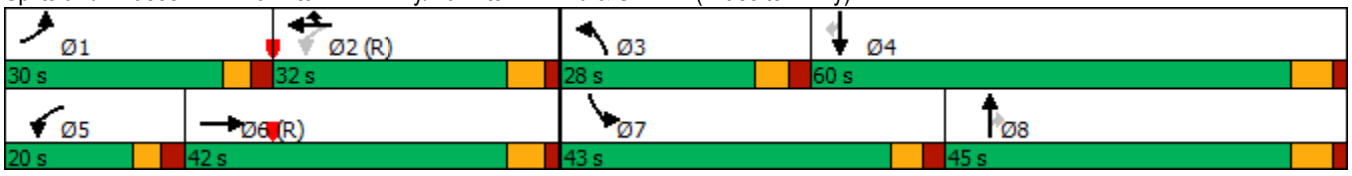
01/24/2023

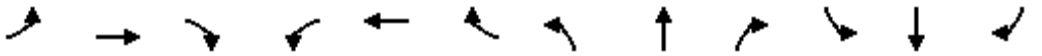
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	293	351	63	325	688	59	342	118	566	143	232
Future Volume (vph)	293	351	63	325	688	59	342	118	566	143	232
Lane Group Flow (vph)	308	407	66	342	724	62	360	124	596	151	244
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	30.0	42.0	20.0	32.0	32.0	28.0	45.0	45.0	43.0	60.0	60.0
Total Split (%)	20.0%	28.0%	13.3%	21.3%	21.3%	18.7%	30.0%	30.0%	28.7%	40.0%	40.0%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.76	0.31	0.18	0.63	0.89	0.55	0.87	0.24	0.86	0.22	0.32
Control Delay	76.1	36.9	29.0	54.6	64.7	84.9	77.6	1.1	64.6	31.6	5.5
Queue Delay	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.1	36.9	29.0	54.6	70.2	84.9	77.6	1.1	64.6	31.6	5.5
Queue Length 50th (ft)	153	151	37	295	391	60	340	0	305	113	30
Queue Length 95th (ft)	199	227	77	#546	#678	109	453	0	286	129	41
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	556	1301	449	543	812	257	472	553	842	699	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	56	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.31	0.15	0.63	0.96	0.24	0.76	0.22	0.71	0.22	0.32

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 5 (3%), Referenced to phase 2:WBTL and 6:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	293	351	36	63	325	688	59	342	118	566	143	232
Future Volume (veh/h)	293	351	36	63	325	688	59	342	118	566	143	232
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	308	369	0	66	342	0	62	360	0	596	151	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	358	1435		450	628		79	391		644	652	
Arrive On Green	0.10	0.40	0.00	0.04	0.34	0.00	0.04	0.21	0.00	0.31	0.59	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	308	369	0	66	342	0	62	360	0	596	151	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	13.2	10.4	0.0	3.6	22.3	0.0	5.2	28.7	0.0	25.0	5.8	0.0
Cycle Q Clear(g_c), s	13.2	10.4	0.0	3.6	22.3	0.0	5.2	28.7	0.0	25.0	5.8	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	1435		450	628		79	391		644	652	
V/C Ratio(X)	0.86	0.26		0.15	0.54		0.78	0.92		0.93	0.23	
Avail Cap(c_a), veh/h	560	1435		557	628		259	474		848	658	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	66.2	29.7	0.0	30.8	40.5	0.0	70.9	57.8	0.0	50.7	21.0	0.0
Incr Delay (d2), s/veh	4.9	0.4	0.0	0.1	3.4	0.0	6.2	20.9	0.0	11.0	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	6.0	4.5	0.0	1.6	10.7	0.0	2.5	15.4	0.0	10.5	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	30.2	0.0	30.9	43.9	0.0	77.1	78.7	0.0	61.7	21.0	0.0
LnGrp LOS	E	C		C	D		E	E		E	C	
Approach Vol, veh/h		677			408			422			747	
Approach Delay, s/veh		48.8			41.8			78.5			53.5	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.2	56.3	12.9	59.5	11.0	66.6	34.1	38.3
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	24.3	* 26	* 22	* 54	14.3	* 36	* 37	* 39
Max Q Clear Time (g_c+I1), s	15.2	24.3	7.2	7.8	5.6	12.4	27.0	30.7
Green Ext Time (p_c), s	0.4	0.6	0.0	0.5	0.0	5.1	0.9	1.2

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

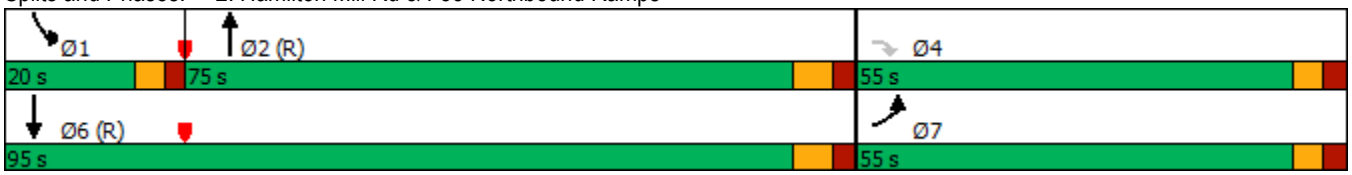
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

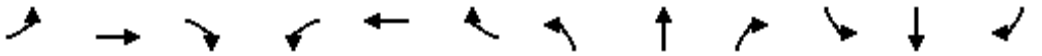
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	353	397	1237	191	756
Future Volume (vph)	353	397	1237	191	756
Lane Group Flow (vph)	376	422	1425	203	804
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	32.2	35.5	45.0	15.6	36.0
Total Split (s)	55.0	55.0	75.0	20.0	95.0
Total Split (%)	36.7%	36.7%	50.0%	13.3%	63.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.73	0.62	0.65	0.67	0.30
Control Delay	69.5	18.5	30.0	86.9	7.4
Queue Delay	0.0	0.0	4.4	0.0	0.0
Total Delay	69.5	18.5	34.4	86.9	7.4
Queue Length 50th (ft)	184	51	582	107	95
Queue Length 95th (ft)	231	110	713	152	123
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)	150	370		165	
Base Capacity (vph)	1116	1121	2190	343	2647
Starvation Cap Reductn	0	0	676	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.38	0.94	0.59	0.30

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 46 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	0	397	0	0	0	0	1237	102	191	756	0
Future Volume (veh/h)	353	0	397	0	0	0	0	1237	102	191	756	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	376	0	0				0	1316	109	203	804	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	454	0					0	2195	181	250	2731	0
Arrive On Green	0.13	0.00	0.00				0.00	1.00	1.00	0.05	0.52	0.00
Sat Flow, veh/h	3456	0	2790				0	3363	270	3456	3589	0
Grp Volume(v), veh/h	376	0	0				0	702	723	203	804	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1749	1792	1728	1749	0
Q Serve(g_s), s	15.9	0.0	0.0				0.0	0.0	0.0	8.7	19.4	0.0
Cycle Q Clear(g_c), s	15.9	0.0	0.0				0.0	0.0	0.0	8.7	19.4	0.0
Prop In Lane	1.00		1.00				0.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	454	0					0	1174	1203	250	2731	0
V/C Ratio(X)	0.83	0.00					0.00	0.60	0.60	0.81	0.29	0.00
Avail Cap(c_a), veh/h	1124	0					0	1174	1203	332	2731	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.40	0.40	0.92	0.92	0.00
Uniform Delay (d), s/veh	63.5	0.0	0.0				0.0	0.0	0.0	70.4	12.5	0.0
Incr Delay (d2), s/veh	4.7	0.0	0.0				0.0	0.9	0.9	7.5	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
%ile BackOfQ(50%),veh/ln	7.3	0.0	0.0				0.0	0.3	0.3	4.2	8.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.2	0.0	0.0				0.0	0.9	0.9	77.9	12.7	0.0
LnGrp LOS	E	A					A	A	A	E	B	A
Approach Vol, veh/h		376						1425			1007	
Approach Delay, s/veh		68.2						0.9			25.9	
Approach LOS		E						A			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.4	107.7		25.9		124.1
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	68.0		* 49		88.0
Max Q Clear Time (g_c+I1), s	10.7	2.0		17.9		21.4
Green Ext Time (p_c), s	0.1	32.0		1.8		13.3

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

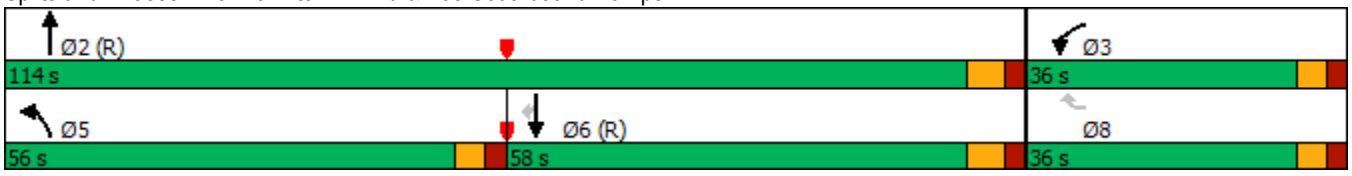
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

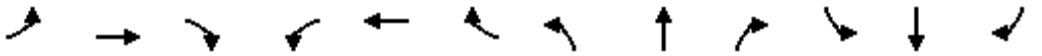
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	229	327	663	872	588	854
Future Volume (vph)	229	327	663	872	588	854
Lane Group Flow (vph)	239	341	691	908	613	890
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	36.0	36.0	56.0	114.0	58.0	58.0
Total Split (%)	24.0%	24.0%	37.3%	76.0%	38.7%	38.7%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.53	0.87	0.85	0.33	0.35	0.86
Control Delay	63.6	46.7	66.7	4.9	18.3	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.6	46.7	66.7	4.9	18.3	26.9
Queue Length 50th (ft)	114	136	368	96	154	375
Queue Length 95th (ft)	147	243	436	176	254	#844
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	693	485	1151	2725	1771	1030
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.70	0.60	0.33	0.35	0.86

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 42 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	229	0	327	663	872	0	0	588	854
Future Volume (veh/h)	0	0	0	229	0	327	663	872	0	0	588	854
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				239	0	0	691	908	0	0	612	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				294	0		744	2913	0	0	2028	
Arrive On Green				0.09	0.00	0.00	0.43	1.00	0.00	0.00	0.77	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				239	0	0	691	908	0	0	612	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	7.8	0.0
Cycle Q Clear(g_c), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	7.8	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				294	0		744	2913	0	0	2028	
V/C Ratio(X)				0.81	0.00		0.93	0.31	0.00	0.00	0.30	
Avail Cap(c_a), veh/h				698	0		1159	2913	0	0	2028	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.33	1.33
Upstream Filter(I)				1.00	0.00	0.00	0.69	0.69	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				67.5	0.0	0.0	41.6	0.0	0.0	0.0	8.1	0.0
Incr Delay (d2), s/veh				4.1	0.0	0.0	5.9	0.2	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				4.7	0.0	0.0	10.2	0.1	0.0	0.0	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				71.5	0.0	0.0	47.6	0.2	0.0	0.0	8.5	0.0
LnGrp LOS				E	A		D	A	A	A	A	
Approach Vol, veh/h					239			1599			612	
Approach Delay, s/veh					71.5			20.7			8.5	
Approach LOS					E			C			A	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	131.5		38.0	93.6		18.5						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1.1E2		* 50	* 51		30.3						
Max Q Clear Time (g_c+I1), s	2.0		30.5	9.8		12.2						
Green Ext Time (p_c), s	11.2		1.8	6.2		0.6						

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	96	32	1169	1311	5
Future Vol, veh/h	0	96	32	1169	1311	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	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	4	4	2
Mvmt Flow	0	101	34	1231	1380	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	690	1380	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	388	493	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	388	493	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	493	-	388	-
HCM Lane V/C Ratio	0.068	-	0.26	-
HCM Control Delay (s)	12.8	-	17.5	-
HCM Lane LOS	B	-	C	-
HCM 95th %tile Q(veh)	0.2	-	1	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	4	1145	13	14	1244
Future Vol, veh/h	54	4	1145	13	14	1244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	55	4	1157	13	14	1257

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1814	579	0	-	1157	0
Stage 1	1157	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	70	458	-	0	600	-
Stage 1	261	-	-	0	-	-
Stage 2	477	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	68	458	-	-	600	-
Mov Cap-2 Maneuver	181	-	-	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	466	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.8	0	0.1
HCM LOS	D		

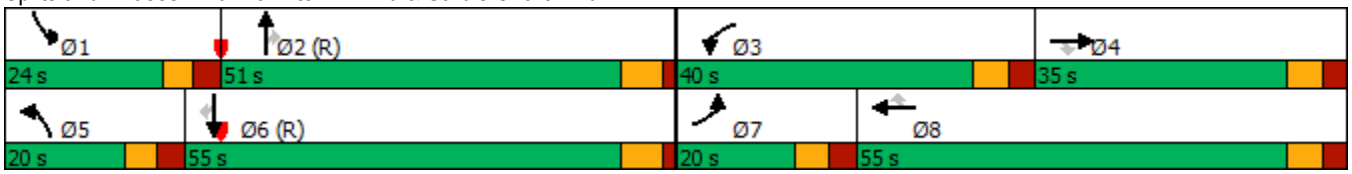
Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	181	458	600	-
HCM Lane V/C Ratio	-	0.301	0.009	0.024	-
HCM Control Delay (s)	-	33.2	12.9	11.1	-
HCM Lane LOS	-	D	B	B	-
HCM 95th %tile Q(veh)	-	1.2	0	0.1	-

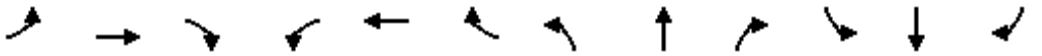
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	59	104	535	96	329	123	625	307	253	561	53
Future Volume (vph)	68	59	104	535	96	329	123	625	307	253	561	53
Lane Group Flow (vph)	71	61	108	557	100	343	128	651	320	264	584	55
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	36.5	36.5	36.5	35.5	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	20.0	35.0	35.0	40.0	55.0	55.0	20.0	51.0	51.0	24.0	55.0	55.0
Total Split (%)	13.3%	23.3%	23.3%	26.7%	36.7%	36.7%	13.3%	34.0%	34.0%	16.0%	36.7%	36.7%
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.9	6.9	6.9	6.9	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
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	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.39	0.50	0.41	0.85	0.27	0.60	0.56	0.41	0.36	0.73	0.34	0.06
Control Delay	74.2	81.1	4.8	71.6	50.9	12.0	77.0	31.1	8.5	76.8	24.6	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	0.0
Total Delay	74.2	81.1	4.8	71.6	50.9	12.0	77.0	31.1	8.5	76.8	24.6	0.1
Queue Length 50th (ft)	35	59	0	273	83	26	68	224	55	131	178	0
Queue Length 95th (ft)	62	108	1	331	133	119	m100	281	90	176	258	0
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	299	349	436	757	597	718	304	1605	900	414	1733	879
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	0.24	0.17	0.25	0.74	0.17	0.48	0.42	0.41	0.36	0.64	0.34	0.06

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	59	104	535	96	329	123	625	307	253	561	53
Future Volume (veh/h)	68	59	104	535	96	329	123	625	307	253	561	53
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	71	61	0	557	100	0	128	651	0	264	584	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	138	87		616	346		175	1781		311	1911	
Arrive On Green	0.04	0.05	0.00	0.18	0.18	0.00	0.02	0.17	0.00	0.09	0.55	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	71	61	0	557	100	0	128	651	0	264	584	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	3.0	4.8	0.0	23.7	6.9	0.0	5.5	24.7	0.0	11.3	13.6	0.0
Cycle Q Clear(g_c), s	3.0	4.8	0.0	23.7	6.9	0.0	5.5	24.7	0.0	11.3	13.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	87		616	346		175	1781		311	1911	
V/C Ratio(X)	0.51	0.70		0.90	0.29		0.73	0.37		0.85	0.31	
Avail Cap(c_a), veh/h	302	350		763	600		306	1781		405	1911	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	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	70.6	70.4	0.0	60.4	52.6	0.0	72.7	40.9	0.0	67.3	18.5	0.0
Incr Delay (d2), s/veh	2.2	7.2	0.0	11.9	0.3	0.0	2.2	0.6	0.0	10.2	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	1.4	2.5	0.0	11.4	3.3	0.0	2.5	11.8	0.0	5.4	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	77.7	0.0	72.3	53.0	0.0	75.0	41.5	0.0	77.4	18.9	0.0
LnGrp LOS	E	E		E	D		E	D		E	B	
Approach Vol, veh/h		132			657			779			848	
Approach Delay, s/veh		75.0			69.4			47.0			37.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.9	82.6	33.6	13.9	14.3	88.2	12.9	34.6
Change Period (Y+Rc), s	6.4	* 6.2	6.9	6.9	* 6.7	* 6.2	6.9	6.9
Max Green Setting (Gmax), s	17.6	* 45	33.1	28.1	* 13	* 49	13.1	48.1
Max Q Clear Time (g_c+I1), s	13.3	26.7	25.7	6.8	7.5	15.6	5.0	8.9
Green Ext Time (p_c), s	0.2	8.1	1.0	0.2	0.1	9.8	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	51.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	584	26	22	890	19	18	0	11	29	1	52
Future Vol, veh/h	10	584	26	22	890	19	18	0	11	29	1	52
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	90	-	-	185	-	-	-	-	75	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	664	30	25	1011	22	20	0	13	33	1	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1033	0	0	694	0	0	1257	1784	347	1426	1788	517
Stage 1	-	-	-	-	-	-	701	701	-	1072	1072	-
Stage 2	-	-	-	-	-	-	556	1083	-	354	716	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	668	-	-	897	-	-	128	81	649	96	80	503
Stage 1	-	-	-	-	-	-	395	439	-	235	295	-
Stage 2	-	-	-	-	-	-	483	292	-	636	432	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	668	-	-	897	-	-	108	77	649	91	76	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	77	-	91	76	-
Stage 1	-	-	-	-	-	-	389	432	-	231	287	-
Stage 2	-	-	-	-	-	-	413	284	-	613	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	32.6	33
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	108	649	668	-	-	897	-	-	90	503
HCM Lane V/C Ratio	0.189	0.019	0.017	-	-	0.028	-	-	0.379	0.117
HCM Control Delay (s)	46	10.7	10.5	-	-	9.1	-	-	67.6	13.1
HCM Lane LOS	E	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.7	0.1	0.1	-	-	0.1	-	-	1.5	0.4

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	625	0	35	926	5	12
Future Vol, veh/h	625	0	35	926	5	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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	735	0	41	1089	6	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	735	0	1906	735
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	1171	-
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	-	75	420
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	295	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	870	-	66	420
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	260	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	30.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	163	-	-	870	-
HCM Lane V/C Ratio	0.123	-	-	0.047	-
HCM Control Delay (s)	30.2	-	-	9.3	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	4	11	33	2	2	6	6	13	3	16	2
Future Vol, veh/h	6	4	11	33	2	2	6	6	13	3	16	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	5	13	38	2	2	7	7	15	3	18	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	56	61	19	63	55	15	20	0	0	22	0	0
Stage 1	25	25	-	29	29	-	-	-	-	-	-	-
Stage 2	31	36	-	34	26	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	941	830	1059	932	836	1065	1596	-	-	1593	-	-
Stage 1	993	874	-	988	871	-	-	-	-	-	-	-
Stage 2	986	865	-	982	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	933	825	1059	913	831	1065	1596	-	-	1593	-	-
Mov Cap-2 Maneuver	933	825	-	913	831	-	-	-	-	-	-	-
Stage 1	989	872	-	984	868	-	-	-	-	-	-	-
Stage 2	977	862	-	963	872	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.1	1.7	1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1596	-	-	969	915	1593	-	-
HCM Lane V/C Ratio	0.004	-	-	0.025	0.046	0.002	-	-
HCM Control Delay (s)	7.3	0	-	8.8	9.1	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)

