

**DEVELOPMENT OF REGIONAL IMPACT
(DRI #3718)**

**TRAFFIC STUDY
FOR
COAL MOUNTAIN TOWN CENTER
MIXED-USE DEVELOPMENT AT SR 9 AND SR 369**

FORSYTH COUNTY, GEORGIA



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EXECUTIVE SUMMARY

Traffic impacts were evaluated for the proposed Coal Mountain Town Center mixed-use development located to the northeast of the intersection of SR 9 (Dahlonega Highway) and SR 369 (Matt Highway / Browns Bridge Road) in Forsyth County, Georgia. The development will consist of:

- Single-Family Detached Housing: 261 units
- Townhomes: 219 units
- Multifamily Housing: 300 units
- Office space: 20,200 sf
- Retail space: 73,300 sf

Project PI# 0015762 will construct a new two-lane, median-divided roadway (Coal Mountain Connector) connecting SR 9 at Coal Mountain Drive and SR 369 at Bridgetowne Drive. The development proposes several internal driveways along Coal Mountain Connector as well as one full access driveway on SR 9 (Dahlonega Highway), one right-in/right-out driveway on SR 369 (Browns Bridge Road), two right-in/right-out and one right-in only driveways on Settingdown Road and one full access driveway on Martin Road.

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. SR 9 (Dahlonega Highway) @ Martin Road
2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
3. SR 9 (Dahlonega Highway) @ SR 369 (Matt Highway/Browns Bridge Road)
4. SR 9 (Dahlonega Highway) @ Spot Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
6. SR 369 (Matt Highway) @ Sierra Lake Drive
7. SR 369 (Matt Highway) @ North Transportation Center Driveway
8. SR 369 (Matt Highway) @ Gravitt Road
9. SR 369 (Browns Bridge Road) @ Settingdown Road
10. SR 369 (Browns Bridge Road) @ Bridgetowne Drive
11. GA 400 @ SR 369 (Browns Bridge Road) – Existing Only
12. Settingdown Road @ Dennis C Martin Memorial Way
13. Settingdown Road @ Coal Mountain Connector – Future conditions
14. SR 369 (Browns Bridge Road) @ GA 400 Southbound Ramps – Future conditions
15. SR 369 (Browns Bridge Road) @ GA 400 Northbound Ramps – Future conditions

Due to the close proximity of schools (Coal Mountain Elementary School, North Forsyth Middle School and North Forsyth High School), the following two intersections were analyzed for the school dismissal (2:00 PM – 4:00 PM) peak hour also:

2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
5. SR 369 (Matt Highway) @ Coal Mountain Drive

Traffic Operations Summary

Table E1 below provides a summary of traffic operations for the “No-Build” and “Build” conditions for the year 2028 with and without system improvements. As per GRTA requirements, all approaches that do not meet the level-of-service (LOS) standard (considered failing) are highlighted in Table E1. 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 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 E 1 — FUTURE INTERSECTION OPERATIONS AT FAILING APPROACHES

Intersection	<i>No-Build Condition: LOS (Delay)</i>				<i>Build Condition: LOS (Delay)</i>							
	NO IMPROVEMENTS		SYSTEM IMPROVEMENTS		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PERCENT SITE TRIPS OF TOTAL APPROACH TRIPS AT FAILING APPROACHES	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1 <u>SR 9 @ Martin Road</u> -Westbound Approach -Southbound Left	C (23.9) A (8.3)	F (50.0) B (10.1)	C (23.9) A (8.3)	F (50.0) B (10.1)	D (30.8) A (8.4)	F (60.9) B (10.2)	D (30.8) A (8.4)	F (60.9) B (10.2)	- -	14 -	- -	4% -
5 <u>SR 369 @ Coal Mountain Dr</u> -Eastbound Left (Approach) -Westbound Approach -Southbound Approach	B (10.8) - F (255.2)	B (11.6) - F (78.3)	<u>A (8.1)</u> A (4.7) A (9.0) D (54.9)	<u>A (8.3)</u> A (5.4) B (10.8) D (52.7)	B (11.2) - F (*)	B (12.0) - F (123.4)	<u>A (8.7)</u> A (5.2) A (9.8) D (54.5)	<u>A (9.5)</u> A (6.4) B (12.2) D (52.3)	- - -	- - -	- - -	- - -
8 <u>SR 369 @ Gravitt Road</u> -Eastbound Approach -Westbound Left (Approach) -Northbound Approach	- B (11.4) D (31.3)	- A (9.8) F (*)	<u>B (19.8)</u> C (25.3) A (4.4) D (47.9)	<u>B (15.1)</u> B (13.9) A (7.1) D (42.3)	- B (11.6) D (33.7)	- A (10.0) F (*)	<u>C (23.3)</u> C (30.80) A (5.4) D (47.5)	<u>B (15.8)</u> B (15.1) A (7.4) D (42.5)	- - -	- - -	- - -	- - -
9 <u>SR 369 @ Settingdown Rd</u> -Eastbound Left -Southbound Approach	A (9.3) C (18.1)	B (11.6) D (25.5)	A (9.3) C (18.1)	B (11.6) D (25.5)	A (9.8) D (25.5)	B (14.2) F (70.4)	A (9.8) D (25.5)	B (14.2) F (70.4)	-	59	-	46%

The results of future traffic operations show that the following intersections will have LOS “E” or “F” for one or more approaches:

1. SR 9 (Dahlonega Highway) @ Martin Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
8. SR 369 (Matt Highway) @ Gravitt Road

The intersection of SR 369 (Browns Bridge Road) and Settingdown Road (intersection 9) will have LOS “F” for the stop-controlled southbound approach in the “Build” PM peak hour conditions. The stop-controlled westbound approach to the intersection of SR 9 and Martin Road will operate at LOS “F” in the PM peak hour. No improvements have been identified at these intersections of SR 9 at Martin Road (intersection 1) and SR 369 at Settingdown Road (intersection 9) as the intersections will not warrant a traffic signal and have all turn lanes. The side-streets will experience delays during the peak periods waiting to turn left onto the mainline which is not uncommon for stop-controlled side-streets on arterial roadways.