01/24/2023

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	338	426	125	365	691	17	245	123	1169	439	352
Future Volume (vph)	338	426	125	365	691	17	245	123	1169	439	352
Lane Group Flow (vph)	341	467	126	369	698	17	247	124	1181	443	356
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	26.0	34.0	25.0	33.0	33.0	15.0	33.0	33.0	58.0	76.0	76.0
Total Split (%)	17.3%	22.7%	16.7%	22.0%	22.0%	10.0%	22.0%	22.0%	38.7%	50.7%	50.7%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.82	0.52	0.43	0.94	1.19	0.24	0.85	0.33	1.00	0.48	0.36
Control Delay	80.4	51.4	38.1	89.4	148.5	77.1	86.4	5.7	66.3	25.5	2.7
Queue Delay	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	9.0	1.5	0.0
Total Delay	80.4	51.4	38.1	89.4	153.3	77.1	86.4	5.7	75.3	27.0	2.7
Queue Length 50th (ft)	169	210	85	~385	~494	16	235	0	574	213	10
Queue Length 95th (ft)	224	283	137	#617	#656	44	#355	33	#750	418	46
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	464	894	380	394	589	103	323	406	1185	931	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	37	301	0
Spillback Cap Reductn	0	0	0	0	242	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.52	0.33	0.94	2.01	0.17	0.76	0.31	1.03	0.70	0.36

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 147 (98%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

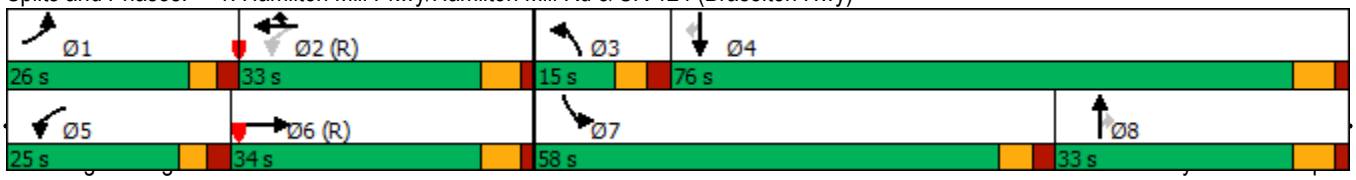
Natural Cycle: 145

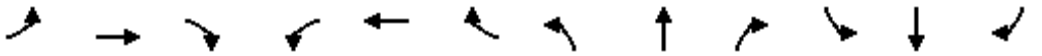
Control Type: Actuated-Coordinated

~ 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: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	338	426	37	125	365	691	17	245	123	1169	439	352
Future Volume (veh/h)	338	426	37	125	365	691	17	245	123	1169	439	352
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	341	430	0	126	369	0	17	247	0	1181	443	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	388	985		337	434		24	273		1193	884	
Arrive On Green	0.11	0.28	0.00	0.07	0.23	0.00	0.01	0.15	0.00	0.58	0.80	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	341	430	0	126	369	0	17	247	0	1181	443	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	14.6	14.9	0.0	8.0	28.3	0.0	1.4	19.8	0.0	50.5	11.9	0.0
Cycle Q Clear(g_c), s	14.6	14.9	0.0	8.0	28.3	0.0	1.4	19.8	0.0	50.5	11.9	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	985		337	434		24	273		1193	884	
V/C Ratio(X)	0.88	0.44		0.37	0.85		0.71	0.90		0.99	0.50	
Avail Cap(c_a), veh/h	468	985		447	434		105	326		1193	884	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.57	0.57	0.00
Uniform Delay (d), s/veh	65.6	44.6	0.0	39.9	55.1	0.0	73.7	62.8	0.0	31.5	8.9	0.0
Incr Delay (d2), s/veh	13.6	1.4	0.0	0.3	18.5	0.0	13.0	24.4	0.0	17.2	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	7.0	6.7	0.0	3.5	15.3	0.0	0.7	11.0	0.0	18.9	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	46.0	0.0	40.2	73.7	0.0	86.7	87.2	0.0	48.7	9.0	0.0
LnGrp LOS	E	D		D	E		F	F		D	A	
Approach Vol, veh/h		771			495			264			1624	
Approach Delay, s/veh		60.7			65.1			87.1			37.8	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	40.8	8.2	78.5	15.7	47.6	58.0	28.7
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	20.3	* 27	* 8.8	* 70	19.3	* 28	* 52	* 27
Max Q Clear Time (g_c+I1), s	16.6	30.3	3.4	13.9	10.0	16.9	52.5	21.8
Green Ext Time (p_c), s	0.3	0.0	0.0	1.6	0.1	3.8	0.0	0.5

Intersection Summary		
HCM 6th Ctrl Delay		51.8
HCM 6th LOS		D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

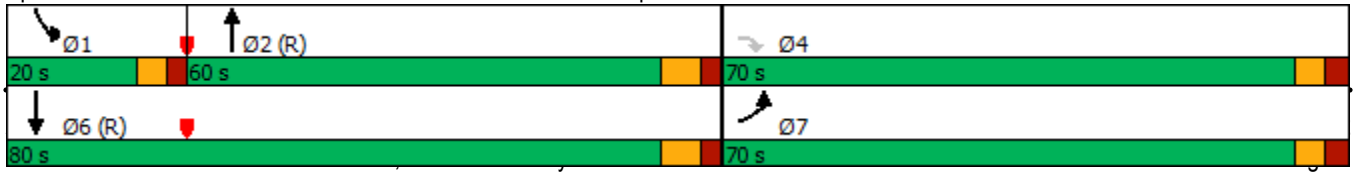
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

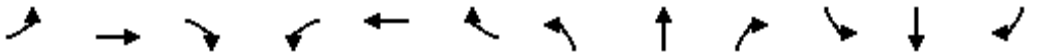
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	728	805	1196	354	1283
Future Volume (vph)	728	805	1196	354	1283
Lane Group Flow (vph)	774	856	1440	377	1365
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	15.0	35.5	45.0	15.6	36.0
Total Split (s)	70.0	70.0	60.0	20.0	80.0
Total Split (%)	46.7%	46.7%	40.0%	13.3%	53.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.66	0.85	1.12	0.70	0.69
Control Delay	44.0	50.5	107.0	91.0	15.1
Queue Delay	0.0	0.0	0.4	0.0	0.5
Total Delay	44.0	50.5	107.4	91.0	15.6
Queue Length 50th (ft)	328	409	~890	194	136
Queue Length 95th (ft)	361	460	m#864	#303	316
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)	150	370		165	
Base Capacity (vph)	1460	1225	1282	542	1973
Starvation Cap Reductn	0	0	120	0	127
Spillback Cap Reductn	0	4	0	0	232
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.70	1.24	0.70	0.78

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 25 (17%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	728	0	805	0	0	0	0	1196	158	354	1283	0
Future Volume (veh/h)	728	0	805	0	0	0	0	1196	158	354	1283	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	774	0	0				0	1272	168	377	1365	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	883	0					0	1626	214	332	2296	0
Arrive On Green	0.26	0.00	0.00				0.00	0.70	0.70	0.10	0.66	0.00
Sat Flow, veh/h	3456	0	2790				0	3200	408	3456	3589	0
Grp Volume(v), veh/h	774	0	0				0	713	727	377	1365	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1749	1767	1728	1749	0
Q Serve(g_s), s	32.2	0.0	0.0				0.0	40.6	41.5	14.4	33.0	0.0
Cycle Q Clear(g_c), s	32.2	0.0	0.0				0.0	40.6	41.5	14.4	33.0	0.0
Prop In Lane	1.00		1.00				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	883	0					0	915	925	332	2296	0
V/C Ratio(X)	0.88	0.00					0.00	0.78	0.79	1.14	0.59	0.00
Avail Cap(c_a), veh/h	1470	0					0	915	925	332	2296	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.09	0.09	0.62	0.62	0.00
Uniform Delay (d), s/veh	53.6	0.0	0.0				0.0	17.1	17.2	67.8	14.5	0.0
Incr Delay (d2), s/veh	4.1	0.0	0.0				0.0	0.6	0.6	82.3	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	0.0	0.0				0.0	12.5	12.9	10.0	12.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	0.0	0.0				0.0	17.7	17.8	150.1	15.2	0.0
LnGrp LOS	E	A					A	B	B	F	B	A
Approach Vol, veh/h		774						1440			1742	
Approach Delay, s/veh		57.6						17.7			44.4	
Approach LOS		E						B			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	85.5		44.5		105.5
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	53.0		* 64		73.0
Max Q Clear Time (g_c+I1), s	16.4	43.5		34.2		35.0
Green Ext Time (p_c), s	0.0	8.0		4.1		23.0

Intersection Summary		
HCM 6th Ctrl Delay		37.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

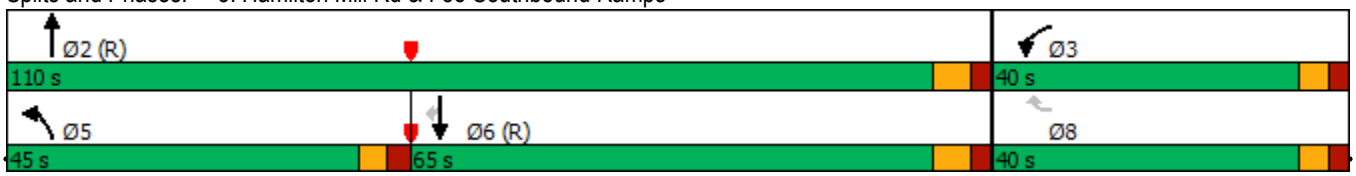
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

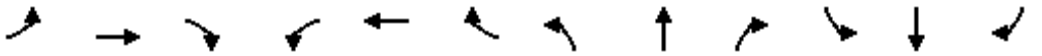
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	186	253	467	1537	1446	625
Future Volume (vph)	186	253	467	1537	1446	625
Lane Group Flow (vph)	190	258	477	1568	1476	638
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	40.0	40.0	45.0	110.0	65.0	65.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.35	0.84	0.81	0.59	0.77	0.68
Control Delay	56.7	67.7	58.4	10.3	33.1	23.9
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	56.7	67.7	58.4	10.7	33.1	23.9
Queue Length 50th (ft)	86	186	248	344	713	379
Queue Length 95th (ft)	116	272	m254	m332	#903	650
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	785	414	899	2640	1911	944
Starvation Cap Reductn	0	0	0	530	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.62	0.53	0.74	0.77	0.68

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 28 (19%), Referenced to phase 2:NBT and 6:SBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	186	0	253	467	1537	0	0	1446	625
Future Volume (veh/h)	0	0	0	186	0	253	467	1537	0	0	1446	625
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				190	0	0	477	1568	0	0	1476	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				244	0		530	2964	0	0	2295	
Arrive On Green				0.07	0.00	0.00	0.31	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				190	0	0	477	1568	0	0	1476	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				244	0		530	2964	0	0	2295	
V/C Ratio(X)				0.78	0.00		0.90	0.53	0.00	0.00	0.64	
Avail Cap(c_a), veh/h				790	0		905	2964	0	0	2295	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	0.00	0.18	0.18	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				68.6	0.0	0.0	50.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				4.0	0.0	0.0	1.1	0.1	0.0	0.0	1.4	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
%ile BackOfQ(50%),veh/ln				3.7	0.0	0.0	7.3	0.1	0.0	0.0	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				72.6	0.0	0.0	52.0	0.1	0.0	0.0	1.4	0.0
LnGrp LOS				E	A		D	A	A	A	A	
Approach Vol, veh/h					190			2045			1476	
Approach Delay, s/veh					72.6			12.2			1.4	
Approach LOS					E			B			A	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	133.7		28.7	105.0		16.3						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1E2		* 39	* 58		34.3						
Max Q Clear Time (g_c+I1), s	2.0		21.8	2.0		10.1						
Green Ext Time (p_c), s	31.5		1.2	23.8		0.5						

Intersection Summary		
HCM 6th Ctrl Delay	11.0	
HCM 6th LOS	B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	315	65	1763	1663	4
Future Vol, veh/h	0	315	65	1763	1663	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	-	0	-	-	-	135
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	4	4	2
Mvmt Flow	0	325	67	1818	1714	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	857	1714	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	~ 301	366	-	-	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	~ 301	366	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	112.9	0.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	366	-	301	-
HCM Lane V/C Ratio	0.183	-	1.079	-
HCM Control Delay (s)	17	-	112.9	-
HCM Lane LOS	C	-	F	-
HCM 95th %tile Q(veh)	0.7	-	12.6	-

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

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	24	1585	56	15	1687
Future Vol, veh/h	32	24	1585	56	15	1687
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	34	26	1686	60	16	1795

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2616	843	0	-	1686	0
Stage 1	1686	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 20	307	-	0	375	-
Stage 1	135	-	-	0	-	-
Stage 2	344	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 19	307	-	-	375	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	135	-	-	-	-	-
Stage 2	329	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	44	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	94	307	375	-
HCM Lane V/C Ratio	-	0.362	0.083	0.043	-
HCM Control Delay (s)	-	63.6	17.8	15	-
HCM Lane LOS	-	F	C	C	-
HCM 95th %tile Q(veh)	-	1.4	0.3	0.1	-

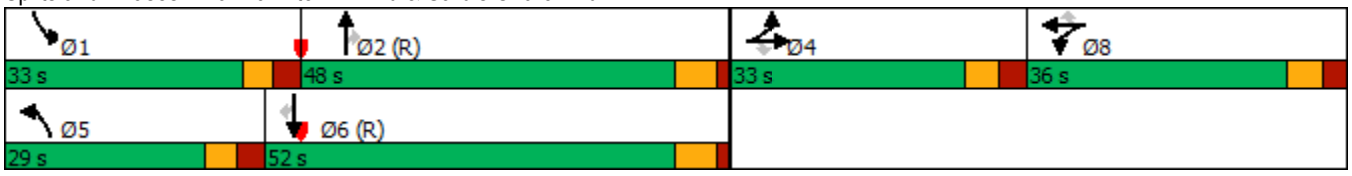
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

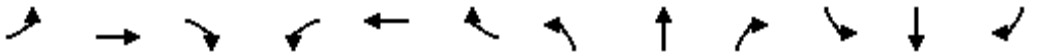
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	238	207	489	172	222	315	743	487	288	805	119
Future Volume (vph)	191	238	207	489	172	222	315	743	487	288	805	119
Lane Group Flow (vph)	195	243	211	499	176	227	321	758	497	294	821	121
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	36.5	36.5	36.5	35.5	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	33.0	33.0	33.0	36.0	36.0	36.0	29.0	48.0	48.0	33.0	52.0	52.0
Total Split (%)	22.0%	22.0%	22.0%	24.0%	24.0%	24.0%	19.3%	32.0%	32.0%	22.0%	34.7%	34.7%
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.9	6.9	6.9	6.9	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.36	0.84	0.52	0.82	0.53	0.49	0.77	0.58	0.59	0.75	0.65	0.18
Control Delay	57.9	84.7	14.1	70.7	61.8	9.7	74.9	41.1	16.2	76.1	44.1	5.8
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	57.9	84.7	14.1	70.7	61.8	9.7	74.9	41.1	16.2	76.1	44.1	5.8
Queue Length 50th (ft)	87	229	16	242	157	0	162	355	119	145	366	0
Queue Length 95th (ft)	127	#345	94	305	236	74	213	402	194	191	467	44
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	597	324	434	666	361	490	510	1300	847	608	1271	660
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	0.33	0.75	0.49	0.75	0.49	0.46	0.63	0.58	0.59	0.48	0.65	0.18

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	238	207	489	172	222	315	743	487	288	805	119
Future Volume (veh/h)	191	238	207	489	172	222	315	743	487	288	805	119
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	195	243	0	499	176	0	321	758	0	294	821	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	4	2	2	4	2
Cap, veh/h	506	274		563	305		370	1451		345	1419	
Arrive On Green	0.15	0.15	0.00	0.16	0.16	0.00	0.11	0.41	0.00	0.10	0.41	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	195	243	0	499	176	0	321	758	0	294	821	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	7.7	19.1	0.0	21.2	13.0	0.0	13.7	24.3	0.0	12.6	27.3	0.0
Cycle Q Clear(g_c), s	7.7	19.1	0.0	21.2	13.0	0.0	13.7	24.3	0.0	12.6	27.3	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	506	274		563	305		370	1451		345	1419	
V/C Ratio(X)	0.39	0.89		0.89	0.58		0.87	0.52		0.85	0.58	
Avail Cap(c_a), veh/h	601	325		670	363		514	1451		613	1419	
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	57.9	62.8	0.0	61.4	58.0	0.0	65.9	32.8	0.0	66.4	34.6	0.0
Incr Delay (d2), s/veh	0.4	21.1	0.0	11.6	1.3	0.0	8.6	1.3	0.0	2.3	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	10.8	0.0	10.2	6.3	0.0	6.4	10.3	0.0	5.6	11.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	83.9	0.0	73.0	59.3	0.0	74.6	34.1	0.0	68.8	36.4	0.0
LnGrp LOS	E	F		E	E		E	C		E	D	
Approach Vol, veh/h		438			675			1079			1115	
Approach Delay, s/veh		72.5			69.4			46.2			44.9	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.4	68.4		28.8	22.8	67.0		31.3				
Change Period (Y+Rc), s	6.4	* 6.2		6.9	* 6.7	* 6.2		6.9				
Max Green Setting (Gmax), s	26.6	* 42		26.1	* 22	* 46		29.1				
Max Q Clear Time (g_c+I1), s	14.6	26.3		21.1	15.7	29.3		23.2				
Green Ext Time (p_c), s	0.4	8.4		0.8	0.3	9.4		1.3				

Intersection Summary			
HCM 6th Ctrl Delay		54.0	
HCM 6th LOS		D	

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	33.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	842	110	36	674	52	87	14	56	67	5	121
Future Vol, veh/h	62	842	110	36	674	52	87	14	56	67	5	121
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	90	-	-	185	-	-	-	-	75	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	868	113	37	695	54	90	14	58	69	5	125

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	749	0	0	981	0	0	1477	1876	491	1365	1905	375
Stage 1	-	-	-	-	-	-	1053	1053	-	796	796	-
Stage 2	-	-	-	-	-	-	424	823	-	569	1109	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	856	-	-	699	-	-	~ 88	71	523	106	68	623
Stage 1	-	-	-	-	-	-	242	301	-	347	397	-
Stage 2	-	-	-	-	-	-	578	386	-	474	283	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	699	-	-	~ 60	62	523	70	60	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 60	62	-	70	60	-
Stage 1	-	-	-	-	-	-	224	278	-	321	376	-
Stage 2	-	-	-	-	-	-	432	366	-	370	262	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.5	$ 328.1	95
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	60	523	856	-	-	699	-	-	69	623
HCM Lane V/C Ratio	1.735	0.11	0.075	-	-	0.053	-	-	1.076	0.2
HCM Control Delay (s)	$ 502.9	12.7	9.5	-	-	10.4	-	-	234.1	12.2
HCM Lane LOS	F	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	9.6	0.4	0.2	-	-	0.2	-	-	5.6	0.7

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

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	983	4	15	729	12	38
Future Vol, veh/h	983	4	15	729	12	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1013	4	15	752	12	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1017	0	1797	1015
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	782	-
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	-	-	682	-	88	289
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	451	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	682	-	85	289
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	434	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	32.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	183	-	-	682	-
HCM Lane V/C Ratio	0.282	-	-	0.023	-
HCM Control Delay (s)	32.2	-	-	10.4	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	11	3	17	5	8	3	15	49	6	33	1
Future Vol, veh/h	5	11	3	17	5	8	3	15	49	6	33	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	14	4	22	6	10	4	19	62	8	42	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	125	148	43	126	117	50	43	0	0	81	0	0
Stage 1	59	59	-	58	58	-	-	-	-	-	-	-
Stage 2	66	89	-	68	59	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	849	743	1027	848	773	1018	1566	-	-	1517	-	-
Stage 1	953	846	-	954	847	-	-	-	-	-	-	-
Stage 2	945	821	-	942	846	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	830	737	1027	828	767	1018	1566	-	-	1517	-	-
Mov Cap-2 Maneuver	830	737	-	828	767	-	-	-	-	-	-	-
Stage 1	950	842	-	951	844	-	-	-	-	-	-	-
Stage 2	926	819	-	918	842	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.4	0.3	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1566	-	-	796	859	1517	-	-
HCM Lane V/C Ratio	0.002	-	-	0.03	0.044	0.005	-	-
HCM Control Delay (s)	7.3	0	-	9.7	9.4	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

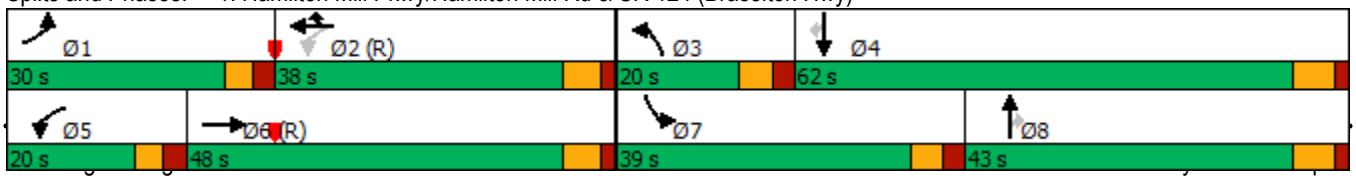
Future “Build” Intersections Analysis

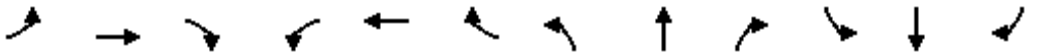
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	299	351	63	325	693	59	347	118	578	155	249
Future Volume (vph)	299	351	63	325	693	59	347	118	578	155	249
Lane Group Flow (vph)	322	416	68	349	745	63	373	127	622	167	268
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	30.0	48.0	20.0	38.0	38.0	20.0	43.0	43.0	39.0	62.0	62.0
Total Split (%)	20.0%	32.0%	13.3%	25.3%	25.3%	13.3%	28.7%	28.7%	26.0%	41.3%	41.3%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.77	0.32	0.19	0.65	0.93	0.55	0.91	0.25	0.90	0.24	0.35
Control Delay	75.9	36.1	27.9	55.6	70.3	85.3	82.1	1.4	59.6	29.2	6.3
Queue Delay	0.0	0.0	0.0	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.9	36.1	27.9	55.6	106.3	85.3	82.1	1.4	59.6	29.2	6.3
Queue Length 50th (ft)	159	160	40	313	~439	61	350	0	298	139	82
Queue Length 95th (ft)	207	217	74	#496	#647	110	#513	1	338	166	39
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	556	1303	443	536	802	162	445	533	750	696	769
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	110	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.32	0.15	0.65	1.08	0.39	0.84	0.24	0.83	0.24	0.35

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 5 (3%), Referenced to phase 2:WBTL and 6:EBT, Start of Green
Natural Cycle: 115
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: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	351	36	63	325	693	59	347	118	578	155	249
Future Volume (veh/h)	299	351	36	63	325	693	59	347	118	578	155	249
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	322	377	0	68	349	0	63	373	0	622	167	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	372	1390		434	599		80	401		665	672	
Arrive On Green	0.11	0.39	0.00	0.04	0.32	0.00	0.04	0.22	0.00	0.32	0.61	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	322	377	0	68	349	0	63	373	0	622	167	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	13.8	10.8	0.0	3.8	23.4	0.0	5.3	29.8	0.0	26.2	6.3	0.0
Cycle Q Clear(g_c), s	13.8	10.8	0.0	3.8	23.4	0.0	5.3	29.8	0.0	26.2	6.3	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	1390		434	599		80	401		665	672	
V/C Ratio(X)	0.87	0.27		0.16	0.58		0.79	0.93		0.94	0.25	
Avail Cap(c_a), veh/h	560	1390		539	599		164	449		756	682	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	65.9	31.1	0.0	32.2	42.6	0.0	70.9	57.6	0.0	50.0	19.8	0.0
Incr Delay (d2), s/veh	6.2	0.5	0.0	0.1	4.1	0.0	6.2	24.7	0.0	15.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	4.7	0.0	1.6	11.3	0.0	2.5	16.3	0.0	11.4	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	31.6	0.0	32.3	46.7	0.0	77.1	82.2	0.0	65.9	19.9	0.0
LnGrp LOS	E	C		C	D		E	F		E	B	
Approach Vol, veh/h		699			417			436			789	
Approach Delay, s/veh		50.2			44.4			81.5			56.1	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.9	54.0	12.9	61.2	11.2	64.7	35.0	39.1
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	24.3	* 32	* 14	* 56	14.3	* 42	* 33	* 37
Max Q Clear Time (g_c+I1), s	15.8	25.4	7.3	8.3	5.8	12.8	28.2	31.8
Green Ext Time (p_c), s	0.4	2.1	0.0	0.5	0.0	5.7	0.6	0.8

Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

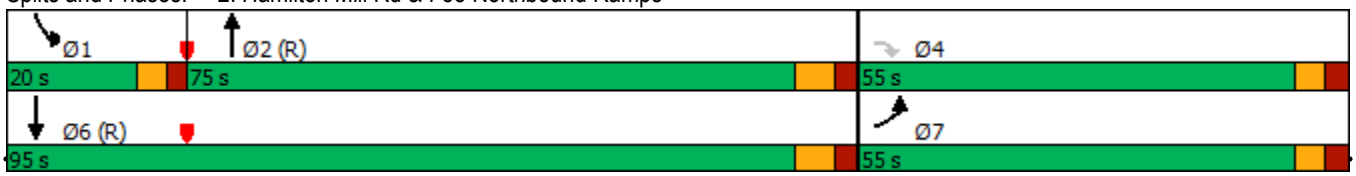
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

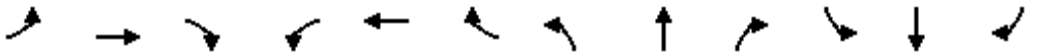
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	380	397	1252	216	798
Future Volume (vph)	380	397	1252	216	798
Lane Group Flow (vph)	404	422	1441	230	849
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	32.2	35.5	45.0	15.6	36.0
Total Split (s)	55.0	55.0	75.0	20.0	95.0
Total Split (%)	36.7%	36.7%	50.0%	13.3%	63.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.86	0.44	0.81	0.74	0.38
Control Delay	70.3	14.5	45.2	106.9	11.0
Queue Delay	0.0	0.0	9.0	0.0	0.0
Total Delay	70.3	14.5	54.2	106.9	11.0
Queue Length 50th (ft)	377	57	633	118	102
Queue Length 95th (ft)	472	103	m#724	168	132
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)		370		165	
Base Capacity (vph)	575	1100	1788	336	2245
Starvation Cap Reductn	0	0	328	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.38	0.99	0.68	0.38

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 46 (31%), Referenced to phase 2:NBT and 6:SBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	0	397	0	0	0	0	1252	102	216	798	0
Future Volume (veh/h)	380	0	397	0	0	0	0	1252	102	216	798	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	404	0	0				0	1332	109	230	849	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	435	0					0	1801	147	277	2335	0
Arrive On Green	0.24	0.00	0.00				0.00	1.00	1.00	0.03	0.22	0.00
Sat Flow, veh/h	1781	0	2790				0	3366	267	3456	3589	0
Grp Volume(v), veh/h	404	0	0				0	709	732	230	849	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	1793	1728	1749	0
Q Serve(g_s), s	33.2	0.0	0.0				0.0	0.0	0.0	9.9	30.9	0.0
Cycle Q Clear(g_c), s	33.2	0.0	0.0				0.0	0.0	0.0	9.9	30.9	0.0
Prop In Lane	1.00		1.00				0.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	435	0					0	962	986	277	2335	0
V/C Ratio(X)	0.93	0.00					0.00	0.74	0.74	0.83	0.36	0.00
Avail Cap(c_a), veh/h	580	0					0	962	986	332	2335	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.34	0.34	0.91	0.91	0.00
Uniform Delay (d), s/veh	55.4	0.0	0.0				0.0	0.0	0.0	72.0	31.5	0.0
Incr Delay (d2), s/veh	18.7	0.0	0.0				0.0	1.8	1.8	10.9	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
%ile BackOfQ(50%),veh/ln	17.2	0.0	0.0				0.0	0.5	0.5	5.0	14.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	0.0	0.0				0.0	1.8	1.8	82.9	31.9	0.0
LnGrp LOS	E	A					A	A	A	F	C	A
Approach Vol, veh/h		404						1441			1079	
Approach Delay, s/veh		74.1						1.8			42.8	
Approach LOS		E						A			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.6	89.5		42.9		107.1
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	68.0		* 49		88.0
Max Q Clear Time (g_c+I1), s	11.9	2.0		35.2		32.9
Green Ext Time (p_c), s	0.1	32.6		1.4		13.9

Intersection Summary		
HCM 6th Ctrl Delay		26.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

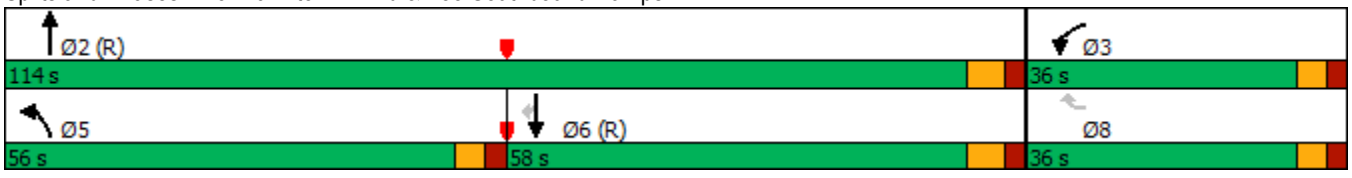
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

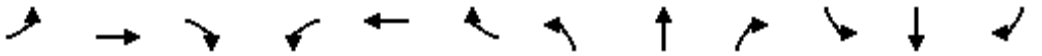
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	229	336	663	915	655	928
Future Volume (vph)	229	336	663	915	655	928
Lane Group Flow (vph)	239	350	691	953	682	967
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	36.0	36.0	56.0	114.0	58.0	58.0
Total Split (%)	24.0%	24.0%	37.3%	76.0%	38.7%	38.7%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.49	0.90	0.85	0.35	0.39	0.95
Control Delay	61.3	53.8	57.5	8.1	29.9	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	53.8	57.5	8.1	29.9	44.6
Queue Length 50th (ft)	112	163	335	115	237	724
Queue Length 95th (ft)	147	276	406	273	408	#1111
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	693	472	1151	2690	1735	1018
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.74	0.60	0.35	0.39	0.95

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 42 (28%), Referenced to phase 2:NBT and 6:SBT, 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: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	229	0	336	663	915	0	0	655	928
Future Volume (veh/h)	0	0	0	229	0	336	663	915	0	0	655	928
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				239	0	0	691	953	0	0	682	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				294	0		744	2913	0	0	2028	
Arrive On Green				0.09	0.00	0.00	0.43	1.00	0.00	0.00	0.39	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				239	0	0	691	953	0	0	682	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	20.6	0.0
Cycle Q Clear(g_c), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	20.6	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				294	0		744	2913	0	0	2028	
V/C Ratio(X)				0.81	0.00		0.93	0.33	0.00	0.00	0.34	
Avail Cap(c_a), veh/h				698	0		1159	2913	0	0	2028	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.67	0.67
Upstream Filter(I)				1.00	0.00	0.00	0.47	0.47	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				67.5	0.0	0.0	41.6	0.0	0.0	0.0	25.6	0.0
Incr Delay (d2), s/veh				4.1	0.0	0.0	4.2	0.1	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				4.7	0.0	0.0	10.0	0.1	0.0	0.0	9.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				71.5	0.0	0.0	45.9	0.1	0.0	0.0	26.0	0.0
LnGrp LOS				E	A		D	A	A	A	C	
Approach Vol, veh/h					239			1644			682	
Approach Delay, s/veh					71.5			19.4			26.0	
Approach LOS					E			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	131.5		38.0	93.6		18.5						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1.1E2		* 50	* 51		30.3						
Max Q Clear Time (g_c+I1), s	2.0		30.5	22.6		12.2						
Green Ext Time (p_c), s	12.1		1.8	6.6		0.6						

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	96	0	0	25	32	1196	25	0	1452	5
Future Vol, veh/h	0	0	96	0	0	25	32	1196	25	0	1452	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Free	-	-	Free
Storage Length	-	-	0	-	-	0	-	-	80	-	-	135
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	4	2	2	4	2
Mvmt Flow	0	0	101	0	0	26	34	1259	26	0	1528	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	764	-	-	630	1528	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	346	0	0	424	432	-	0	0	-	0
Stage 1	0	0	-	0	0	-	-	-	0	0	-	0
Stage 2	0	0	-	0	0	-	-	-	0	0	-	0
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	-	-	346	-	-	424	432	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	14.1	0.4	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	432	-	346	424	-
HCM Lane V/C Ratio	0.078	-	0.292	0.062	-
HCM Control Delay (s)	14	-	19.6	14.1	-
HCM Lane LOS	B	-	C	B	-
HCM 95th %tile Q(veh)	0.3	-	1.2	0.2	-

Intersection	
Int Delay, s/veh	12.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	195	31	1170	40	29	1244
Future Vol, veh/h	195	31	1170	40	29	1244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	197	31	1182	40	29	1257

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1869	591	0	-	1182	0
Stage 1	1182	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 64	450	-	0	587	-
Stage 1	254	-	-	0	-	-
Stage 2	461	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 61	450	-	-	587	-
Mov Cap-2 Maneuver	~ 172	-	-	-	-	-
Stage 1	254	-	-	-	-	-
Stage 2	438	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	146.4	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	172	450	587	-
HCM Lane V/C Ratio	-	1.145	0.07	0.05	-
HCM Control Delay (s)	-	167.5	13.6	11.5	-
HCM Lane LOS	-	F	B	B	-
HCM 95th %tile Q(veh)	-	10.3	0.2	0.2	-

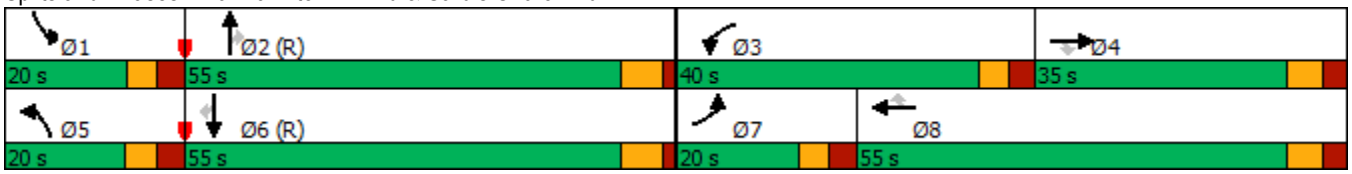
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

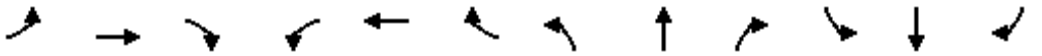
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	61	105	535	101	341	125	674	307	262	575	53
Future Volume (vph)	68	61	105	535	101	341	125	674	307	262	575	53
Lane Group Flow (vph)	71	64	109	557	105	355	130	702	320	273	599	55
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	15.0	36.5	36.5	15.0	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	20.0	35.0	35.0	40.0	55.0	55.0	20.0	55.0	55.0	20.0	55.0	55.0
Total Split (%)	13.3%	23.3%	23.3%	26.7%	36.7%	36.7%	13.3%	36.7%	36.7%	13.3%	36.7%	36.7%
Yellow Time (s)	3.4	3.9	3.9	3.5	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	2.9	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.4	6.9	6.9	6.4	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
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	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.41	0.52	0.42	0.86	0.27	0.63	0.57	0.44	0.36	0.71	0.34	0.06
Control Delay	75.9	81.3	6.1	72.3	50.6	14.2	85.0	32.6	9.8	74.1	24.6	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	0.0
Total Delay	75.9	81.3	6.1	72.3	50.6	14.2	85.0	32.6	9.8	74.1	24.6	0.1
Queue Length 50th (ft)	35	62	0	274	87	43	68	225	30	134	182	0
Queue Length 95th (ft)	62	111	8	330	137	142	m102	374	123	180	266	0
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	311	349	430	768	597	712	304	1590	888	391	1742	879
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	0.23	0.18	0.25	0.73	0.18	0.50	0.43	0.44	0.36	0.70	0.34	0.06

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 96 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	61	105	535	101	341	125	674	307	262	575	53
Future Volume (veh/h)	68	61	105	535	101	341	125	674	307	262	575	53
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	71	64	0	557	105	0	130	702	0	273	599	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	111	91		611	361		176	1789		313	1921	
Arrive On Green	0.03	0.05	0.00	0.18	0.19	0.00	0.03	0.34	0.00	0.09	0.55	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	71	64	0	557	105	0	130	702	0	273	599	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	3.0	5.1	0.0	23.7	7.2	0.0	5.6	22.9	0.0	11.7	14.0	0.0
Cycle Q Clear(g_c), s	3.0	5.1	0.0	23.7	7.2	0.0	5.6	22.9	0.0	11.7	14.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	91		611	361		176	1789		313	1921	
V/C Ratio(X)	0.64	0.71		0.91	0.29		0.74	0.39		0.87	0.31	
Avail Cap(c_a), veh/h	313	350		774	600		306	1789		313	1921	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	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	71.7	70.3	0.0	60.6	51.7	0.0	71.4	31.6	0.0	67.3	18.4	0.0
Incr Delay (d2), s/veh	2.3	7.3	0.0	11.4	0.3	0.0	2.3	0.6	0.0	21.6	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	1.4	2.6	0.0	11.3	3.4	0.0	2.5	10.3	0.0	6.0	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	77.6	0.0	72.0	52.1	0.0	73.7	32.2	0.0	89.0	18.8	0.0
LnGrp LOS	E	E		E	D		E	C		F	B	
Approach Vol, veh/h		135			662			832			872	
Approach Delay, s/veh		75.7			68.9			38.7			40.8	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	82.9	32.9	14.2	14.3	88.6	11.2	35.8
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	13.6	* 49	33.6	28.1	* 13	* 49	13.6	48.1
Max Q Clear Time (g_c+I1), s	13.7	24.9	25.7	7.1	7.6	16.0	5.0	9.2
Green Ext Time (p_c), s	0.0	10.3	0.8	0.2	0.1	10.0	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	49.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	584	37	27	890	19	35	0	18	29	1	52
Future Vol, veh/h	10	584	37	27	890	19	35	0	18	29	1	52
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	90	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	664	42	31	1011	22	40	0	20	33	1	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1033	0	0	706	0	0	1275	1802	353	1438	1812	517
Stage 1	-	-	-	-	-	-	707	707	-	1084	1084	-
Stage 2	-	-	-	-	-	-	568	1095	-	354	728	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	668	-	-	888	-	-	124	79	643	94	78	503
Stage 1	-	-	-	-	-	-	392	436	-	231	291	-
Stage 2	-	-	-	-	-	-	475	288	-	636	427	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	668	-	-	888	-	-	104	75	643	88	74	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	75	-	88	74	-
Stage 1	-	-	-	-	-	-	386	429	-	227	281	-
Stage 2	-	-	-	-	-	-	403	278	-	606	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	43	34.2
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	104	643	668	-	-	888	-	-	87	503
HCM Lane V/C Ratio	0.382	0.032	0.017	-	-	0.035	-	-	0.392	0.117
HCM Control Delay (s)	59.6	10.8	10.5	-	-	9.2	-	-	70.9	13.1
HCM Lane LOS	F	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	1.6	0.1	0.1	-	-	0.1	-	-	1.6	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	632	0	44	931	5	42
Future Vol, veh/h	632	0	44	931	5	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	-	-	-	-	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	744	0	52	1095	6	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	744	0	1943	744
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	1199	-
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	-	-	864	-	71	415
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	286	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	864	-	60	415
Mov Cap-2 Maneuver	-	-	-	-	60	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	242	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	23
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	255	-	-	864	-
HCM Lane V/C Ratio	0.217	-	-	0.06	-
HCM Control Delay (s)	23	-	-	9.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	11	38	2	19	6	13	28	9	25	2
Future Vol, veh/h	6	4	11	38	2	19	6	13	28	9	25	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	5	13	43	2	22	7	15	32	10	28	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	106	110	29	103	95	31	30	0	0	47	0	0
Stage 1	49	49	-	45	45	-	-	-	-	-	-	-
Stage 2	57	61	-	58	50	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	873	780	1046	877	795	1043	1583	-	-	1560	-	-
Stage 1	964	854	-	969	857	-	-	-	-	-	-	-
Stage 2	955	844	-	954	853	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	845	771	1046	855	785	1043	1583	-	-	1560	-	-
Mov Cap-2 Maneuver	845	771	-	855	785	-	-	-	-	-	-	-
Stage 1	959	848	-	964	853	-	-	-	-	-	-	-
Stage 2	928	840	-	931	847	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.3	0.9	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	921	905	1560	-	-
HCM Lane V/C Ratio	0.004	-	-	0.026	0.074	0.007	-	-
HCM Control Delay (s)	7.3	0	-	9	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	42	168	22	14	58
Future Vol, veh/h	27	42	168	22	14	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	-	-	-	100	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	29	46	183	24	15	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	299	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	104	-
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	1364	-	-	-	692	846
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	677	846
Mov Cap-2 Maneuver	-	-	-	-	677	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1364	-	-	-	677	846
HCM Lane V/C Ratio	0.022	-	-	-	0.022	0.075
HCM Control Delay (s)	7.7	-	-	-	10.4	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	6	5	43	17	15
Future Vol, veh/h	36	6	5	43	17	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
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	39	7	5	47	18	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	46	0	100	43
Stage 1	-	-	-	-	43	-
Stage 2	-	-	-	-	57	-
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	-	-	1562	-	899	1027
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	966	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1562	-	896	1027
Mov Cap-2 Maneuver	-	-	-	-	896	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	8.9
HCM LOS			A