The table below includes Synchro reported 95th percentile queue length 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 E2 — FUTURE 95 TH PERCENTILE QUEUES (FT) FOR FAILING APPROACHES				
Intersection		Available Storage	Queue in feet	
			BUILD with Improvements	
			AM Peak	PM Peak
1	<u>SR 9 (Dahlonega Highway) @ Martin Road</u>			
	-Westbound Left	-	60'	120'
	-Westbound Right	150'	13'	185'
9	<u>SR 369 (Browns Bridge Road) @ Settingdown Road</u>			
	-Southbound Left	-	58'	80'
	-Southbound Right	130'	20'	20'

The westbound right turn queues at SR 9 and Martin Road intersection will extend beyond the available storage. The through lane that feeds into the left turn lane and right turn lane at this approach serves as a de facto right turn lane since left turn queues do not block right turning vehicles to enter the right turn lane and turn right onto SR 9. Therefore, no improvements are recommended at the westbound approach of SR 9 and Martin Road.

Recommended System Improvements

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

Intersection 5: SR 369 (Matt Highway) @ Coal Mountain Drive

- Installation of a traffic signal when warranted per MUTCD standards

Intersection 8: SR 369 (Matt Highway) @ Gravitt Road

- Installation of a traffic signal when warranted per MUTCD standards

After the recommended system improvements are implemented, the intersections of SR 369 at Coal Mountain Drive and Gravitt Road will operate at LOS “D” or better in both the AM and PM peak hours.

Recommendation for Site Access Configuration

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

- **Site Driveway 1: Full access driveway on SR 9 (Dahlonega Highway), north of SR 369**
 - Driveway approach to consist of one entering and one exiting lanes and to be stop-sign controlled.
 - Left turn and Right turn lanes on SR 9 for entering traffic.
- **Site Driveway 2: Right-in/right-out driveway on SR 369 (Browns Bridge Road)**
 - Driveway approach to consist of one entering and one right-only exiting lanes and to be stop-sign controlled.
 - Right turn lane on SR 369 for entering traffic.
- **Site Driveway 3: Right-in/right-out driveway on Settingdown Road**
 - Driveway approach to consist of one entering and one right-only exiting lanes and to be stop-sign controlled.
- **Site Driveway 4: Right-in only driveway on Settingdown Road**
 - Driveway approach to consist of only one right turn entering lane.
- **Site Driveway 5: Right-in/right-out driveway on Settingdown Road**
 - Driveway approach to consist of one entering and one right-only exiting lanes and to be stop-sign controlled.
- **Site Driveway 6: Full access driveway on Martin Road**
 - Driveway approach to consist of one entering and one exiting lanes and to be stop-sign controlled.

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INTRODUCTION

The purpose of this study is to determine the traffic impact from the proposed Coal Mountain Town Center mixed-use development that will be located to the northeast of the intersection of SR 9 (Dahlonega Highway) and SR 369 (Browns Bridge Road) in Forsyth 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:

- Single-Family Detached Housing: 261 units
- Townhomes: 219 units
- Multifamily Housing: 300 units
- Office space: 20,200 sf
- Retail space: 73,300 sf



Project PI# 0015762 will construct a new two-lane, median-divided roadway (Coal Mountain Connector) connecting SR 9 at Coal Mountain Drive and SR 369 at Bridgetowne Drive. The development proposes several internal driveways along Coal Mountain Connector as well as access at the following locations:

- Site Driveway 1: Full access driveway on SR 9 (Dahlonega Highway), north of SR 369 (Matt Highway/Browns Bridge Road)

- Site Driveway 2: Right-in/right-out driveway on SR 369 (Browns Bridge Road)
- Site Driveway 3: Right-in/right-out driveway on Settingdown Road
- Site Driveway 4: Right-in only driveway on Settingdown Road
- Site Driveway 5: Right-in/right-out driveway on Settingdown Road
- Site Driveway 6: Full access driveway on Martin Road

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

1. SR 9 (Dahlonega Highway) @ Martin Road
2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
3. SR 9 (Dahlonega Highway) @ SR 369 (Matt Highway/Browns Bridge Road)
4. SR 9 (Dahlonega Highway) @ Spot Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
6. SR 369 (Matt Highway) @ Sierra Lake Drive
7. SR 369 (Matt Highway) @ North Transportation Center Driveway
8. SR 369 (Matt Highway) @ Gravitt Road
9. SR 369 (Browns Bridge Road) @ Settingdown Road
10. SR 369 (Browns Bridge Road) @ Bridgetowne Drive
11. GA 400 @ SR 369 (Browns Bridge Road) – Existing Only
12. Settingdown Road @ Dennis C Martin Memorial Way
13. Settingdown Road @ Coal Mountain Connector – Future conditions
14. SR 369 (Browns Bridge Road) @ GA 400 Southbound Ramps – Future conditions
15. SR 369 (Browns Bridge Road) @ GA 400 Northbound Ramps – Future conditions

Due to the close proximity of schools (Coal Mountain Elementary School, North Forsyth Middle School and North Forsyth High School), the following two intersections were analyzed for the school dismissal peak hour also:

2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
5. SR 369 (Matt Highway) @ Coal Mountain 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 Forsyth County:

1. SR 9 (Dahlonega Highway) @ Martin Road
2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
3. SR 9 (Dahlonega Highway) @ SR 369 (Matt Highway/Browns Bridge Road)
4. SR 9 (Dahlonega Highway) @ Spot Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
6. SR 369 (Matt Highway) @ Sierra Lake Drive
7. SR 369 (Matt Highway) @ North Transportation Center Driveway
8. SR 369 (Matt Highway) @ Gravitt Road
9. SR 369 (Browns Bridge Road) @ Settingdown Road
10. SR 369 (Browns Bridge Road) @ Bridgetowne Drive
11. Settingdown Road @ Dennis C Martin Memorial Way
12. Settingdown Road @ Coal Mountain Connector – Future conditions
13. SR 369 (Browns Bridge Road) @ GA 400 Southbound Ramps
14. SR 369 (Browns Bridge Road) @ GA 400 Northbound Ramps

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.