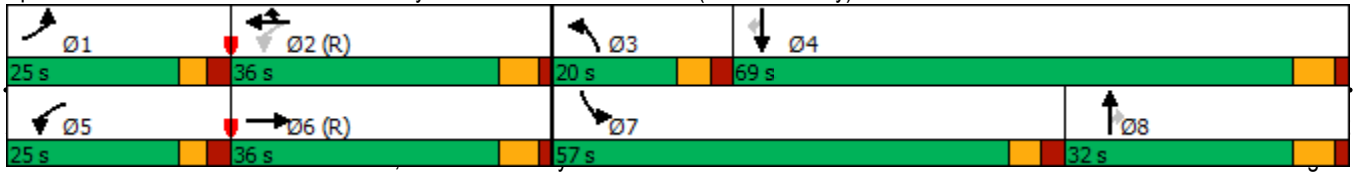
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	953	-	-	1562	-
HCM Lane V/C Ratio	0.036	-	-	0.003	-
HCM Control Delay (s)	8.9	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

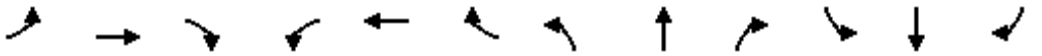
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	354	426	125	365	702	17	256	123	1177	447	363
Future Volume (vph)	354	426	125	365	702	17	256	123	1177	447	363
Lane Group Flow (vph)	358	467	126	369	709	17	259	124	1189	452	367
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	25.0	36.0	25.0	36.0	36.0	20.0	32.0	32.0	57.0	69.0	69.0
Total Split (%)	16.7%	24.0%	16.7%	24.0%	24.0%	13.3%	21.3%	21.3%	38.0%	46.0%	46.0%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.86	0.51	0.42	0.91	1.17	0.24	0.89	0.32	1.02	0.49	0.37
Control Delay	84.3	50.1	37.0	84.8	143.5	77.0	91.4	5.8	69.0	23.1	2.7
Queue Delay	0.0	0.0	0.0	0.0	5.9	0.0	0.0	0.0	8.4	1.5	0.0
Total Delay	84.3	50.1	37.0	84.8	149.5	77.0	91.4	5.8	77.3	24.7	2.7
Queue Length 50th (ft)	178	207	84	364	~496	16	248	0	~632	216	10
Queue Length 95th (ft)	#248	277	134	#580	#637	44	#394	34	#771	m434	m53
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	441	916	387	404	605	162	311	397	1162	920	979
Starvation Cap Reductn	0	0	0	0	0	0	0	0	27	287	0
Spillback Cap Reductn	0	0	0	0	287	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.51	0.33	0.91	2.23	0.10	0.83	0.31	1.05	0.71	0.37

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 147 (98%), Referenced to phase 2:WBTL and 6:EBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	354	426	37	125	365	702	17	256	123	1177	447	363
Future Volume (veh/h)	354	426	37	125	365	702	17	256	123	1177	447	363
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	358	430	0	126	369	0	17	259	0	1189	452	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	403	988		339	428		24	284		1170	882	
Arrive On Green	0.12	0.28	0.00	0.07	0.23	0.00	0.01	0.15	0.00	0.57	0.80	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	358	430	0	126	369	0	17	259	0	1189	452	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), s	15.3	14.9	0.0	8.0	28.4	0.0	1.4	20.8	0.0	50.8	12.5	0.0
Cycle Q Clear(g_c), s	15.3	14.9	0.0	8.0	28.4	0.0	1.4	20.8	0.0	50.8	12.5	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	988		339	428		24	284		1170	882	
V/C Ratio(X)	0.89	0.44		0.37	0.86		0.71	0.91		1.02	0.51	
Avail Cap(c_a), veh/h	445	988		448	428		164	314		1170	882	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.54	0.54	0.00
Uniform Delay (d), s/veh	65.3	44.5	0.0	40.2	55.6	0.0	73.7	62.5	0.0	32.6	9.0	0.0
Incr Delay (d2), s/veh	17.1	1.4	0.0	0.3	20.0	0.0	13.0	28.1	0.0	23.4	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	7.6	6.7	0.0	3.5	15.5	0.0	0.7	11.8	0.0	20.2	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	45.9	0.0	40.5	75.5	0.0	86.7	90.6	0.0	56.0	9.2	0.0
LnGrp LOS	F	D		D	E		F	F		F	A	
Approach Vol, veh/h		788			495			276			1641	
Approach Delay, s/veh		62.5			66.6			90.3			43.1	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.2	40.3	8.2	78.3	15.8	47.7	57.0	29.5
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	19.3	* 30	* 14	* 63	19.3	* 30	* 51	* 26
Max Q Clear Time (g_c+I1), s	17.3	30.4	3.4	14.5	10.0	16.9	52.8	22.8
Green Ext Time (p_c), s	0.2	0.0	0.0	1.6	0.1	4.3	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	55.6
HCM 6th LOS	E

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

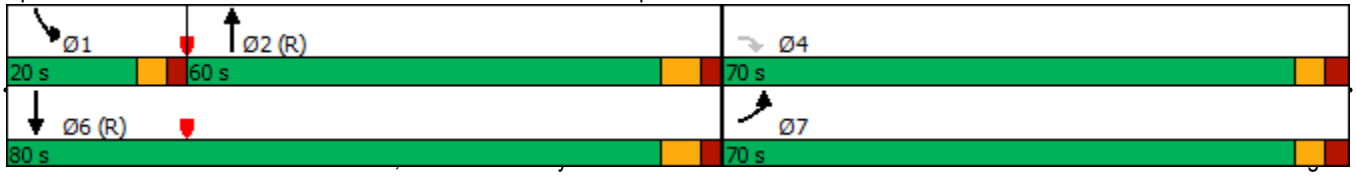
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

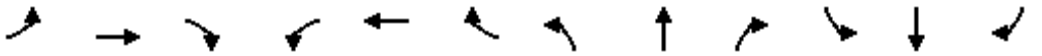
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	796	805	1234	370	1310
Future Volume (vph)	796	805	1234	370	1310
Lane Group Flow (vph)	847	856	1481	394	1394
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	15.0	35.5	45.0	15.6	36.0
Total Split (s)	70.0	70.0	60.0	20.0	80.0
Total Split (%)	46.7%	46.7%	40.0%	13.3%	53.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	1.13	0.70	1.22	1.20	0.83
Control Delay	113.1	35.8	145.4	178.2	24.3
Queue Delay	0.0	0.0	0.4	0.0	8.1
Total Delay	113.1	35.8	145.8	178.2	32.4
Queue Length 50th (ft)	~955	356	~954	~240	152
Queue Length 95th (ft)	#1212	444	m#917	m#344	325
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)		370		165	
Base Capacity (vph)	752	1225	1214	329	1689
Starvation Cap Reductn	0	0	100	0	88
Spillback Cap Reductn	0	4	0	0	270
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.13	0.70	1.33	1.20	0.98

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 25 (17%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	796	0	805	0	0	0	0	1234	158	370	1310	0
Future Volume (veh/h)	796	0	805	0	0	0	0	1234	158	370	1310	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	847	0	0				0	1313	168	394	1394	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	758	0					0	1103	140	332	1702	0
Arrive On Green	0.43	0.00	0.00				0.00	0.35	0.35	0.10	0.49	0.00
Sat Flow, veh/h	1781	0	2790				0	3213	397	3456	3589	0
Grp Volume(v), veh/h	847	0	0				0	732	749	394	1394	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	1769	1728	1749	0
Q Serve(g_s), s	63.8	0.0	0.0				0.0	53.0	53.0	14.4	51.0	0.0
Cycle Q Clear(g_c), s	63.8	0.0	0.0				0.0	53.0	53.0	14.4	51.0	0.0
Prop In Lane	1.00		1.00				0.00		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	758	0					0	618	625	332	1702	0
V/C Ratio(X)	1.12	0.00					0.00	1.19	1.20	1.19	0.82	0.00
Avail Cap(c_a), veh/h	758	0					0	618	625	332	1702	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.09	0.09	0.56	0.56	0.00
Uniform Delay (d), s/veh	43.1	0.0	0.0				0.0	48.5	48.5	67.8	32.9	0.0
Incr Delay (d2), s/veh	70.1	0.0	0.0				0.0	84.9	90.5	100.6	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	42.5	0.0	0.0				0.0	36.9	38.3	10.9	21.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.2	0.0	0.0				0.0	133.4	139.0	168.4	35.5	0.0
LnGrp LOS	F	A					A	F	F	F	D	A
Approach Vol, veh/h		847						1481			1788	
Approach Delay, s/veh		113.2						136.3			64.7	
Approach LOS		F						F			E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	60.0		70.0		80.0
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	53.0		* 64		73.0
Max Q Clear Time (g_c+I1), s	16.4	55.0		65.8		53.0
Green Ext Time (p_c), s	0.0	0.0		0.0		14.8

Intersection Summary	
HCM 6th Ctrl Delay	100.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

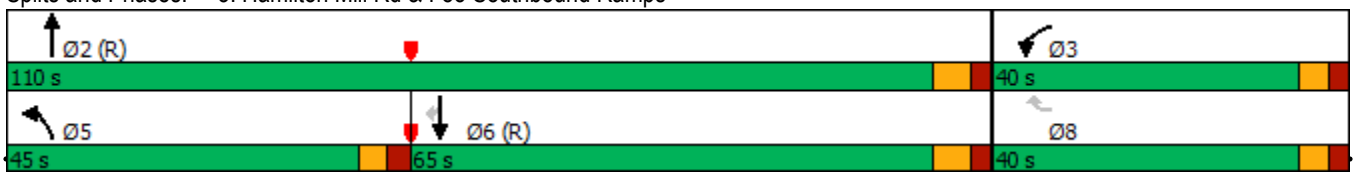
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

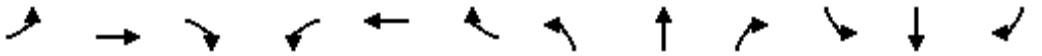
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	186	276	467	1643	1489	673
Future Volume (vph)	186	276	467	1643	1489	673
Lane Group Flow (vph)	190	282	477	1677	1519	687
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	40.0	40.0	45.0	110.0	65.0	65.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.32	0.87	0.81	0.65	0.81	0.74
Control Delay	54.7	69.8	57.1	7.3	46.9	39.1
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	54.7	69.8	57.1	8.0	46.9	39.1
Queue Length 50th (ft)	85	210	236	285	773	562
Queue Length 95th (ft)	115	303	m193	m281	#962	#754
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	785	414	899	2593	1865	929
Starvation Cap Reductn	0	0	0	493	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.68	0.53	0.80	0.81	0.74

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 28 (19%), Referenced to phase 2:NBT and 6:SBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	186	0	276	467	1643	0	0	1489	673
Future Volume (veh/h)	0	0	0	186	0	276	467	1643	0	0	1489	673
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				190	0	0	477	1677	0	0	1519	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				244	0		530	2964	0	0	2295	
Arrive On Green				0.07	0.00	0.00	0.31	1.00	0.00	0.00	0.66	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				190	0	0	477	1677	0	0	1519	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	39.6	0.0
Cycle Q Clear(g_c), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	39.6	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				244	0		530	2964	0	0	2295	
V/C Ratio(X)				0.78	0.00		0.90	0.57	0.00	0.00	0.66	
Avail Cap(c_a), veh/h				790	0		905	2964	0	0	2295	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				68.6	0.0	0.0	50.9	0.0	0.0	0.0	15.7	0.0
Incr Delay (d2), s/veh				4.0	0.0	0.0	0.6	0.1	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				3.7	0.0	0.0	7.2	0.0	0.0	0.0	14.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				72.6	0.0	0.0	51.5	0.1	0.0	0.0	17.2	0.0
LnGrp LOS				E	A		D	A	A	A	B	
Approach Vol, veh/h					190			2154			1519	
Approach Delay, s/veh					72.6			11.5			17.2	
Approach LOS					E			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	133.7		28.7	105.0		16.3						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1E2		* 39	* 58		34.3						
Max Q Clear Time (g_c+I1), s	2.0		21.8	41.6		10.1						
Green Ext Time (p_c), s	36.7		1.2	12.0		0.5						

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱		↑↑	↱		↑↑	↱
Traffic Vol, veh/h	0	0	315	0	0	16	65	1831	61	0	1755	4
Future Vol, veh/h	0	0	315	0	0	16	65	1831	61	0	1755	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Free	-	-	Free
Storage Length	-	-	0	-	-	0	-	-	80	-	-	135
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	4	2	2	4	2
Mvmt Flow	0	0	325	0	0	16	67	1888	63	0	1809	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	905	-	-	944	1809	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 279	0	0	263	336	-	0	0	-	0
Stage 1	0	0	-	0	0	-	-	-	0	0	-	0
Stage 2	0	0	-	0	0	-	-	-	0	0	-	0
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	-	-	~ 279	-	-	263	336	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	144.9	19.6	0.6	0
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	336	-	279	263	-
HCM Lane V/C Ratio	0.199	-	1.164	0.063	-
HCM Control Delay (s)	18.4	-	144.9	19.6	-
HCM Lane LOS	C	-	F	C	-
HCM 95th %tile Q(veh)	0.7	-	14.3	0.2	-

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

Intersection	
Int Delay, s/veh	13.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	124	42	1601	124	51	1687
Future Vol, veh/h	124	42	1601	124	51	1687
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	132	45	1703	132	54	1795

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2709	852	0	-	1703	0
Stage 1	1703	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 17	303	-	0	370	-
Stage 1	133	-	-	0	-	-
Stage 2	314	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 15	303	-	-	370	-
Mov Cap-2 Maneuver	~ 87	-	-	-	-	-
Stage 1	133	-	-	-	-	-
Stage 2	268	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	278.8	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	87	303	370	-
HCM Lane V/C Ratio	-	1.516	0.147	0.147	-
HCM Control Delay (s)	-	$ 366.8	18.9	16.4	-
HCM Lane LOS	-	F	C	C	-
HCM 95th %tile Q(veh)	-	10.4	0.5	0.5	-

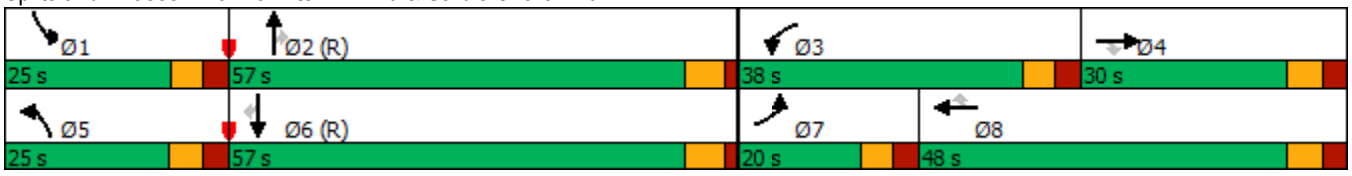
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

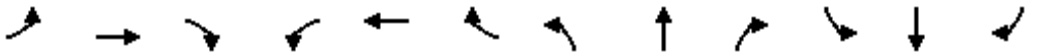
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	243	209	489	175	230	317	775	487	311	839	119
Future Volume (vph)	191	243	209	489	175	230	317	775	487	311	839	119
Lane Group Flow (vph)	195	248	213	499	179	235	323	791	497	317	856	121
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	15.0	36.5	36.5	15.0	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	20.0	30.0	30.0	38.0	48.0	48.0	25.0	57.0	57.0	25.0	57.0	57.0
Total Split (%)	13.3%	20.0%	20.0%	25.3%	32.0%	32.0%	16.7%	38.0%	38.0%	16.7%	38.0%	38.0%
Yellow Time (s)	3.4	3.9	3.9	3.5	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	2.9	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.4	6.9	6.9	6.4	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
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	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.70	0.86	0.53	0.84	0.39	0.41	0.83	0.59	0.57	0.82	0.65	0.17
Control Delay	81.2	87.1	16.2	72.9	48.7	7.0	88.4	36.9	10.1	81.9	42.2	1.6
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	81.2	87.1	16.2	72.9	48.7	7.0	88.4	36.9	10.1	81.9	42.2	1.6
Queue Length 50th (ft)	96	234	23	246	144	0	164	333	92	157	377	0
Queue Length 95th (ft)	140	#395	107	298	214	67	#211	452	201	211	466	12
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	311	302	412	723	510	604	419	1334	870	425	1325	709
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	0.63	0.82	0.52	0.69	0.35	0.39	0.77	0.59	0.57	0.75	0.65	0.17

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 72 (48%), Referenced to phase 2:NBT and 6:SBT, 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: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	243	209	489	175	230	317	775	487	311	839	119
Future Volume (veh/h)	191	243	209	489	175	230	317	775	487	311	839	119
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	195	248	0	499	179	0	323	791	0	317	856	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	4	2	2	4	2
Cap, veh/h	241	272		552	440		367	1459		363	1448	
Arrive On Green	0.07	0.15	0.00	0.16	0.24	0.00	0.14	0.55	0.00	0.11	0.41	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	195	248	0	499	179	0	323	791	0	317	856	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), s	8.3	19.6	0.0	21.3	12.1	0.0	13.8	21.6	0.0	13.6	28.5	0.0
Cycle Q Clear(g_c), s	8.3	19.6	0.0	21.3	12.1	0.0	13.8	21.6	0.0	13.6	28.5	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	241	272		552	440		367	1459		363	1448	
V/C Ratio(X)	0.81	0.91		0.90	0.41		0.88	0.54		0.87	0.59	
Avail Cap(c_a), veh/h	313	288		728	512		422	1459		429	1448	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.8	63.2	0.0	61.9	48.5	0.0	63.5	24.3	0.0	66.1	34.1	0.0
Incr Delay (d2), s/veh	8.8	30.2	0.0	10.4	0.4	0.0	15.9	1.4	0.0	14.3	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	4.0	11.7	0.0	10.1	5.7	0.0	6.5	8.1	0.0	6.6	12.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.6	93.4	0.0	72.2	48.9	0.0	79.4	25.7	0.0	80.4	35.9	0.0
LnGrp LOS	E	F		E	D		E	C		F	D	
Approach Vol, veh/h		443			678			1114			1173	
Approach Delay, s/veh		86.4			66.1			41.3			47.9	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	68.8	30.4	28.7	22.6	68.3	16.9	42.2
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	18.6	* 51	31.6	23.1	* 18	* 51	13.6	41.1
Max Q Clear Time (g_c+I1), s	15.6	23.6	23.3	21.6	15.8	30.5	10.3	14.1
Green Ext Time (p_c), s	0.2	12.5	0.7	0.2	0.2	11.3	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	45.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	842	137	47	674	52	98	14	61	67	5	121
Future Vol, veh/h	62	842	137	47	674	52	98	14	61	67	5	121
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	90	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	868	141	48	695	54	101	14	63	69	5	125

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	749	0	0	1009	0	0	1513	1912	505	1387	1955	375
Stage 1	-	-	-	-	-	-	1067	1067	-	818	818	-
Stage 2	-	-	-	-	-	-	446	845	-	569	1137	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	856	-	-	683	-	-	~ 82	67	512	102	63	623
Stage 1	-	-	-	-	-	-	237	297	-	336	388	-
Stage 2	-	-	-	-	-	-	561	377	-	474	275	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	683	-	-	~ 54	58	512	~ 65	54	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 54	58	-	~ 65	54	-
Stage 1	-	-	-	-	-	-	219	275	-	311	361	-
Stage 2	-	-	-	-	-	-	411	351	-	365	254	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.6	$ 450	109.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	54	512	856	-	-	683	-	-	64	623
HCM Lane V/C Ratio	2.138	0.123	0.075	-	-	0.071	-	-	1.16	0.2
HCM Control Delay (s)	$ 688	13	9.5	-	-	10.7	-	-	272.3	12.2
HCM Lane LOS	F	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	11.5	0.4	0.2	-	-	0.2	-	-	6	0.7

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

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	988	4	38	740	12	57
Future Vol, veh/h	988	4	38	740	12	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1019	4	39	763	12	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1023	0	1862	1021
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	841	-
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	-	-	679	-	80	287
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	423	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	679	-	72	287
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	381	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	35.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	189	-	-	679	-
HCM Lane V/C Ratio	0.376	-	-	0.058	-
HCM Control Delay (s)	35.1	-	-	10.6	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	1.6	-	-	0.2	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	11	3	28	5	19	3	20	59	22	56	1
Future Vol, veh/h	5	11	3	28	5	19	3	20	59	22	56	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	14	4	35	6	24	4	25	75	28	71	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	214	236	72	208	199	63	72	0	0	100	0	0
Stage 1	128	128	-	71	71	-	-	-	-	-	-	-
Stage 2	86	108	-	137	128	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	743	665	990	749	697	1002	1528	-	-	1493	-	-
Stage 1	876	790	-	939	836	-	-	-	-	-	-	-
Stage 2	922	806	-	866	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	707	650	990	721	681	1002	1528	-	-	1493	-	-
Mov Cap-2 Maneuver	707	650	-	721	681	-	-	-	-	-	-	-
Stage 1	873	774	-	936	833	-	-	-	-	-	-	-
Stage 2	890	804	-	830	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	9.9	0.3	2.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1528	-	-	703	798	1493	-	-
HCM Lane V/C Ratio	0.002	-	-	0.034	0.082	0.019	-	-
HCM Control Delay (s)	7.4	0	-	10.3	9.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	104	109	14	34	56
Future Vol, veh/h	71	104	109	14	34	56
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	-	-	-	100	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	77	113	118	15	37	61

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	133	0	-	0	393	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	267	-
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	1452	-	-	-	611	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1452	-	-	-	579	924
Mov Cap-2 Maneuver	-	-	-	-	579	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	778	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1452	-	-	-	579	924
HCM Lane V/C Ratio	0.053	-	-	-	0.064	0.066
HCM Control Delay (s)	7.6	-	-	-	11.6	9.2
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	76	16	11	41	11	10
Future Vol, veh/h	76	16	11	41	11	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	-	-	75	-	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	83	17	12	45	12	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	161	92
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	69	-
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	-	-	1493	-	830	965
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	823	965
Mov Cap-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	946	-

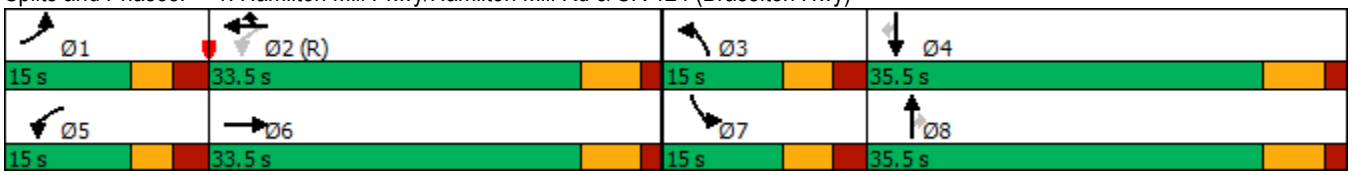
Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9.2
HCM LOS			A

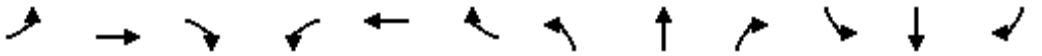
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	885	-	-	1493	-
HCM Lane V/C Ratio	0.026	-	-	0.008	-
HCM Control Delay (s)	9.2	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	4.0	12.0	4.0	6.0	4.0	12.0	4.0	6.0
Minimum Split (s)	15.0	36.5	15.0	32.5	15.0	36.5	15.0	35.5
Total Split (s)	15.0	33.5	15.0	35.5	15.0	33.5	15.0	35.5
Total Split (%)	15%	34%	15%	36%	15%	34%	15%	36%
Yellow Time (s)	3.1	4.3	3.7	4.6	3.1	4.3	3.7	4.6
All-Red Time (s)	2.6	1.7	2.5	1.8	2.6	1.7	2.5	1.8
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (ft)								
Queue Length 95th (ft)								
Internal Link Dist (ft)								
Turn Bay Length (ft)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	3	3338		1406	1757		2	2		3	2	
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	3456	1841	1585
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1728	1841	1585
Q Serve(g_s), 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
Cycle Q Clear(g_c), 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
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	3	3338		1406	1757		2	2		3	2	
V/C Ratio(X)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Avail Cap(c_a), veh/h	325	3338		1572	1757		158	541		307	541	
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	A	A		A	A		A	A		A	A	
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	0.0	0.0	99.0	0.0	0.0
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	9.3	* 28	* 8.8	* 29	9.3	* 28	* 8.8	* 29
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

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

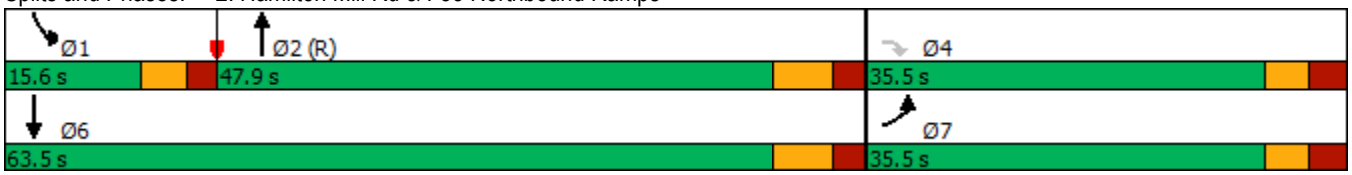
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

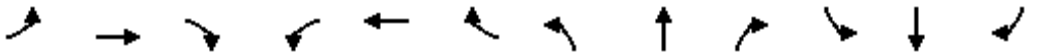
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	1	2	4	6	7
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	12.0	6.0	12.0	6.0
Minimum Split (s)	15.6	45.0	35.5	36.0	15.0
Total Split (s)	15.6	47.9	35.5	63.5	35.5
Total Split (%)	16%	48%	36%	64%	36%
Yellow Time (s)	3.4	4.5	3.2	4.5	3.2
All-Red Time (s)	2.2	2.5	3.0	2.5	3.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	C-Min	None	Min	None
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	0	0	0				0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	2	0					0	3250	0	3	3250	0
Arrive On Green	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	0	2790				0	3681	0	3456	3589	0
Grp Volume(v), veh/h	0	0	0				0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1395				0	1749	0	1728	1749	0
Q Serve(g_s), s	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	2	0					0	3250	0	3	3250	0
V/C Ratio(X)	0.00	0.00					0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	527	0					0	3250	0	349	3250	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	A	A					A	A	A	A	A	A
Approach Vol, veh/h		0						0			0	
Approach Delay, s/veh		0.0						0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	99.0
Change Period (Y+Rc), s	* 5.6	7.0	* 6.2	7.0
Max Green Setting (Gmax), s	* 10	40.9	* 29	56.5
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

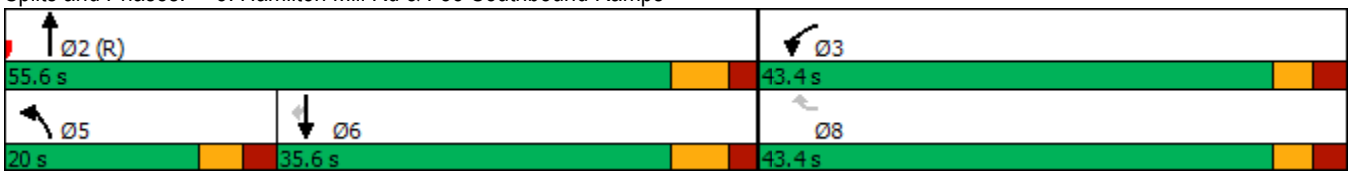
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

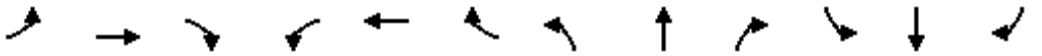
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	Ø2	Ø3	Ø5	Ø6	Ø8
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	2	3	5	6	8
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	12.0	6.0	4.0	12.0	6.0
Minimum Split (s)	36.6	15.0	15.0	33.5	37.5
Total Split (s)	55.6	43.4	20.0	35.6	43.4
Total Split (%)	56%	44%	20%	36%	44%
Yellow Time (s)	4.3	3.0	3.2	4.3	3.0
All-Red Time (s)	2.3	2.6	2.5	2.3	2.6
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	C-Min	None	Min	Min	None
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				0	0	0	0	0	0	0	0	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				3	0		3	3264	0	0	3264	
Arrive On Green				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				3	0		3	3264	0	0	3264	
V/C Ratio(X)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	
Avail Cap(c_a), veh/h				1319	0		499	3264	0	0	3264	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS				A	A		A	A	A	A	A	
Approach Vol, veh/h					0			0			0	
Approach Delay, s/veh					0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	99.0		0.0	99.0		0.0						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.6						
Max Green Setting (Gmax), s	* 49		* 14	* 29		37.8						
Max Q Clear Time (g_c+I1), s	0.0		0.0	0.0		0.0						
Green Ext Time (p_c), s	0.0		0.0	0.0		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	0.0	
HCM 6th LOS	A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Free	-	-	Free
Storage Length	-	-	0	-	-	0	-	-	80	-	-	135
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	4	2	2	4	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1	-	-	0	-	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	1083	0	0	-	0	-	0	0	-	0
Stage 1	0	0	-	0	0	-	0	-	0	0	-	0
Stage 2	0	0	-	0	0	-	0	-	0	0	-	0
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	-	-	1083	-	-	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	0	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	125	25	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	4
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	-	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	1021	-	-	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	1022	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	933	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

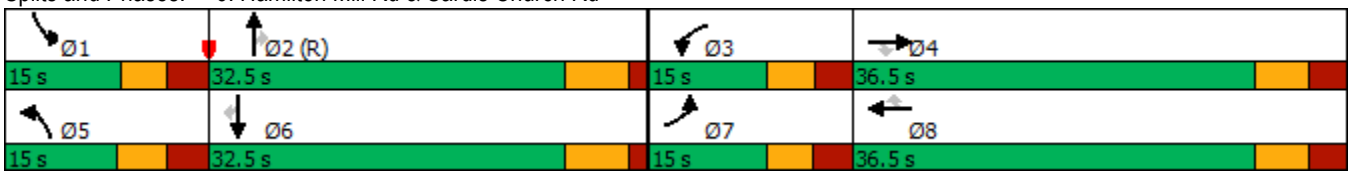
Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

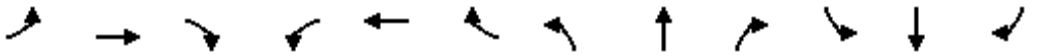
Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	0	0	0	-
HCM Lane LOS	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	4.0	12.0	4.0	6.0	4.0	12.0	4.0	6.0
Minimum Split (s)	15.0	31.5	15.0	36.5	15.0	31.5	15.0	35.5
Total Split (s)	15.0	32.5	15.0	36.5	15.0	32.5	15.0	36.5
Total Split (%)	15%	33%	15%	37%	15%	33%	15%	37%
Yellow Time (s)	3.4	4.6	3.5	3.9	3.7	4.6	3.4	3.9
All-Red Time (s)	3.0	1.6	2.9	3.0	3.0	1.6	3.0	3.0
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (ft)								
Queue Length 95th (ft)								
Internal Link Dist (ft)								
Turn Bay Length (ft)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 99
Actuated Cycle Length: 99
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	3	2		3	2		3	3278		3	3278	
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	1585	3456	3497	1585
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1585	1728	1749	1585
Q Serve(g_s), 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
Cycle Q Clear(g_c), 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
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	3	2		3	2		3	3278		3	3278	
V/C Ratio(X)	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	
Avail Cap(c_a), veh/h	300	559		300	559		290	3278		300	3278	
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), 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
Incr Delay (d2), 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
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	A	A		A	A		A	A		A	A	
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	99.0	0.0	0.0	0.0	99.0	0.0	0.0
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.9	* 6.7	* 6.2	6.4	6.9
Max Green Setting (Gmax), s	8.6	* 26	8.6	29.6	* 8.3	* 26	8.6	29.6
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	0.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	185	-	-	-	-	0	-	-	0
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	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	1	0	0	2	2	1	2	2	1
Stage 1	-	-	-	-	-	-	1	1	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	1	1	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1620	-	-	1620	-	-	1019	893	1083	1019	893	1083
Stage 1	-	-	-	-	-	-	1021	895	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	1021	895	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1620	-	-	1620	-	-	1019	893	1083	1019	893	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-	1019	893	-	1019	893	-
Stage 1	-	-	-	-	-	-	1021	895	-	1021	895	-
Stage 2	-	-	-	-	-	-	1021	895	-	1021	895	-

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

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1620	-	-	1620	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	0	-	-	0	-	-	0	0
HCM Lane LOS	A	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	727	3	21	836	12	49
Future Vol, veh/h	727	3	21	836	12	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	799	3	23	919	13	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	802	0	1766	801
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	965	-
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	-	-	822	-	92	384
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	370	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	822	-	87	384
Mov Cap-2 Maneuver	-	-	-	-	87	-
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	349	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	27
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	230	-	-	822	-
HCM Lane V/C Ratio	0.291	-	-	0.028	-
HCM Control Delay (s)	27	-	-	9.5	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1	1	1	1	1	0	1	0	0	0	0	0
Stage 1	1	1	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1022	895	1084	1022	895	-	1622	-	-	-	-	-
Stage 1	1022	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	895	1084	1022	895	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	1022	895	-	-	-	-	-	-	-
Stage 1	1022	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	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	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
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	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	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	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

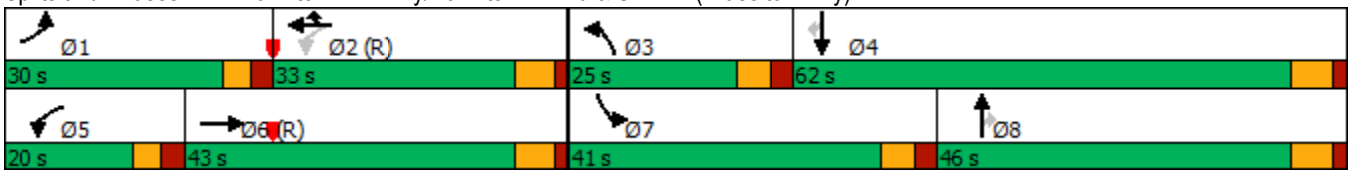
Future “Build” Intersections Analysis with Improvements

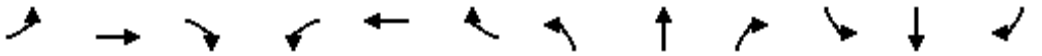
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	299	351	63	325	693	59	347	118	578	155	249
Future Volume (vph)	299	351	63	325	693	59	347	118	578	155	249
Lane Group Flow (vph)	322	416	68	349	745	63	373	127	622	167	268
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	30.0	43.0	20.0	33.0	33.0	25.0	46.0	46.0	41.0	62.0	62.0
Total Split (%)	20.0%	28.7%	13.3%	22.0%	22.0%	16.7%	30.7%	30.7%	27.3%	41.3%	41.3%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.77	0.29	0.17	0.58	0.83	0.55	0.85	0.24	0.81	0.27	0.37
Control Delay	75.9	33.3	26.1	49.9	56.7	85.1	72.3	1.3	63.1	32.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.9	33.3	26.1	49.9	58.1	85.1	72.3	1.3	63.1	32.9	5.6
Queue Length 50th (ft)	159	143	35	286	384	61	352	0	173	137	28
Queue Length 95th (ft)	207	226	77	#540	#684	110	442	1	235	144	41
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	556	1422	474	598	895	221	497	573	1157	685	761
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	48	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.29	0.14	0.58	0.88	0.29	0.75	0.22	0.54	0.24	0.35

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 5 (3%), Referenced to phase 2:WBTL and 6:EBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	351	36	63	325	693	59	347	118	578	155	249
Future Volume (veh/h)	299	351	36	63	325	693	59	347	118	578	155	249
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	322	377	0	68	349	0	63	373	0	622	167	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	372	1574		483	692		80	404		705	580	
Arrive On Green	0.11	0.44	0.00	0.03	0.37	0.00	0.05	0.22	0.00	0.23	0.53	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	5023	1841	1585
Grp Volume(v), veh/h	322	377	0	68	349	0	63	373	0	622	167	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1674	1841	1585
Q Serve(g_s), s	13.8	9.9	0.0	3.5	21.7	0.0	5.3	29.7	0.0	17.9	7.6	0.0
Cycle Q Clear(g_c), s	13.8	9.9	0.0	3.5	21.7	0.0	5.3	29.7	0.0	17.9	7.6	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	1574		483	692		80	404		705	580	
V/C Ratio(X)	0.87	0.24		0.14	0.50		0.78	0.92		0.88	0.29	
Avail Cap(c_a), veh/h	560	1574		590	692		223	486		1165	682	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	65.9	26.0	0.0	27.6	36.6	0.0	70.9	57.3	0.0	56.2	26.1	0.0
Incr Delay (d2), s/veh	6.2	0.4	0.0	0.0	2.6	0.0	6.2	21.0	0.0	2.4	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	6.3	4.2	0.0	1.5	10.2	0.0	2.5	15.9	0.0	6.9	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	26.4	0.0	27.6	39.2	0.0	77.1	78.3	0.0	58.6	26.2	0.0
LnGrp LOS	E	C		C	D		E	E		E	C	
Approach Vol, veh/h		699			417			436			789	
Approach Delay, s/veh		47.4			37.3			78.1			51.7	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.9	61.5	13.0	53.7	10.9	72.4	27.3	39.4
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	24.3	* 27	* 19	* 56	14.3	* 37	* 35	* 40
Max Q Clear Time (g_c+I1), s	15.8	23.7	7.3	9.6	5.5	11.9	19.9	31.7
Green Ext Time (p_c), s	0.4	1.1	0.0	0.5	0.0	5.3	1.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

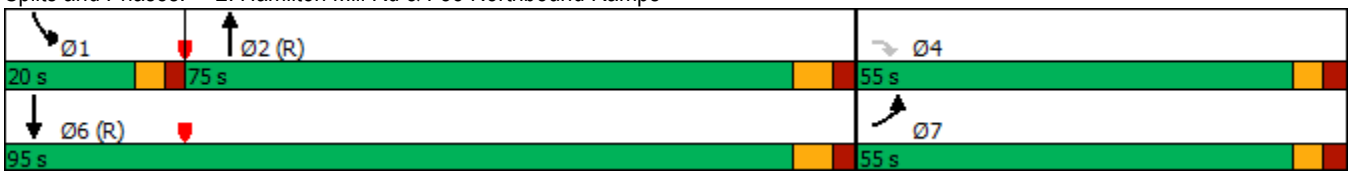
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