LEGEND

 Study Intersection



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EXISTING ROADWAY FACILITIES

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

SR 9 (Dahlonega Highway)

SR 9 (Dahlonega Highway) is a north-south, two-lane, undivided roadway with a posted speed limit of 50 mph (35 mph at curves near Martin Road) in the vicinity of the site. Towards the south from Pilgrim Valley Drive, SR 9 (Dahlonega Highway) is posted with a speed limit of 55 mph. GDOT traffic counts (Station ID's 117-0019, 117-0017 & 117-0015) indicate that the daily traffic volume on SR 9 (Dahlonega Highway) in 2019 was 7,920 vehicles per day south of Tallant Road, 11,100 vehicles per day south of Martin Road and 9,490 vehicles per day north of SR 306 (Keith Bridge Road). GDOT classifies SR 9 (Dahlonega Highway) as an Urban Minor Arterial roadway near Tallant Road, as an Urban Minor Collector roadway near Martin Road and again as an Urban Minor Arterial roadway near SR 306 (Keith Bridge Road).

SR 369 (Matt Highway)

SR 369 (Matt Highway) is an east-west, two-lane, undivided roadway with a posted speed limit of 45 mph (35 mph at school zones) in the vicinity of the site. GDOT traffic counts (Station ID 117-0067) indicate that the daily traffic volume on SR 369 (Matt Highway) in 2019 was 12,700 vehicles per day west of Hubert Martin Road. GDOT classifies SR 369 (Matt Highway) as an Urban Minor Arterial roadway.

SR 369 (Browns Bridge Road)

SR 369 (Browns Bridge Road) is an east-west, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID's 117-0069 & 117-0071) indicate that the daily traffic volume on SR 369 (Browns Bridge Road) in 2019 was 18,900 vehicles per day west of GA 400 and 11,300 vehicles per day east of GA 400. GDOT classifies SR 369 (Browns Bridge Road) as an Urban Minor Arterial roadway.

Project PI# 0013165/PEW29 will widen SR 369 (Browns Bridge Road) from two lanes to four lanes with a 20-foot raised median. The road will be widened from just west of SR 9 (Dahlonega Highway) to slightly east of SR 306 (Keith Bridge Road), approximately 2.0 miles. Per Project PI# 00013369/PEI89, there will be a partial cloverleaf interchange at SR 369 and SR 400.

GA 400

GA 400 is a north-south, median-divided roadway with a posted speed limit of 65 mph in the vicinity of the site. GA 400 is a four-lane roadway north of SR 369 (Browns Bridge Road) and a six-lane roadway south of SR 369 (Browns Bridge Road). GDOT traffic counts (Station ID's 117-0090 & 117-0089) indicate that the daily traffic volume on GA 400 in 2019 was 42,400 vehicles per day north of SR 369 (Browns Bridge Road) and 40,800 vehicles per day south of SR 369 (Browns Bridge Road).

Settingdown Road

Settingdown Road is a northeast-southwest, two-lane, undivided roadway with a posted speed limit of 40 mph.

Martin Road

Martin Road is an east-west, two-lane, undivided roadway with a posted speed limit of 40 mph in the vicinity of the site.

Coal Mountain Drive

Coal Mountain Drive is an east-west, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site. On SR 369 (Matt Highway), Coal Mountain Drive is a north-south, four-lane, median-divided roadway.

Sierra Lake Drive

Sierra Lake Drive is a north-south, two-lane, undivided roadway with a posted speed limit of 25 mph.

Spot Road

Spot Road is an east-west, two-lane, undivided roadway with a posted speed limit of 50 mph.

Gravitt Road

Gravitt Road is a north-south, two-lane, undivided roadway with a posted speed limit of 35 mph.

Bridgetowne Drive

Bridgetowne Drive is a north-south, two-lane, undivided, local roadway.

Martin C Memorial Way

Martin C Memorial Way is a north-south, two-lane, undivided roadway without any posted speed limit.

Existing Bicycle and Pedestrian Facilities

- Sidewalks are not present in the study network.
- Crosswalks are present at the signalized intersections of SR 9 (Dahlonega Highway) at Coal Mountain Drive, SR 369 (Browns Bridge Road) and Spot Road.
- Bike paths are not present in the study network.

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.

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. At specific intersections in which HCM 6 is unable to report results, HCM 2000 will be used instead. 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 total delays.

TABLE 1 — LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS		
Control Delay (sec/vehicle)	LOS by Volume-to-Capacity Ratio*	
	$v/c \leq 1.0$	$v/c > 1.0$
≤ 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

Traffic counts were obtained at the following study intersections:

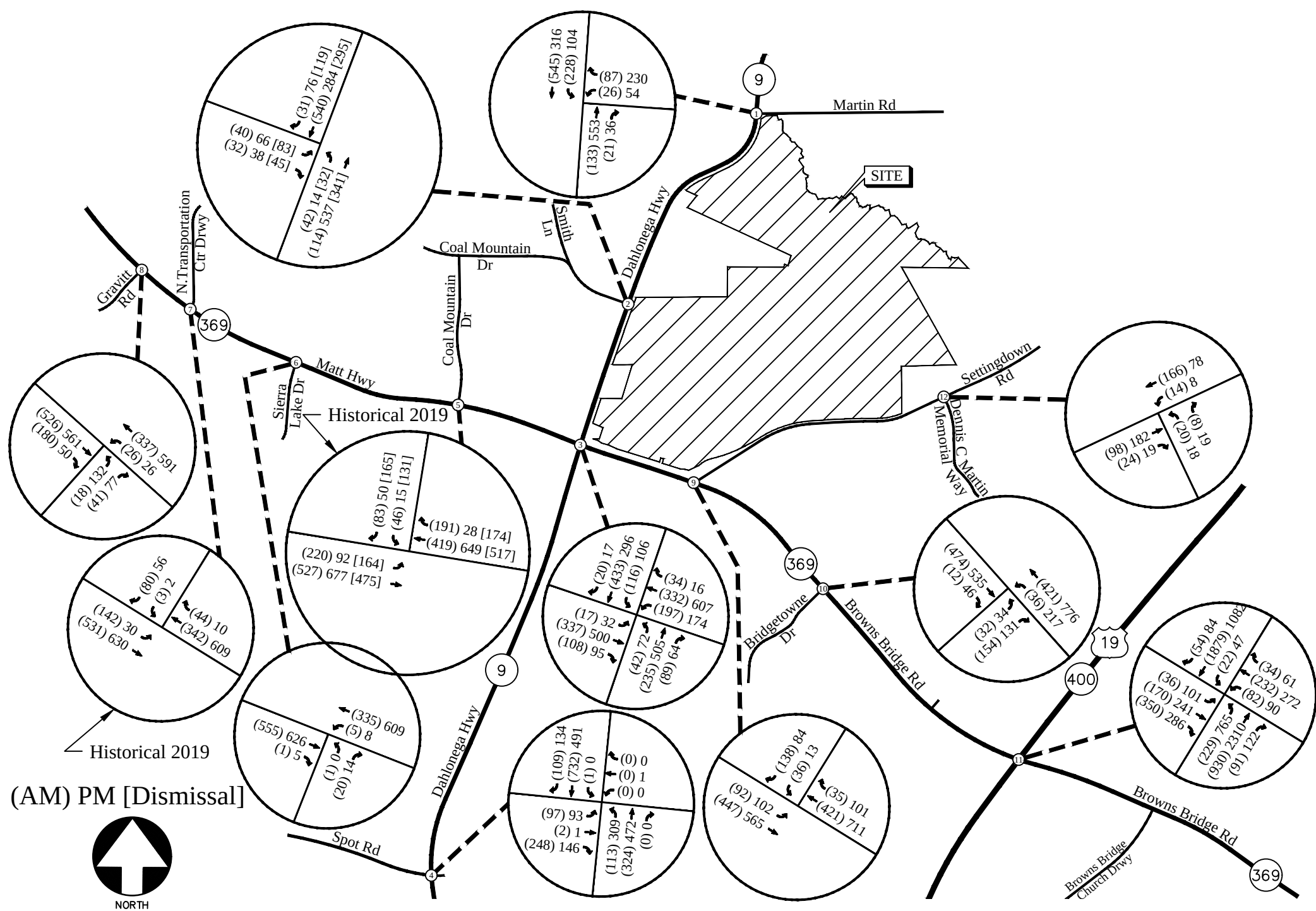
1. SR 9 (Dahlonega Highway) @ Martin Road
2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
3. SR 9 (Dahlonega Highway) @ SR 369 (Matt Highway/Browns Bridge Road)
4. SR 9 (Dahlonega Highway) @ Spot Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
6. SR 369 (Matt Highway) @ Sierra Lake Drive
7. SR 369 (Matt Highway) @ North Transportation Center Driveway
8. SR 369 (Matt Highway) @ Gravitt Road
9. SR 369 (Browns Bridge Road) @ Settingdown Road
10. SR 369 (Browns Bridge Road) @ Bridgetowne Drive
11. GA 400 @ SR 369 (Browns Bridge Road)
12. Settingdown Road @ Dennis C Martin Memorial Way

Turning movement counts were collected on Thursday, July 21, 2022. For the intersection of SR 369 at Coal Mountain Drive (5), historical 2019 counts from Thursday, May 23, 2019, were used. 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.

Coal Mountain Elementary School, North Forsyth Middle School and North Forsyth High School are located near the proposed development to the northwest of the intersection of SR 9 and SR 369. Therefore, school dismissal peak hour (2:00 PM to 4:00 PM) turning movement counts were also collected at the following intersections.

2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
5. SR 369 (Matt Highway) @ Coal Mountain Drive