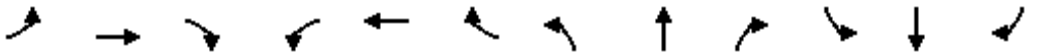
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	380	397	1252	216	798
Future Volume (vph)	380	397	1252	216	798
Lane Group Flow (vph)	404	422	1441	230	849
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	32.2	35.5	45.0	15.6	36.0
Total Split (s)	55.0	55.0	75.0	20.0	95.0
Total Split (%)	36.7%	36.7%	50.0%	13.3%	63.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.75	0.62	0.67	0.70	0.32
Control Delay	69.0	21.9	31.3	95.1	7.2
Queue Delay	0.0	0.0	2.6	0.0	0.0
Total Delay	69.0	21.9	34.0	95.1	7.2
Queue Length 50th (ft)	197	67	307	122	94
Queue Length 95th (ft)	245	126	686	168	121
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)	150	370		165	
Base Capacity (vph)	1116	1100	2138	355	2618
Starvation Cap Reductn	0	0	553	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.91	0.65	0.32

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 46 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	0	397	0	0	0	0	1252	102	216	798	0
Future Volume (veh/h)	380	0	397	0	0	0	0	1252	102	216	798	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	404	0	0				0	1332	109	230	849	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	484	0					0	2143	175	277	2700	0
Arrive On Green	0.14	0.00	0.00				0.00	1.00	1.00	0.03	0.25	0.00
Sat Flow, veh/h	3456	0	2790				0	3366	267	3456	3589	0
Grp Volume(v), veh/h	404	0	0				0	709	732	230	849	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1749	1793	1728	1749	0
Q Serve(g_s), s	17.1	0.0	0.0				0.0	0.0	0.0	9.9	29.5	0.0
Cycle Q Clear(g_c), s	17.1	0.0	0.0				0.0	0.0	0.0	9.9	29.5	0.0
Prop In Lane	1.00		1.00				0.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	484	0					0	1144	1173	277	2700	0
V/C Ratio(X)	0.84	0.00					0.00	0.62	0.62	0.83	0.31	0.00
Avail Cap(c_a), veh/h	1124	0					0	1144	1173	332	2700	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.46	0.46	0.91	0.91	0.00
Uniform Delay (d), s/veh	62.8	0.0	0.0				0.0	0.0	0.0	72.0	23.7	0.0
Incr Delay (d2), s/veh	4.6	0.0	0.0				0.0	1.2	1.2	10.9	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
%ile BackOfQ(50%),veh/ln	7.9	0.0	0.0				0.0	0.4	0.4	5.0	13.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	0.0	0.0				0.0	1.2	1.2	82.9	24.0	0.0
LnGrp LOS	E	A					A	A	A	F	C	A
Approach Vol, veh/h		404						1441			1079	
Approach Delay, s/veh		67.5						1.2			36.6	
Approach LOS		E						A			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.6	105.2		27.2		122.8
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	68.0		* 49		88.0
Max Q Clear Time (g_c+I1), s	11.9	2.0		19.1		31.5
Green Ext Time (p_c), s	0.1	32.6		1.9		14.0

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

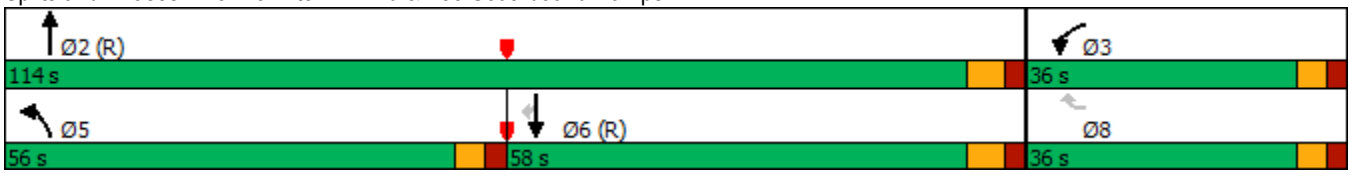
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

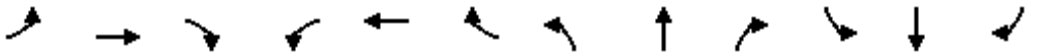
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	229	336	663	915	655	928
Future Volume (vph)	229	336	663	915	655	928
Lane Group Flow (vph)	239	350	691	953	682	967
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	36.0	36.0	56.0	114.0	58.0	58.0
Total Split (%)	24.0%	24.0%	37.3%	76.0%	38.7%	38.7%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.49	0.90	0.85	0.35	0.39	0.95
Control Delay	61.3	53.8	65.6	5.8	36.8	51.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	2.8
Total Delay	61.3	53.8	65.6	5.8	36.8	54.6
Queue Length 50th (ft)	112	163	368	88	289	677
Queue Length 95th (ft)	147	276	437	226	406	#1229
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	693	472	1151	2690	1735	1018
Starvation Cap Reductn	0	0	0	0	0	23
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.74	0.60	0.35	0.39	0.97

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 42 (28%), Referenced to phase 2:NBT and 6:SBT, 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: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	229	0	336	663	915	0	0	655	928
Future Volume (veh/h)	0	0	0	229	0	336	663	915	0	0	655	928
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				239	0	0	691	953	0	0	682	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				294	0		744	2913	0	0	2028	
Arrive On Green				0.09	0.00	0.00	0.43	1.00	0.00	0.00	0.39	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				239	0	0	691	953	0	0	682	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	20.6	0.0
Cycle Q Clear(g_c), s				10.2	0.0	0.0	28.5	0.0	0.0	0.0	20.6	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				294	0		744	2913	0	0	2028	
V/C Ratio(X)				0.81	0.00		0.93	0.33	0.00	0.00	0.34	
Avail Cap(c_a), veh/h				698	0		1159	2913	0	0	2028	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.67	0.67
Upstream Filter(I)				1.00	0.00	0.00	0.66	0.66	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				67.5	0.0	0.0	41.6	0.0	0.0	0.0	25.6	0.0
Incr Delay (d2), s/veh				4.1	0.0	0.0	5.7	0.2	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				4.7	0.0	0.0	10.2	0.1	0.0	0.0	9.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				71.5	0.0	0.0	47.4	0.2	0.0	0.0	26.0	0.0
LnGrp LOS				E	A		D	A	A	A	C	
Approach Vol, veh/h					239			1644			682	
Approach Delay, s/veh					71.5			20.0			26.0	
Approach LOS					E			C			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	131.5		38.0	93.6		18.5						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1.1E2		* 50	* 51		30.3						
Max Q Clear Time (g_c+I1), s	2.0		30.5	22.6		12.2						
Green Ext Time (p_c), s	12.1		1.8	6.6		0.6						

Intersection Summary		
HCM 6th Ctrl Delay	26.4	
HCM 6th LOS	C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	96	0	0	25	32	1196	25	0	1452	5
Future Vol, veh/h	0	0	96	0	0	25	32	1196	25	0	1452	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Free	-	-	Free
Storage Length	-	-	0	-	-	0	-	-	80	-	-	135
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	4	2	2	4	2
Mvmt Flow	0	0	101	0	0	26	34	1259	26	0	1528	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	764	-	-	630	1528	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	346	0	0	424	432	-	0	0	-	0
Stage 1	0	0	-	0	0	-	-	-	0	0	-	0
Stage 2	0	0	-	0	0	-	-	-	0	0	-	0
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	-	-	346	-	-	424	432	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	14.1	0.4	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	432	-	346	424	-
HCM Lane V/C Ratio	0.078	-	0.292	0.062	-
HCM Control Delay (s)	14	-	19.6	14.1	-
HCM Lane LOS	B	-	C	B	-
HCM 95th %tile Q(veh)	0.3	-	1.2	0.2	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	195	31	1170	40	29	1244
Future Volume (vph)	195	31	1170	40	29	1244
Lane Group Flow (vph)	197	31	1182	40	29	1257
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	46.0	46.0	104.0	104.0	104.0	104.0
Total Split (%)	30.7%	30.7%	69.3%	69.3%	69.3%	69.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.76	0.12	0.44	0.03	0.09	0.46
Control Delay	79.0	16.4	5.0	1.6	4.6	5.3
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.2
Total Delay	79.0	16.4	5.1	1.6	4.6	5.5
Queue Length 50th (ft)	188	0	117	2	1	30
Queue Length 95th (ft)	263	30	178	m8	m11	148
Internal Link Dist (ft)	216		230			581
Turn Bay Length (ft)				125	25	
Base Capacity (vph)	477	450	2705	1239	310	2705
Starvation Cap Reductn	0	0	413	0	0	582
Spillback Cap Reductn	0	0	0	0	0	278
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.07	0.52	0.03	0.09	0.59

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hamilton Mill Rd & Sardis Bend Dr

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	195	31	1170	40	29	1244
Future Volume (veh/h)	195	31	1170	40	29	1244
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	1841	1870	1870	1841
Adj Flow Rate, veh/h	197	0	1182	0	29	1257
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	4	2	2	4
Cap, veh/h	224		2801		428	2801
Arrive On Green	0.13	0.00	1.00	0.00	1.00	1.00
Sat Flow, veh/h	1781	1585	3589	1585	474	3589
Grp Volume(v), veh/h	197	0	1182	0	29	1257
Grp Sat Flow(s),veh/h/ln	1781	1585	1749	1585	474	1749
Q Serve(g_s), s	16.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	224		2801		428	2801
V/C Ratio(X)	0.88		0.42		0.07	0.45
Avail Cap(c_a), veh/h	481		2801		428	2801
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.82	0.82
Uniform Delay (d), s/veh	64.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	10.7	0.0	0.5	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.2	0.0	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	75.1	0.0	0.5	0.0	0.3	0.4
LnGrp LOS	E		A		A	A
Approach Vol, veh/h	197		1182			1286
Approach Delay, s/veh	75.1		0.5			0.4
Approach LOS	E		A			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		125.7			125.7	24.3
Change Period (Y+Rc), s		5.5			5.5	5.5
Max Green Setting (Gmax), s		98.5			98.5	40.5
Max Q Clear Time (g_c+I1), s		2.0			2.0	18.3
Green Ext Time (p_c), s		10.8			12.8	0.5

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

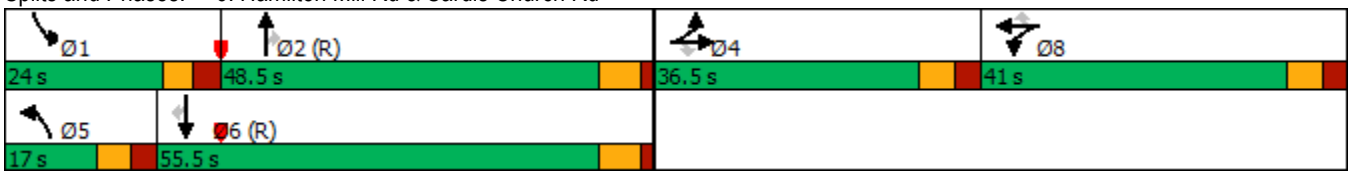
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

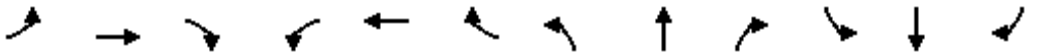
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	61	105	535	101	341	125	674	307	262	575	53
Future Volume (vph)	68	61	105	535	101	341	125	674	307	262	575	53
Lane Group Flow (vph)	71	64	109	557	105	355	130	702	320	273	599	55
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	36.5	36.5	36.5	35.5	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	36.5	36.5	36.5	41.0	41.0	41.0	17.0	48.5	48.5	24.0	55.5	55.5
Total Split (%)	24.3%	24.3%	24.3%	27.3%	27.3%	27.3%	11.3%	32.3%	32.3%	16.0%	37.0%	37.0%
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.9	6.9	6.9	6.9	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.31	0.52	0.41	0.77	0.27	0.58	0.57	0.46	0.23	0.74	0.36	0.07
Control Delay	69.2	81.3	5.4	63.1	49.9	8.2	78.7	27.7	6.9	76.7	27.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	81.3	5.4	63.1	49.9	8.2	78.7	27.7	6.9	76.7	27.4	0.2
Queue Length 50th (ft)	35	62	0	268	87	0	69	185	31	135	191	0
Queue Length 95th (ft)	60	111	5	312	135	82	107	224	38	180	288	0
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	677	367	448	808	438	644	253	1522	1381	418	1657	822
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	0.10	0.17	0.24	0.69	0.24	0.55	0.51	0.46	0.23	0.65	0.36	0.07

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	61	105	535	101	341	125	674	307	262	575	53
Future Volume (veh/h)	68	61	105	535	101	341	125	674	307	262	575	53
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	71	64	0	557	105	0	130	702	0	273	599	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	171	93		624	338		173	1754		320	1895	
Arrive On Green	0.05	0.05	0.00	0.18	0.18	0.00	0.10	1.00	0.00	0.09	0.54	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	2790	3456	3497	1585
Grp Volume(v), veh/h	71	64	0	557	105	0	130	702	0	273	599	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1395	1728	1749	1585
Q Serve(g_s), s	3.0	5.1	0.0	23.6	7.3	0.0	5.5	0.0	0.0	11.7	14.2	0.0
Cycle Q Clear(g_c), s	3.0	5.1	0.0	23.6	7.3	0.0	5.5	0.0	0.0	11.7	14.2	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	171	93		624	338		173	1754		320	1895	
V/C Ratio(X)	0.41	0.69		0.89	0.31		0.75	0.40		0.85	0.32	
Avail Cap(c_a), veh/h	682	369		786	425		237	1754		405	1895	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.91	0.91	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	69.2	70.1	0.0	60.1	53.4	0.0	66.6	0.0	0.0	67.1	19.0	0.0
Incr Delay (d2), s/veh	1.2	6.6	0.0	10.2	0.4	0.0	4.6	0.6	0.0	11.3	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	1.4	2.6	0.0	11.2	3.5	0.0	2.4	0.2	0.0	5.6	5.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.3	76.7	0.0	70.2	53.8	0.0	71.2	0.6	0.0	78.3	19.4	0.0
LnGrp LOS	E	E		E	D		E	A		E	B	
Approach Vol, veh/h		135			662			832			872	
Approach Delay, s/veh		73.4			67.6			11.7			37.9	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.3	81.4		14.3	14.2	87.5		34.0				
Change Period (Y+Rc), s	6.4	* 6.2		6.9	* 6.7	* 6.2		6.9				
Max Green Setting (Gmax), s	17.6	* 42		29.6	* 10	* 49		34.1				
Max Q Clear Time (g_c+I1), s	13.7	2.0		7.1	7.5	16.2		25.6				
Green Ext Time (p_c), s	0.2	13.0		0.4	0.0	10.0		1.4				

Intersection Summary		
HCM 6th Ctrl Delay		38.9
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	584	37	27	890	19	35	0	18	29	1	52
Future Vol, veh/h	10	584	37	27	890	19	35	0	18	29	1	52
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	90	-	-	185	-	-	-	-	75	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	664	42	31	1011	22	40	0	20	33	1	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1033	0	0	706	0	0	1275	1802	353	1438	1812	517
Stage 1	-	-	-	-	-	-	707	707	-	1084	1084	-
Stage 2	-	-	-	-	-	-	568	1095	-	354	728	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	668	-	-	888	-	-	124	79	643	94	78	503
Stage 1	-	-	-	-	-	-	392	436	-	231	291	-
Stage 2	-	-	-	-	-	-	475	288	-	636	427	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	668	-	-	888	-	-	104	75	643	88	74	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	75	-	88	74	-
Stage 1	-	-	-	-	-	-	386	429	-	227	281	-
Stage 2	-	-	-	-	-	-	403	278	-	606	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	43	34.2
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	104	643	668	-	-	888	-	-	87	503
HCM Lane V/C Ratio	0.382	0.032	0.017	-	-	0.035	-	-	0.392	0.117
HCM Control Delay (s)	59.6	10.8	10.5	-	-	9.2	-	-	70.9	13.1
HCM Lane LOS	F	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	1.6	0.1	0.1	-	-	0.1	-	-	1.6	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	632	0	44	931	5	42
Future Vol, veh/h	632	0	44	931	5	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	-	-	-	-	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	744	0	52	1095	6	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	744	0	1943	744
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	1199	-
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	-	-	864	-	71	415
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	286	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	864	-	60	415
Mov Cap-2 Maneuver	-	-	-	-	60	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	242	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	23
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	255	-	-	864	-
HCM Lane V/C Ratio	0.217	-	-	0.06	-
HCM Control Delay (s)	23	-	-	9.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	11	38	2	19	6	13	28	9	25	2
Future Vol, veh/h	6	4	11	38	2	19	6	13	28	9	25	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	5	13	43	2	22	7	15	32	10	28	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	106	110	29	103	95	31	30	0	0	47	0	0
Stage 1	49	49	-	45	45	-	-	-	-	-	-	-
Stage 2	57	61	-	58	50	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	873	780	1046	877	795	1043	1583	-	-	1560	-	-
Stage 1	964	854	-	969	857	-	-	-	-	-	-	-
Stage 2	955	844	-	954	853	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	845	771	1046	855	785	1043	1583	-	-	1560	-	-
Mov Cap-2 Maneuver	845	771	-	855	785	-	-	-	-	-	-	-
Stage 1	959	848	-	964	853	-	-	-	-	-	-	-
Stage 2	928	840	-	931	847	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.3	0.9	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1583	-	-	921	905	1560	-	-
HCM Lane V/C Ratio	0.004	-	-	0.026	0.074	0.007	-	-
HCM Control Delay (s)	7.3	0	-	9	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	42	168	22	14	58
Future Vol, veh/h	27	42	168	22	14	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	-	-	-	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	29	46	183	24	15	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	299	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	104	-
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	1364	-	-	-	692	846
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	677	846
Mov Cap-2 Maneuver	-	-	-	-	677	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1364	-	-	-	677	846
HCM Lane V/C Ratio	0.022	-	-	-	0.022	0.075
HCM Control Delay (s)	7.7	-	-	-	10.4	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	6	5	43	17	15
Future Vol, veh/h	36	6	5	43	17	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	-
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	39	7	5	47	18	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	46	0	100	43
Stage 1	-	-	-	-	43	-
Stage 2	-	-	-	-	57	-
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	-	-	1562	-	899	1027
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	966	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1562	-	896	1027
Mov Cap-2 Maneuver	-	-	-	-	896	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	953	-	-	1562	-
HCM Lane V/C Ratio	0.036	-	-	0.003	-
HCM Control Delay (s)	8.9	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)