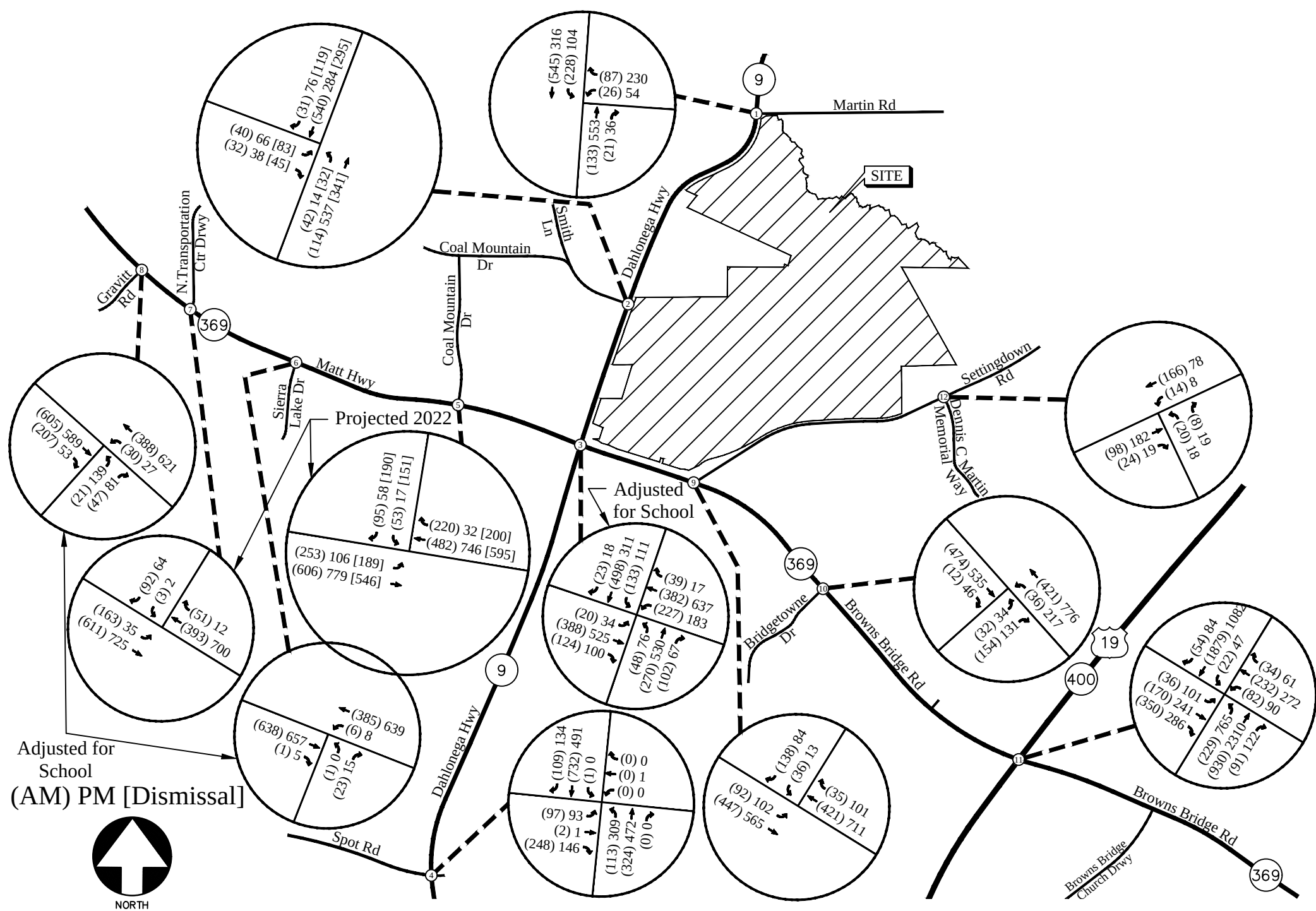
The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2. The 2019 peak hour volumes were increased at 5% growth rate for 3 years to obtain the existing 2022 volumes. Since schools were not in session when the 2022 counts were collected, an adjustment factor of 15% for the AM peak hour and 5% for the PM peak hour was considered. At the intersections of SR 9 at SR 369 (3), SR 369 at Sierra Lake Drive (6) and SR 369 at Gravitt Road (8), the counts were increased by 15% in the AM and 5% in the PM peak hours. No adjustments were made to the other intersections where 2022 counts were collected. All the resulting existing peak hour volumes are shown in Figure 3 and were used in the existing traffic operations analysis. The existing traffic control and lane geometry for the intersections are shown in Figure 4.



HISTORICAL 2019 AND EXISTING 2022 WEEKDAY PEAK HOUR VOLUMES

FIGURE 2

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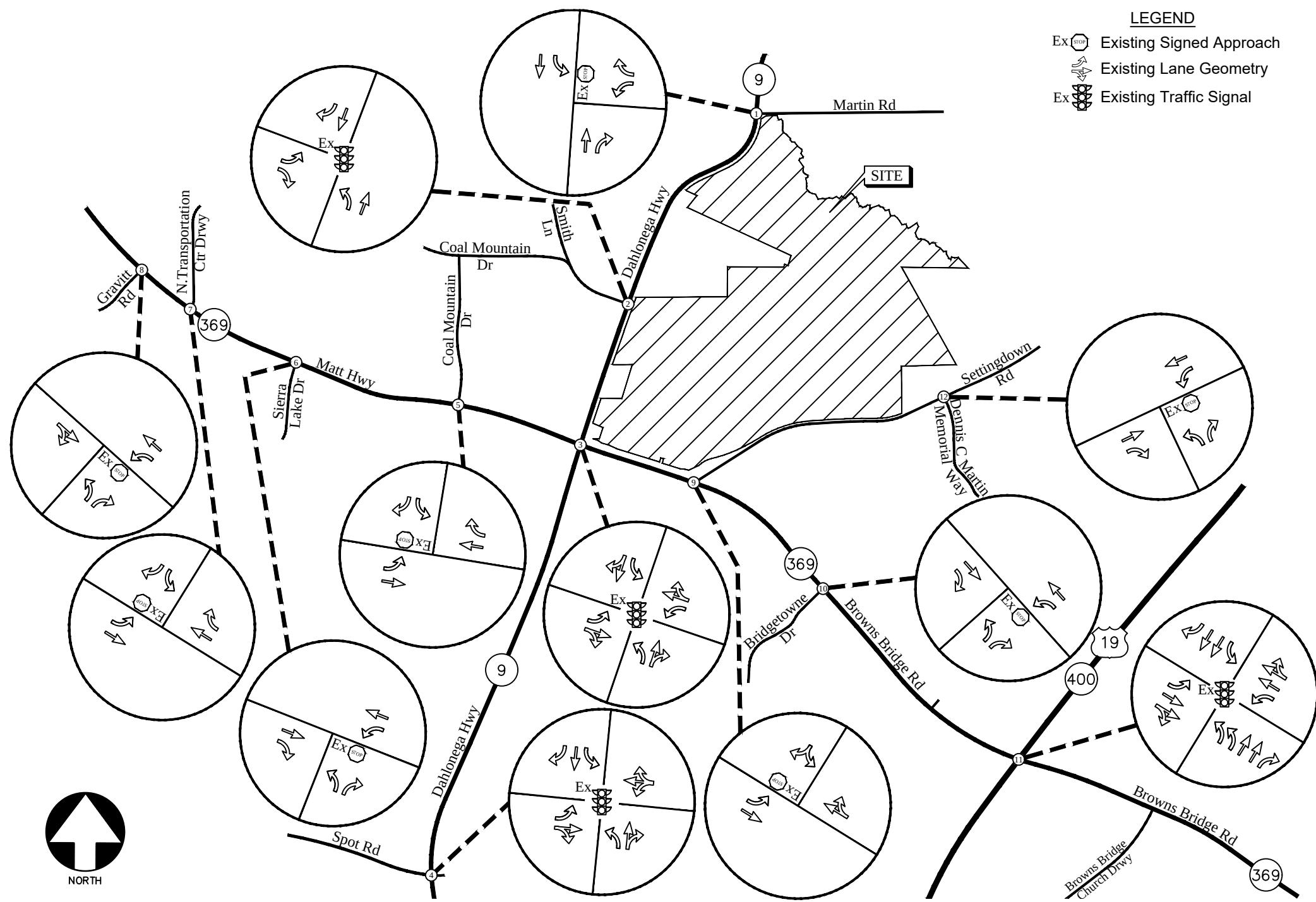
PROJECTED/ADJUSTED AND EXISTING 2022 WEEKDAY PEAK HOUR VOLUMES

FIGURE 3

A&R Engineering Inc.

LEGEND

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



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 4

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	AM Peak	PM Peak	School Dismissal	LOS Standard
1	<u>SR 9 @ Martin Road</u> -Westbound Approach -Southbound Left	Stop Controlled on WB Approach	B (14.5) A (8.0)	C (21.1) A (9.1)	Not Evaluated	D/D D/D
2	<u>SR 9 @ Coal Mountain Drive</u> -Eastbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>A (8.8)</u> D (49.1) A (2.0) A (5.6)	<u>A (8.0)</u> D (51.7) A (2.6) A (3.6)	<u>B (10.3)</u> D (50.1) A (2.7) A (4.9)	<u>D/D/D</u> D/D/D D/D/D D/D/D
3	<u>SR 9 @ SR 369</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>D (42.2)</u> D (41.4) C (26.9) D (46.8) D (54.1)	<u>E (60.3)</u> E (60.5) D (48.6) F (85.7) D (43.6)	Not Evaluated	<u>D/E</u> D/E D/D D/E D/D
4	<u>SR @ Spot Road</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>C (20.5)</u> D (49.4) A (0.0) A (7.2) B (15.4)	<u>B (13.4)</u> D (46.9) D (38.6) A (5.5) B (10.2)	Not Evaluated	<u>D/D</u> D/D D/D D/D D/D
5	<u>SR 369 @ Coal Mountain Drive</u> -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	A (9.4) E (43.2)	A (9.9) D (27.7)	A (9.8) F (219.5)	D/D/D E/D/E
6	<u>SR 369 @ Sierra Lake Drive</u> -Westbound Left -Northbound Approach	Stop Controlled on NB Approach	A (9.0) B (14.2)	A (9.0) B (13.4)	Not Evaluated	D/D D/D
7	<u>SR 369 @ North Transportation Center Driveway</u> -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	A (8.7) B (12.5)	A (9.2) C (15.5)	Not Evaluated	D/D D/D
8	<u>SR 369 @ Gravitt Road</u> -Westbound Left -Northbound Approach	Stop Controlled on NB Approach	A (9.9) C (19.3)	A (9.0) F (62.8)	Not Evaluated	D/D D/E
9	<u>SR 369 @ Settingdown Road</u> -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	A (8.8) C (20.5)	B (10.5) D (27.3)	Not Evaluated	D/D D/D
10	<u>SR 369 @ Bridgetowne Drive</u> -Westbound Left -Northbound Approach	Stop Controlled on NB Approach	A (8.5) C (15.0)	A (9.6) E (36.3)	Not Evaluated	D/D D/E
11	<u>GA 400 @ SR 369</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>D (37.0)</u> E (77.7) E (78.8) C (31.9) C (29.0)	<u>D (50.5)</u> F (90.2) F (86.1) D (47.9) D (35.3)	Not Evaluated	<u>D/D</u> E/E E/E D/D D/D

12	<u>Settingdown Road @ Dennis C Martin Memorial Way</u>	Stop Controlled on NB Approach	A (7.5) B (10.5)	A (7.7) A (9.9)	Not Evaluated	D/D D/D
	-Westbound Left -Northbound Approach					

* Delay exceeds 300 seconds

The results of existing traffic operations analysis indicate that the signalized intersections of SR 9 at SR 369 and GA 400 at SR 369 are operating at overall levels-of-service "E" and "D" respectively, with some approaches having LOS "E" or "F". The unsignalized intersection of SR 369 and Gravitt Road is operating at LOS "F" for the northbound approach in the PM peak hour. The stop-controlled southbound approach (Coal Mountain Drive) to the intersection of SR 369 and Coal Mountain Drive is operating at LOS "E" during the AM peak hour and LOS "F" during the school dismissal peak hour. The unsignalized intersection of SR 369 and Bridgetowne Drive is operating at LOS "E" in the PM peak hour for the northbound approach. These areas are addressed in the future traffic operations sections.