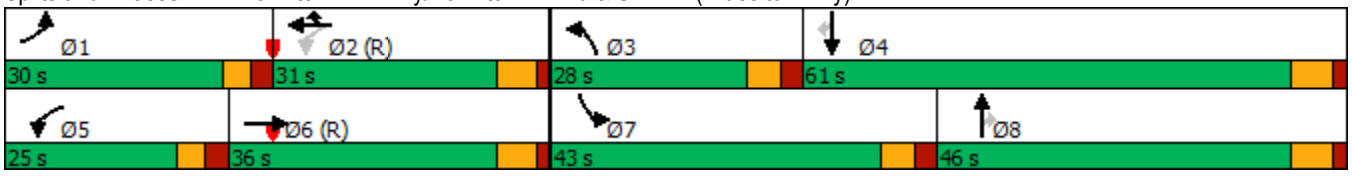
01/24/2023

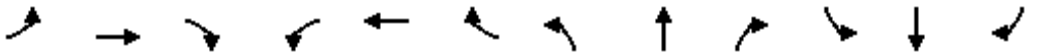
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	354	426	125	365	702	17	256	123	1177	447	363
Future Volume (vph)	354	426	125	365	702	17	256	123	1177	447	363
Lane Group Flow (vph)	358	467	126	369	709	17	259	124	1189	452	367
Turn Type	Prot	NA	pm+pt	NA	Prot	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6	5	2	2	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	1	6	5	2	2	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	12.0	4.0	12.0	12.0	4.0	6.0	6.0	4.0	6.0	6.0
Minimum Split (s)	15.0	36.5	15.0	36.5	36.5	15.0	35.5	35.5	15.0	32.5	32.5
Total Split (s)	30.0	36.0	25.0	31.0	31.0	28.0	46.0	46.0	43.0	61.0	61.0
Total Split (%)	20.0%	24.0%	16.7%	20.7%	20.7%	18.7%	30.7%	30.7%	28.7%	40.7%	40.7%
Yellow Time (s)	3.1	4.3	3.1	4.3	4.3	3.7	4.6	4.6	3.7	4.6	4.6
All-Red Time (s)	2.6	1.7	2.6	1.7	1.7	2.5	1.8	1.8	2.5	1.8	1.8
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)	5.7	6.0	5.7	6.0	6.0	6.2	6.4	6.4	6.2	6.4	6.4
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	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.79	0.39	0.34	0.70	0.90	0.24	0.79	0.30	0.97	0.58	0.42
Control Delay	75.5	40.1	29.1	57.7	67.1	77.0	76.1	4.9	69.2	35.8	5.0
Queue Delay	0.0	0.0	0.0	0.0	50.7	0.0	0.0	0.0	0.0	2.4	0.0
Total Delay	75.5	40.1	29.1	57.7	117.8	77.0	76.1	4.9	69.2	38.1	5.0
Queue Length 50th (ft)	177	180	71	325	381	16	246	0	401	288	28
Queue Length 95th (ft)	225	265	128	#600	#655	44	326	31	#507	465	67
Internal Link Dist (ft)		862		615			649			590	
Turn Bay Length (ft)	235		255		130	225			200		250
Base Capacity (vph)	559	1198	474	525	786	257	482	530	1224	781	870
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	205	0
Spillback Cap Reductn	0	0	0	0	367	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.39	0.27	0.70	1.69	0.07	0.54	0.23	0.97	0.78	0.42

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 147 (98%), Referenced to phase 2:WBTL and 6:EBT, 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: 1: Hamilton Mill Pkwy/Hamilton Mill Rd & SR 124 (Braselton Hwy)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	354	426	37	125	365	702	17	256	123	1177	447	363
Future Volume (veh/h)	354	426	37	125	365	702	17	256	123	1177	447	363
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	358	430	0	126	369	0	17	259	0	1189	452	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	4	2	2	4	2
Cap, veh/h	408	1325		431	591		24	292		1232	719	
Arrive On Green	0.12	0.37	0.00	0.06	0.32	0.00	0.01	0.16	0.00	0.33	0.52	0.00
Sat Flow, veh/h	3456	3647	0	1781	1870	2790	1781	1841	1585	5023	1841	1585
Grp Volume(v), veh/h	358	430	0	126	369	0	17	259	0	1189	452	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1781	1870	1395	1781	1841	1585	1674	1841	1585
Q Serve(g_s), s	15.3	13.0	0.0	7.1	25.2	0.0	1.4	20.7	0.0	34.9	26.3	0.0
Cycle Q Clear(g_c), s	15.3	13.0	0.0	7.1	25.2	0.0	1.4	20.7	0.0	34.9	26.3	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	1325		431	591		24	292		1232	719	
V/C Ratio(X)	0.88	0.32		0.29	0.62		0.71	0.89		0.96	0.63	
Avail Cap(c_a), veh/h	560	1325		552	591		259	486		1232	719	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.56	0.56	0.00
Uniform Delay (d), s/veh	65.1	33.6	0.0	31.4	43.7	0.0	73.7	61.8	0.0	49.9	28.3	0.0
Incr Delay (d2), s/veh	9.2	0.7	0.0	0.1	4.9	0.0	13.0	10.6	0.0	12.0	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	5.6	0.0	3.1	12.3	0.0	0.7	10.4	0.0	14.9	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	34.2	0.0	31.5	48.7	0.0	86.7	72.4	0.0	61.8	29.0	0.0
LnGrp LOS	E	C		C	D		F	E		E	C	
Approach Vol, veh/h		788			495			276			1641	
Approach Delay, s/veh		52.4			44.3			73.3			52.8	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	53.4	8.2	65.0	14.9	61.9	43.0	30.2
Change Period (Y+Rc), s	5.7	* 6	* 6.2	* 6.4	5.7	* 6	* 6.2	* 6.4
Max Green Setting (Gmax), s	24.3	* 25	* 22	* 55	19.3	* 30	* 37	* 40
Max Q Clear Time (g_c+I1), s	17.3	27.2	3.4	28.3	9.1	15.0	36.9	22.7
Green Ext Time (p_c), s	0.4	0.0	0.0	1.6	0.1	4.7	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

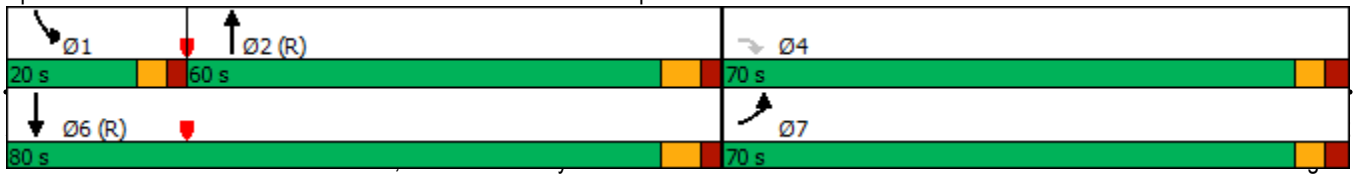
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

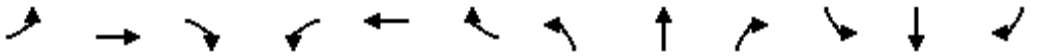
Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	796	805	1234	370	1310
Future Volume (vph)	796	805	1234	370	1310
Lane Group Flow (vph)	847	856	1481	394	1394
Turn Type	Prot	Perm	NA	Prot	NA
Protected Phases	7		2	1	6
Permitted Phases		4			
Detector Phase	7	4	2	1	6
Switch Phase					
Minimum Initial (s)	6.0	6.0	12.0	10.0	12.0
Minimum Split (s)	15.0	35.5	45.0	15.6	36.0
Total Split (s)	70.0	70.0	60.0	20.0	80.0
Total Split (%)	46.7%	46.7%	40.0%	13.3%	53.3%
Yellow Time (s)	3.2	3.2	4.5	3.4	4.5
All-Red Time (s)	3.0	3.0	2.5	2.2	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	7.0	5.6	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.72	0.85	1.18	0.69	0.71
Control Delay	46.2	50.5	141.6	88.8	16.1
Queue Delay	0.0	0.0	0.4	0.0	0.2
Total Delay	46.2	50.5	141.9	88.8	16.4
Queue Length 50th (ft)	370	409	~947	206	149
Queue Length 95th (ft)	404	460	#1098	m#308	325
Internal Link Dist (ft)			590		673
Turn Bay Length (ft)	150	370		165	
Base Capacity (vph)	1460	1225	1252	573	1973
Starvation Cap Reductn	0	0	106	0	129
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.70	1.29	0.69	0.76

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 25 (17%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Hamilton Mill Rd & I-85 Northbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	796	0	805	0	0	0	0	1234	158	370	1310	0
Future Volume (veh/h)	796	0	805	0	0	0	0	1234	158	370	1310	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1841	1870	1870	1841	0
Adj Flow Rate, veh/h	847	0	0				0	1313	168	394	1394	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				0	4	2	2	4	0
Cap, veh/h	960	0					0	1563	199	332	2218	0
Arrive On Green	0.28	0.00	0.00				0.00	0.50	0.50	0.10	0.63	0.00
Sat Flow, veh/h	3456	0	2790				0	3213	397	3456	3589	0
Grp Volume(v), veh/h	847	0	0				0	732	749	394	1394	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1749	1769	1728	1749	0
Q Serve(g_s), s	35.2	0.0	0.0				0.0	53.9	54.9	14.4	36.4	0.0
Cycle Q Clear(g_c), s	35.2	0.0	0.0				0.0	53.9	54.9	14.4	36.4	0.0
Prop In Lane	1.00		1.00				0.00		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	960	0					0	876	886	332	2218	0
V/C Ratio(X)	0.88	0.00					0.00	0.84	0.84	1.19	0.63	0.00
Avail Cap(c_a), veh/h	1470	0					0	876	886	332	2218	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.41	0.41	0.56	0.56	0.00
Uniform Delay (d), s/veh	51.8	0.0	0.0				0.0	32.1	32.4	67.8	16.7	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.0				0.0	4.1	4.3	100.6	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.9	0.0	0.0				0.0	22.7	23.4	10.9	13.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	0.0	0.0				0.0	36.2	36.7	168.4	17.5	0.0
LnGrp LOS	E	A					A	D	D	F	B	A
Approach Vol, veh/h		847						1481			1788	
Approach Delay, s/veh		56.6						36.4			50.7	
Approach LOS		E						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	82.1		47.9		102.1
Change Period (Y+Rc), s	* 5.6	7.0		* 6.2		7.0
Max Green Setting (Gmax), s	* 14	53.0		* 64		73.0
Max Q Clear Time (g_c+I1), s	16.4	56.9		37.2		38.4
Green Ext Time (p_c), s	0.0	0.0		4.5		22.2

Intersection Summary		
HCM 6th Ctrl Delay		46.8
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

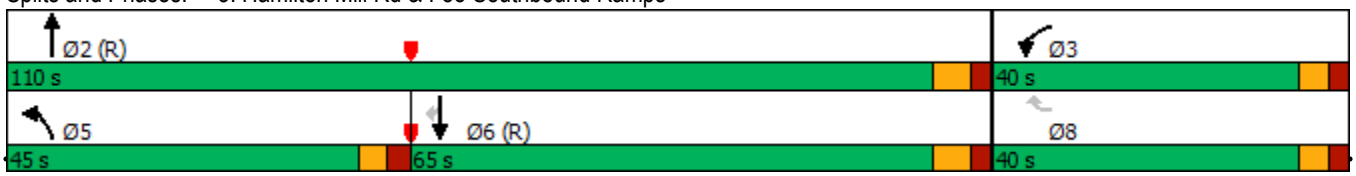
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

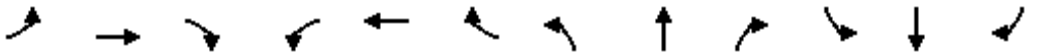
Lane Group	WBL	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	186	276	467	1643	1489	673
Future Volume (vph)	186	276	467	1643	1489	673
Lane Group Flow (vph)	190	282	477	1677	1519	687
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	3		5	2	6	
Permitted Phases		8				6
Detector Phase	3	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	4.0	12.0	12.0	12.0
Minimum Split (s)	15.0	37.5	15.0	36.6	33.5	33.5
Total Split (s)	40.0	40.0	45.0	110.0	65.0	65.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	3.2	3.2	3.2	4.3	4.3	4.3
All-Red Time (s)	2.5	2.5	2.5	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	6.6	6.6	6.6
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.32	0.87	0.81	0.65	0.81	0.74
Control Delay	54.7	69.8	57.3	11.6	30.7	22.0
Queue Delay	0.0	0.0	0.0	0.6	0.8	0.4
Total Delay	54.7	69.8	57.3	12.2	31.5	22.4
Queue Length 50th (ft)	85	210	250	393	756	416
Queue Length 95th (ft)	115	303	m248	m365	#960	#404
Internal Link Dist (ft)				673	386	
Turn Bay Length (ft)	295	295	335			100
Base Capacity (vph)	785	414	899	2593	1865	929
Starvation Cap Reductn	0	0	0	489	121	43
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.68	0.53	0.80	0.87	0.78

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 28 (19%), Referenced to phase 2:NBT and 6:SBT, 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hamilton Mill Rd & I-85 Southbound Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	186	0	276	467	1643	0	0	1489	673
Future Volume (veh/h)	0	0	0	186	0	276	467	1643	0	0	1489	673
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1841	0	0	1841	1870
Adj Flow Rate, veh/h				190	0	0	477	1677	0	0	1519	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	4	0	0	4	2
Cap, veh/h				244	0		530	2964	0	0	2295	
Arrive On Green				0.07	0.00	0.00	0.31	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h				3456	0	1585	3456	3589	0	0	3589	1585
Grp Volume(v), veh/h				190	0	0	477	1677	0	0	1519	0
Grp Sat Flow(s),veh/h/ln				1728	0	1585	1728	1749	0	0	1749	1585
Q Serve(g_s), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				8.1	0.0	0.0	19.8	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				244	0		530	2964	0	0	2295	
V/C Ratio(X)				0.78	0.00		0.90	0.57	0.00	0.00	0.66	
Avail Cap(c_a), veh/h				790	0		905	2964	0	0	2295	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				68.6	0.0	0.0	50.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				4.0	0.0	0.0	0.6	0.1	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				3.7	0.0	0.0	7.2	0.0	0.0	0.0	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				72.6	0.0	0.0	51.5	0.1	0.0	0.0	1.5	0.0
LnGrp LOS				E	A		D	A	A	A	A	
Approach Vol, veh/h					190			2154			1519	
Approach Delay, s/veh					72.6			11.5			1.5	
Approach LOS					E			B			A	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	133.7		28.7	105.0		16.3						
Change Period (Y+Rc), s	* 6.6		* 5.7	* 6.6		5.7						
Max Green Setting (Gmax), s	* 1E2		* 39	* 58		34.3						
Max Q Clear Time (g_c+I1), s	2.0		21.8	2.0		10.1						
Green Ext Time (p_c), s	36.7		1.2	25.0		0.5						

Intersection Summary		
HCM 6th Ctrl Delay	10.6	
HCM 6th LOS	B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱		↑↑	↱		↑↑	↱
Traffic Vol, veh/h	0	0	315	0	0	16	65	1831	61	0	1755	4
Future Vol, veh/h	0	0	315	0	0	16	65	1831	61	0	1755	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Free	-	-	Free
Storage Length	-	-	0	-	-	0	-	-	80	-	-	135
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	4	2	2	4	2
Mvmt Flow	0	0	325	0	0	16	67	1888	63	0	1809	4

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	-	-	905	-	-	944	1809	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 279	0	0	263	336	-	0	0	-	0
Stage 1	0	0	-	0	0	-	-	-	0	0	-	0
Stage 2	0	0	-	0	0	-	-	-	0	0	-	0
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	-	-	~ 279	-	-	263	336	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	144.9	19.6	0.6	0
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	336	-	279	263	-
HCM Lane V/C Ratio	0.199	-	1.164	0.063	-
HCM Control Delay (s)	18.4	-	144.9	19.6	-
HCM Lane LOS	C	-	F	C	-
HCM 95th %tile Q(veh)	0.7	-	14.3	0.2	-

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	124	42	1601	124	51	1687
Future Volume (vph)	124	42	1601	124	51	1687
Lane Group Flow (vph)	132	45	1703	132	54	1795
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	30.0	30.0	120.0	120.0	120.0	120.0
Total Split (%)	20.0%	20.0%	80.0%	80.0%	80.0%	80.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.68	0.21	0.60	0.10	0.31	0.63
Control Delay	81.0	17.0	5.4	0.4	7.1	5.7
Queue Delay	0.0	0.0	0.3	0.0	0.0	0.7
Total Delay	81.0	17.0	5.6	0.4	7.1	6.3
Queue Length 50th (ft)	126	0	405	1	4	105
Queue Length 95th (ft)	194	38	336	m4	m16	194
Internal Link Dist (ft)	216		230			581
Turn Bay Length (ft)				125	25	
Base Capacity (vph)	289	296	2835	1309	176	2835
Starvation Cap Reductn	0	0	430	0	0	602
Spillback Cap Reductn	0	0	0	0	0	328
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.15	0.71	0.10	0.31	0.80

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hamilton Mill Rd & Sardis Bend Dr

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	124	42	1601	124	51	1687
Future Volume (veh/h)	124	42	1601	124	51	1687
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	1841	1870	1870	1841
Adj Flow Rate, veh/h	132	0	1703	0	54	1795
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	4	2	2	4
Cap, veh/h	156		2935		289	2935
Arrive On Green	0.09	0.00	1.00	0.00	1.00	1.00
Sat Flow, veh/h	1781	1585	3589	1585	288	3589
Grp Volume(v), veh/h	132	0	1703	0	54	1795
Grp Sat Flow(s),veh/h/ln	1781	1585	1749	1585	288	1749
Q Serve(g_s), s	11.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	156		2935		289	2935
V/C Ratio(X)	0.85		0.58		0.19	0.61
Avail Cap(c_a), veh/h	291		2935		289	2935
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.65	0.65
Uniform Delay (d), s/veh	67.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	11.7	0.0	0.8	0.0	0.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	0.3	0.0	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	79.1	0.0	0.8	0.0	0.9	0.6
LnGrp LOS	E		A		A	A
Approach Vol, veh/h	132		1703			1849
Approach Delay, s/veh	79.1		0.8			0.6
Approach LOS	E		A			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		131.4			131.4	18.6
Change Period (Y+Rc), s		5.5			5.5	5.5
Max Green Setting (Gmax), s		114.5			114.5	24.5
Max Q Clear Time (g_c+I1), s		2.0			2.0	13.0
Green Ext Time (p_c), s		22.6			30.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	3.5
HCM 6th LOS	A

Notes

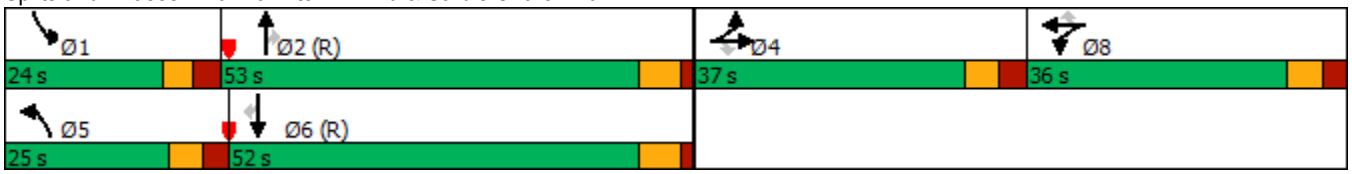
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

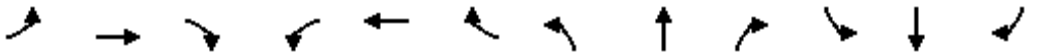
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	243	209	489	175	230	317	775	487	311	839	119
Future Volume (vph)	191	243	209	489	175	230	317	775	487	311	839	119
Lane Group Flow (vph)	195	248	213	499	179	235	323	791	497	317	856	121
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	12.0	12.0	4.0	12.0	12.0
Minimum Split (s)	36.5	36.5	36.5	35.5	35.5	35.5	15.0	31.5	31.5	15.0	31.5	31.5
Total Split (s)	37.0	37.0	37.0	36.0	36.0	36.0	25.0	53.0	53.0	24.0	52.0	52.0
Total Split (%)	24.7%	24.7%	24.7%	24.0%	24.0%	24.0%	16.7%	35.3%	35.3%	16.0%	34.7%	34.7%
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.7	4.6	4.6	3.4	4.6	4.6
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.6	1.6	3.0	1.6	1.6
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)	6.9	6.9	6.9	6.9	6.9	6.9	6.7	6.2	6.2	6.4	6.2	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.34	0.80	0.50	0.81	0.54	0.49	0.83	0.62	0.39	0.83	0.68	0.19
Control Delay	55.8	78.4	12.8	70.4	61.9	9.6	85.4	40.8	12.2	83.5	45.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	55.8	78.4	12.9	70.4	61.9	9.6	85.4	40.8	12.2	83.5	45.9	6.2
Queue Length 50th (ft)	87	234	14	242	159	0	172	311	63	157	389	0
Queue Length 95th (ft)	122	327	89	305	239	76	#227	360	93	#222	492	46
Internal Link Dist (ft)		410			322			581			1035	
Turn Bay Length (ft)	185		165	125		225	255		220	225		440
Base Capacity (vph)	688	373	474	668	362	497	419	1272	1280	406	1256	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	2	0	0	0	0	0	0	0	47	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.66	0.45	0.75	0.49	0.47	0.77	0.62	0.39	0.78	0.71	0.19

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Hamilton Mill Rd & Sardis Church Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	243	209	489	175	230	317	775	487	311	839	119
Future Volume (veh/h)	191	243	209	489	175	230	317	775	487	311	839	119
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	1841	1870	1870	1841	1870
Adj Flow Rate, veh/h	195	248	0	499	179	0	323	791	0	317	856	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	4	2	2	4	2
Cap, veh/h	522	283		563	305		365	1417		362	1406	
Arrive On Green	0.15	0.15	0.00	0.16	0.16	0.00	0.18	0.68	0.00	0.10	0.40	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3497	2790	3456	3497	1585
Grp Volume(v), veh/h	195	248	0	499	179	0	323	791	0	317	856	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1749	1395	1728	1749	1585
Q Serve(g_s), s	7.6	19.5	0.0	21.2	13.3	0.0	13.7	17.6	0.0	13.6	29.1	0.0
Cycle Q Clear(g_c), s	7.6	19.5	0.0	21.2	13.3	0.0	13.7	17.6	0.0	13.6	29.1	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	522	283		563	305		365	1417		362	1406	
V/C Ratio(X)	0.37	0.88		0.89	0.59		0.88	0.56		0.88	0.61	
Avail Cap(c_a), veh/h	693	375		670	363		422	1417		405	1406	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.78	0.78	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.3	62.3	0.0	61.4	58.1	0.0	60.9	17.3	0.0	66.2	35.5	0.0
Incr Delay (d2), s/veh	0.3	15.3	0.0	11.5	1.3	0.0	13.3	1.2	0.0	16.3	2.0	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	3.4	10.6	0.0	10.2	6.4	0.0	6.2	5.4	0.0	6.7	12.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	77.6	0.0	72.9	59.4	0.0	74.2	18.5	0.0	82.5	37.5	0.0
LnGrp LOS	E	E		E	E		E	B		F	D	
Approach Vol, veh/h		443			678			1114			1173	
Approach Delay, s/veh		68.8			69.4			34.7			49.6	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	67.0		29.6	22.6	66.5		31.4				
Change Period (Y+Rc), s	6.4	* 6.2		6.9	* 6.7	* 6.2		6.9				
Max Green Setting (Gmax), s	17.6	* 47		30.1	* 18	* 46		29.1				
Max Q Clear Time (g_c+I1), s	15.6	19.6		21.5	15.7	31.1		23.2				
Green Ext Time (p_c), s	0.1	12.5		1.2	0.2	9.0		1.3				

Intersection Summary		
HCM 6th Ctrl Delay		51.2
HCM 6th LOS		D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	45.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	842	137	47	674	52	98	14	61	67	5	121
Future Vol, veh/h	62	842	137	47	674	52	98	14	61	67	5	121
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	90	-	-	185	-	-	-	-	75	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	868	141	48	695	54	101	14	63	69	5	125

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	749	0	0	1009	0	0	1513	1912	505	1387	1955	375
Stage 1	-	-	-	-	-	-	1067	1067	-	818	818	-
Stage 2	-	-	-	-	-	-	446	845	-	569	1137	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	856	-	-	683	-	-	~ 82	67	512	102	63	623
Stage 1	-	-	-	-	-	-	237	297	-	336	388	-
Stage 2	-	-	-	-	-	-	561	377	-	474	275	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	683	-	-	~ 54	58	512	~ 65	54	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 54	58	-	~ 65	54	-
Stage 1	-	-	-	-	-	-	219	275	-	311	361	-
Stage 2	-	-	-	-	-	-	411	351	-	365	254	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.6	$ 450	109.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	54	512	856	-	-	683	-	-	64	623
HCM Lane V/C Ratio	2.138	0.123	0.075	-	-	0.071	-	-	1.16	0.2
HCM Control Delay (s)	$ 688	13	9.5	-	-	10.7	-	-	272.3	12.2
HCM Lane LOS	F	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	11.5	0.4	0.2	-	-	0.2	-	-	6	0.7

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

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	988	4	38	740	12	57
Future Vol, veh/h	988	4	38	740	12	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1019	4	39	763	12	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1023	0	1862	1021
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	841	-
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	-	-	679	-	80	287
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	423	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	679	-	72	287
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	381	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	35.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	189	-	-	679	-
HCM Lane V/C Ratio	0.376	-	-	0.058	-
HCM Control Delay (s)	35.1	-	-	10.6	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	1.6	-	-	0.2	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	11	3	28	5	19	3	20	59	22	56	1
Future Vol, veh/h	5	11	3	28	5	19	3	20	59	22	56	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	14	4	35	6	24	4	25	75	28	71	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	214	236	72	208	199	63	72	0	0	100	0	0
Stage 1	128	128	-	71	71	-	-	-	-	-	-	-
Stage 2	86	108	-	137	128	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	743	665	990	749	697	1002	1528	-	-	1493	-	-
Stage 1	876	790	-	939	836	-	-	-	-	-	-	-
Stage 2	922	806	-	866	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	707	650	990	721	681	1002	1528	-	-	1493	-	-
Mov Cap-2 Maneuver	707	650	-	721	681	-	-	-	-	-	-	-
Stage 1	873	774	-	936	833	-	-	-	-	-	-	-
Stage 2	890	804	-	830	774	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	9.9	0.3	2.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1528	-	-	703	798	1493	-	-
HCM Lane V/C Ratio	0.002	-	-	0.034	0.082	0.019	-	-
HCM Control Delay (s)	7.4	0	-	10.3	9.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	104	109	14	34	56
Future Vol, veh/h	71	104	109	14	34	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	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	77	113	118	15	37	61

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	133	0	-	0	393	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	267	-
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	1452	-	-	-	611	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1452	-	-	-	579	924
Mov Cap-2 Maneuver	-	-	-	-	579	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	778	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1452	-	-	-	579	924
HCM Lane V/C Ratio	0.053	-	-	-	0.064	0.066
HCM Control Delay (s)	7.6	-	-	-	11.6	9.2
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	76	16	11	41	11	10
Future Vol, veh/h	76	16	11	41	11	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	-	-	75	-	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	83	17	12	45	12	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	161	92
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	69	-
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	-	-	1493	-	830	965
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	823	965
Mov Cap-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	946	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	885	-	-	1493	-
HCM Lane V/C Ratio	0.026	-	-	0.008	-
HCM Control Delay (s)	9.2	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Traffic Volume Worksheets

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

1. Hamilton Mill @ SR 124

A.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				SR 124 (Braselton Highway)				SR 124 (Braselton Highway)			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	55	308	109	472	520	129	211	860	263	325	33	621	58	301	629	988
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	9	0	9	4	4	4	12	9	0	0	9	0	0	9	9
No-Build 2026 Volumes:	59	342	118	519	566	143	232	941	293	351	36	680	63	325	688	1076
Proposed Development Trips:	0	5	0	5	12	12	17	41	6	0	0	6	0	0	5	5
Future 2026 Traffic Volumes:	59	347	118	524	578	155	249	982	299	351	36	686	63	325	693	1081

P.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				SR 124 (Braselton Highway)				SR 124 (Braselton Highway)			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	16	225	114	355	1081	405	324	1810	311	394	34	739	116	338	638	1092
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	2	0	2	2	2	2	6	2	0	0	2	0	0	2	2
No-Build 2026 Volumes:	17	245	123	385	1169	439	352	1960	338	426	37	801	125	365	691	1181
Proposed Development Trips:	0	11	0	11	8	8	11	27	16	0	0	16	0	0	11	11
Future 2026 Traffic Volumes:	17	256	123	396	1177	447	363	1987	354	426	37	817	125	365	702	1192

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

2. Hamilton Mill @ I-85 NB Ramp

A.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				I-85 Northbound Off-Ramp				I-85 Northbound On-Ramp			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	1120	94	1214	161	688	0	849	253	0	368	621	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	27	0	27	17	13	0	30	80	0	0	80	0	0	0	0
No-Build 2026 Volumes:	0	1237	102	1339	191	756	0	947	353	0	397	750	0	0	0	0
Proposed Development Trips:	0	15	0	15	25	42	0	67	27	0	0	27	0	0	0	0
Future 2026 Traffic Volumes:	0	1252	102	1354	216	798	0	1014	380	0	397	777	0	0	0	0

P.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				I-85 Northbound Off-Ramp				I-85 Northbound On-Ramp			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	1103	146	1249	321	1182	0	1503	660	0	745	1405	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	5	0	5	7	6	0	13	15	0	0	15	0	0	0	0
No-Build 2026 Volumes:	0	1196	158	1354	354	1283	0	1637	728	0	805	1533	0	0	0	0
Proposed Development Trips:	0	38	0	38	16	27	0	43	68	0	0	68	0	0	0	0
Future 2026 Traffic Volumes:	0	1234	158	1392	370	1310	0	1680	796	0	805	1601	0	0	0	0

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

3. Hamilton Mill @ I-85 SB Ramp

A.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				I-85 Southbound On-Ramp				I-85 Southbound Off-Ramp			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	614	708	0	1322	0	518	756	1274	0	0	0	0	212	0	269	481
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	107	0	107	0	29	38	67	0	0	0	0	0	0	36	36
No-Build 2026 Volumes:	663	872	0	1535	0	588	854	1442	0	0	0	0	229	0	327	556
Proposed Development Trips:	0	43	0	43	0	67	74	141	0	0	0	0	0	0	9	9
Future 2026 Traffic Volumes:	663	915	0	1578	0	655	928	1583	0	0	0	0	229	0	336	565

P.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				I-85 Southbound On-Ramp				I-85 Southbound Off-Ramp			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	432	1405	0	1837	0	1327	563	1890	0	0	0	0	172	0	228	400
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	20	0	20	0	13	17	30	0	0	0	0	0	0	7	7
No-Build 2026 Volumes:	467	1537	0	2004	0	1446	625	2071	0	0	0	0	186	0	253	439
Proposed Development Trips:	0	106	0	106	0	43	48	91	0	0	0	0	0	0	23	23
Future 2026 Traffic Volumes:	467	1643	0	2110	0	1489	673	2162	0	0	0	0	186	0	276	462

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

4. Hamilton Mill @ RIRO Drwy 2

A.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				RIRO Driveway to Town Center				RIRO Site Driveway 2			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	30	951	0	981	0	1152	5	1157	0	0	89	89	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	142	0	142	0	67	0	67	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	32	1169	0	1201	0	1311	5	1316	0	0	96	96	0	0	0	0
Proposed Development Trips:	0	27	25	52	0	141	0	141	0	0	0	0	0	0	25	25
Future 2026 Traffic Volumes:	32	1196	25	1253	0	1452	5	1457	0	0	96	96	0	0	25	25

P.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				RIRO Driveway to Town Center				RIRO Site Driveway 2			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	60	1607	0	1667	0	1512	4	1516	0	0	292	292	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	27	0	27	0	30	0	30	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	65	1763	0	1828	0	1663	4	1667	0	0	315	315	0	0	0	0
Proposed Development Trips:	0	68	61	129	0	92	0	92	0	0	0	0	0	0	16	16
Future 2026 Traffic Volumes:	65	1831	61	1957	0	1755	4	1759	0	0	315	315	0	0	16	16

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

5. Hamilton Mill @ Sardis Bend

A.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				-				Sardis Bend Drive			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	929	12	941	13	1090	0	1103	0	0	0	0	50	0	4	54
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	142	0	142	0	67	0	67	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	1145	13	1158	14	1244	0	1258	0	0	0	0	54	0	4	58
Proposed Development Trips:	0	25	27	52	15	0	0	15	0	0	0	0	141	0	27	168
Future 2026 Traffic Volumes:	0	1170	40	1210	29	1244	0	1273	0	0	0	0	195	0	31	226

P.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				-				Sardis Bend Drive			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	1443	52	1495	14	1534	0	1548	0	0	0	0	30	0	22	52
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	27	0	27	0	30	0	30	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	1585	56	1641	15	1687	0	1702	0	0	0	0	32	0	24	56
Proposed Development Trips:	0	16	68	84	36	0	0	36	0	0	0	0	92	0	18	110
Future 2026 Traffic Volumes:	0	1601	124	1725	51	1687	0	1738	0	0	0	0	124	0	42	166

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

6. Hamilton Mill @ Sardis Chrch

A.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				Sardis Church Road				Sardis Church Road			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	114	579	153	846	90	519	49	658	63	34	96	193	433	80	237	750
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	142	142	156	0	0	156	0	22	0	22	67	10	73	150
No-Build 2026 Volumes:	123	625	307	1055	253	561	53	867	68	59	104	231	535	96	329	960
Proposed Development Trips:	2	49	0	51	9	14	0	23	0	2	1	3	0	5	12	17
Future 2026 Traffic Volumes:	125	674	307	1106	262	575	53	890	68	61	105	234	535	101	341	977

P.M. Peak Hour

	Hamilton Mill Road				Hamilton Mill Road				Sardis Church Road				Sardis Church Road			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	292	688	426	1406	239	745	110	1094	177	217	192	586	425	155	175	755
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	27	27	30	0	0	30	0	4	0	4	30	5	33	68
No-Build 2026 Volumes:	315	743	487	1545	288	805	119	1212	191	238	207	636	489	172	222	883
Proposed Development Trips:	2	32	0	34	23	34	0	57	0	5	2	7	0	3	8	11
Future 2026 Traffic Volumes:	317	775	487	1579	311	839	119	1269	191	243	209	643	489	175	230	894

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

7. Sardis Church @ Sardis Bend

A.M. Peak Hour

	Sardis Bend Drive				Sardis Bend Drive				Sardis Church Road				Sardis Church Road			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	17	0	10	27	15	1	48	64	9	244	24	277	20	685	12	717
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	13	0	0	13	0	320	0	320	0	150	6	156
No-Build 2026 Volumes:	18	0	11	29	29	1	52	82	10	584	26	620	22	890	19	931
Proposed Development Trips:	17	0	7	24	0	0	0	0	0	0	11	11	5	0	0	5
Future 2026 Traffic Volumes:	35	0	18	53	29	1	52	82	10	584	37	631	27	890	19	936

P.M. Peak Hour

	Sardis Bend Drive				Sardis Bend Drive				Sardis Church Road				Sardis Church Road			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	81	13	52	146	59	5	112	176	57	723	102	882	33	562	45	640
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	3	0	0	3	0	61	0	61	0	67	3	70
No-Build 2026 Volumes:	87	14	56	157	67	5	121	193	62	842	110	1014	36	674	52	762
Proposed Development Trips:	11	0	5	16	0	0	0	0	0	0	27	27	11	0	0	11
Future 2026 Traffic Volumes:	98	14	61	173	67	5	121	193	62	842	137	1041	47	674	52	773

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

8. Sardis Church @ conn. road

A.M. Peak Hour

	Connecting road between Sardis Church Rd & Sardis Bend Dr				-				Sardis Church Road				Sardis Church Road			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	5	0	11	16	0	0	0	0	0	269	0	269	32	712	0	744
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	334	0	334	0	157	0	157
No-Build 2026 Volumes:	5	0	12	17	0	0	0	0	0	625	0	625	35	926	0	961
Proposed Development Trips:	0	0	30	30	0	0	0	0	0	7	0	7	9	5	0	14
Future 2026 Traffic Volumes:	5	0	42	47	0	0	0	0	0	632	0	632	44	931	0	975

P.M. Peak Hour

	Connecting road between Sardis Church Rd & Sardis Bend Dr				-				Sardis Church Road				Sardis Church Road			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	11	0	35	46	0	0	0	0	0	851	4	855	14	610	0	624
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	64	0	64	0	70	0	70
No-Build 2026 Volumes:	12	0	38	50	0	0	0	0	0	983	4	987	15	729	0	744
Proposed Development Trips:	0	0	19	19	0	0	0	0	0	5	0	5	23	11	0	34
Future 2026 Traffic Volumes:	12	0	57	69	0	0	0	0	0	988	4	992	38	740	0	778

School Dismissal Peak Hour

	Connecting road between Sardis Church Rd & Sardis Bend Dr				-				Sardis Church Road				Sardis Church Road			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	11	0	33	44	0	0	0	0	0	580	3	583	9	576	0	585
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	98	0	98	0	208	0	208
No-Build 2026 Volumes:	12	0	36	48	0	0	0	0	0	724	3	727	10	830	0	840
Proposed Development Trips:	0	0	13	13	0	0	0	0	0	3	0	3	11	6	0	17
Future 2026 Traffic Volumes:	12	0	49	61	0	0	0	0	0	727	3	730	21	836	0	857

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Traffic Volumes

A&R Engineering
January 2023

9. Sardis Bend @ conn. road

A.M. Peak Hour

	Sardis Bend Drive				Sardis Bend Drive				Chick-fil-A Driveway				Connecting road between Sardis Church Rd & Sardis Bend Dr			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	6	6	12	24	3	15	2	20	6	4	10	20	31	2	2	35
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	6	6	13	25	3	16	2	21	6	4	11	21	33	2	2	37
Proposed Development Trips:	0	7	15	22	6	9	0	15	0	0	0	0	5	0	17	22
Future 2026 Traffic Volumes:	6	13	28	47	9	25	2	36	6	4	11	21	38	2	19	59

P.M. Peak Hour

	Sardis Bend Drive				Sardis Bend Drive				Chick-fil-A Driveway				Connecting road between Sardis Church Rd & Sardis Bend Dr			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	3	14	45	62	6	31	1	38	5	10	3	18	16	5	7	28
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	3	15	49	67	6	33	1	40	5	11	3	19	17	5	8	30
Proposed Development Trips:	0	5	10	15	16	23	0	39	0	0	0	0	11	0	11	22
Future 2026 Traffic Volumes:	3	20	59	82	22	56	1	79	5	11	3	19	28	5	19	52

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Traffic Volumes

A&R Engineering
January 2023

10. Sardis Bend @ Drwy 1

A.M. Peak Hour

	-				Sardis Bend Drive				Sardis Bend Drive				Site Driveway 1			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	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	54	54	25	0	0	25	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	0	0	0	0	0	58	58	27	0	0	27	0	0	0	0
Proposed Development Trips:	0	0	0	0	14	0	0	14	0	42	0	42	0	168	22	190
Future 2026 Traffic Volumes:	0	0	0	0	14	0	58	72	27	42	0	69	0	168	22	190

P.M. Peak Hour

	-				Sardis Bend Drive				Sardis Bend Drive				Site Driveway 1			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	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	52	52	66	0	0	66	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	0	0	0	0	0	56	56	71	0	0	71	0	0	0	0
Proposed Development Trips:	0	0	0	0	34	0	0	34	0	104	0	104	0	109	14	123
Future 2026 Traffic Volumes:	0	0	0	0	34	0	56	90	71	104	0	175	0	109	14	123

22-115 Hamilton Mill Road Mixed Use Development - Gwinnett County, GA

Traffic Volumes

A&R Engineering
January 2023

11. conn. road @ Drwy 3

A.M. Peak Hour

	Site Driveway 3				-				Connecting road between Sardis Church Rd & Sardis Bend Dr				Connecting road between Sardis Church Rd & Sardis Bend Dr			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	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	19	0	19	0	35	0	35
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	0	0	0	0	0	0	0	0	21	0	21	0	38	0	38
Proposed Development Trips:	17	0	15	32	0	0	0	0	0	15	6	21	5	5	0	10
Future 2026 Traffic Volumes:	17	0	15	32	0	0	0	0	0	36	6	42	5	43	0	48

P.M. Peak Hour

	Site Driveway 3				-				Connecting road between Sardis Church Rd & Sardis Bend Dr				Connecting road between Sardis Church Rd & Sardis Bend Dr			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Condition	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	61	0	61	0	28	0	28
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
Nearby Seckinger High School Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	0	0	0	0	0	0	0	0	66	0	66	0	30	0	30
Proposed Development Trips:	11	0	10	21	0	0	0	0	0	10	16	26	11	11	0	22
Future 2026 Traffic Volumes:	11	0	10	21	0	0	0	0	0	76	16	92	11	41	0	52