PROJECT DESCRIPTION

The proposed Coal Mountain Town Center mixed-use development will be located to the northeast of the intersection of SR 9 (Dahlonega Highway) and SR 369 (Browns Bridge Road) in Forsyth County, Georgia. In general, the development will be located to the west of GA 400. The development will consist of:

- Single-Family Detached Housing: 261 units
- Townhomes: 219 units
- Multifamily Housing: 300 units
- Office space: 20,200 sf
- Retail space: 73,300 sf



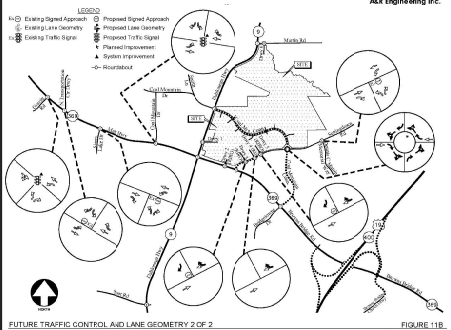
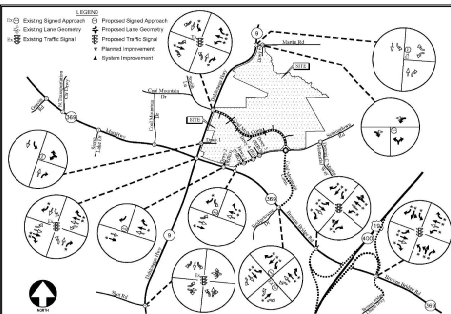
Project PI# 0015762 will construct a new two-lane, median-divided roadway (Coal Mountain Connector) connecting SR 9 at Coal Mountain Drive and SR 369 at Bridgetowne Drive. The development proposes several internal driveways along Coal Mountain Connector as well as access at the following locations:

- Site Driveway 1: Full access driveway on SR 9 (Dahlonega Highway), north of SR 369 (Matt Highway/Browns Bridge Road)
- Site Driveway 2: Right-in/right-out driveway on SR 369 (Browns Bridge Road)

- Site Driveway 3: Right-in/right-out driveway on Settingdown Road
- Site Driveway 4: Right-in only driveway on Settingdown Road
- Site Driveway 5: Right-in/right-out driveway on Settingdown Road
- Site Driveway 6: Full access driveway on Martin Road

Site Plan

A site plan is shown in Figure 5.



Proposed boulevard through
development connecting
Highway 9 to Settingdown
Road

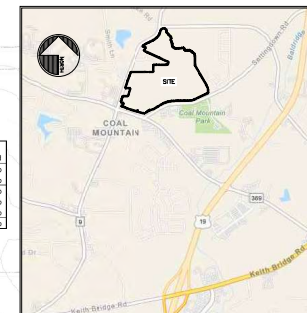
Multi-family along frontage and wrapping central green with parking tucked behind 300 units-458 sp

Town Center green space

Multi-family with 14,400 sf of retail on ground floor

Office over retail - 20,200 sf
(10,100 sf of office over
8,800 sf of retail in each
building)

COAL MOUNTAIN DEVELOPMENT SUMMARY



NOTES:

1. SIDEWALKS TO BE PROVIDED ON AT LEAST 1 SIDE OF ALL PROPOSED ROADWAYS (5' WIDE MIN).
2. TOPOGRAPHY SHOWN BASED UPON FORSYTH COUNTY GIS INFORMATION.
3. PROJECT TEAM
DEVELOPER: TOLL BROTHERS
4080 MCGINNIS FERRY ROAD SUITE 701
ALPHARETTA GA 30005
678.699.1403
ENGINEER: CHRISTOPHER PLANNING & ENGINEERING, INC.
12460 CRABAPPLE ROAD, SUITE 202-612
ALPHARETTA GA 30004
770.331.7303
TRAFFIC: AARI ENGINEERING, INC.
2160 KINGSTON COURT SUITE D
MARIETTA GA 30067
770.690.9255

Single family residential pods with variety of lot sizes and pocket parks to provide neighborhood amenity space

Tennis Center

Amenity Center

Establish pedestrian trail through Coal Mountain Park to connect from Settingdown Road to dog park

- Boulevard extension to connect Bridgetowne Drive to Settingdown Road



12460 CRABAPPLE ROAD, SUITE 202-612
ALPHARETTA, GA 3004
PHONE 770.331.7303

DRI SITE PLAN
FOR:

COAL
MOUNTAIN
TOWN CENTER

LAND LOTS 16-18, 101-103 & 135
14TH DISTRICT
FORSYTH COUNTY, GEORGIA

DRI# 3718

FOR:

Toll Brothers
AMERICA'S LUXURY HOME BUILDER

4080 MCGINNIS FERRY ROAD
SUITE 701
ALPHARETTA, GA 30005

CONTACT:
MR. J.R. CROW
678.699.1403

REVISIONS

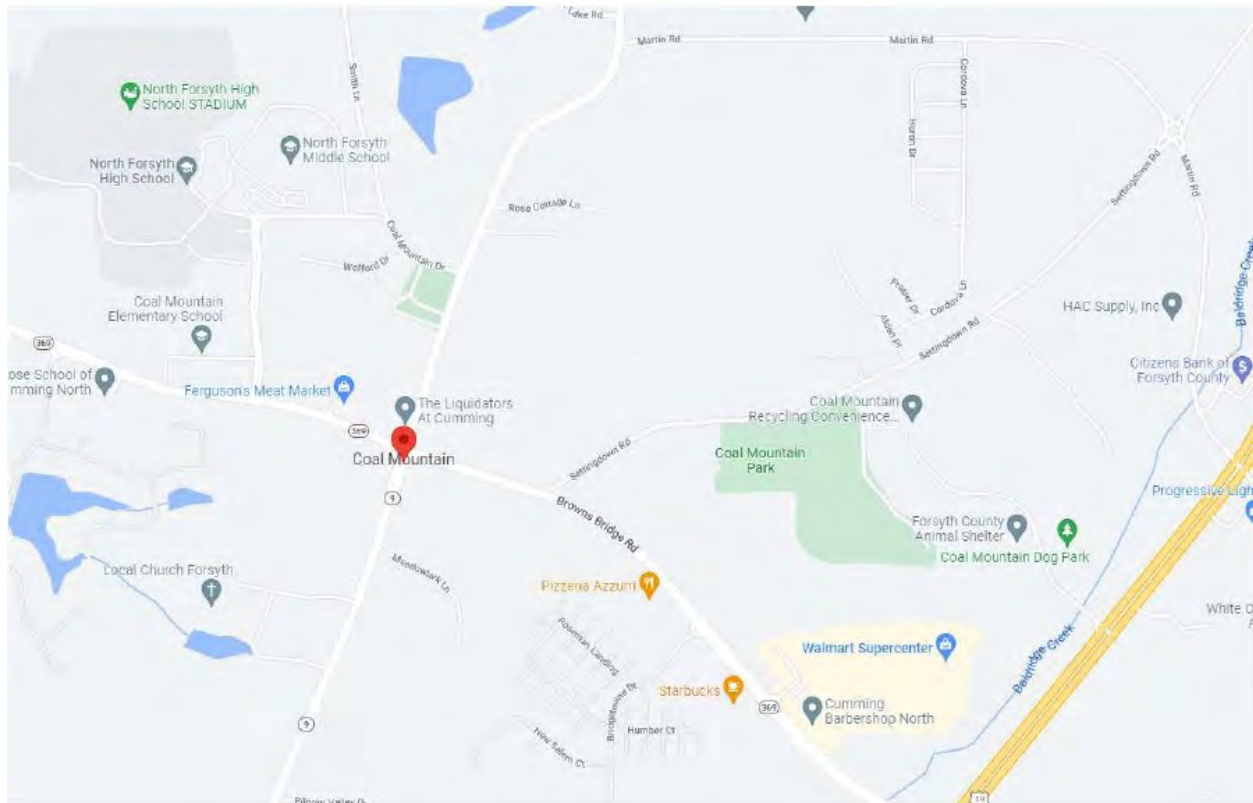
1	02.16.2022	CLIENT COMMENT
2	07.14.2022	CLIENT COMMENT
3	08.24.2022	CLIENT COMMENT
4	09.02.2022	CLIENT COMMENT

Planned Bicycle and Pedestrian Facilities

Pedestrian sidewalks are proposed along SR 9 (Dahlonega Highway), Coal Mountain Connector, Settingdown Road and throughout the internal roadway network inside the development. The development proposes a pedestrian trail through Coal Mountain Park to connect from Settingdown Road. Pocket parks and trail networks are also proposed in the development.

Potential Pedestrian and Bicycle Destinations

Potential pedestrian and bicycle destinations in the vicinity of the proposed development include Coal Mountain Park, North Forsyth High School Stadium, Walmart, Coal Mountain Dog Park, Coal Mountain Elementary School, North Forsyth Middle School and North Forsyth High School. Additional potential destinations are shown in the aerial below.



Planned Transit Facilities

An alternate mode of transportation reduction of 3% was considered in the trip generation analysis based on discussions with ARC/GRTA and local reviewing agencies based on the proximity of pedestrian destinations near the site.

Consistency with Adopted Comprehensive Plan

The proposed development will include residential, office, retail, and senior adult housing land uses. The residential component of the development will include single family detached homes, townhomes, and apartments. The site is currently zoned as Agricultural District (A-1), Commercial Business District (CBD), and Residential (Res-6). The developer is requesting a rezoning Mixed Commercial District (MCD).

Future Land Use Map

Future Land Use Map Zoning	Located in Coal Mountain Node of Sawnee Mountain Character Area
Character Area Definition for Forsyth County	Coal Mountain Community Node (located within the Sawnee Mountain character area; See Appendix): • <i>Architectural design should mimic contemporary mountain village character with the usage of high-quality building materials.</i> • <i>Buildings should be oriented close to the roadway with streetscape amenities for promotion of a high quality, live-play-work experience that has a defined sense of place.</i> • <i>Encourage retrofitting existing commercial and retail strip development where appropriate in areas that are likely to undergo renovation or potential demolition in the long-range planning period.</i>
Relation to Existing Land Use Plans	The proposed Coal Mountain Town Center mixed-use development is consistent with the land use vision and goals listed above.

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

Project Phasing

This project has been evaluated for the complete build-out of the development in 2028.

Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 11th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Uses: 210 – *Single-Family Detached Housing*, 215 – *Single-Family Attached Housing*, 221 – *Multifamily Housing (Mid-Rise) - Not Close to Rail Transit*, 710 – *General Office Building* and 821 – *Shopping Plaza (40-150k) - Supermarket - No*. Due to the nature of the development, mixed-use and pass-by reductions have been applied per ITE standards. A 3% alternate mode reduction was also applied. The calculated total trip generation for the proposed development is shown in Table 4.

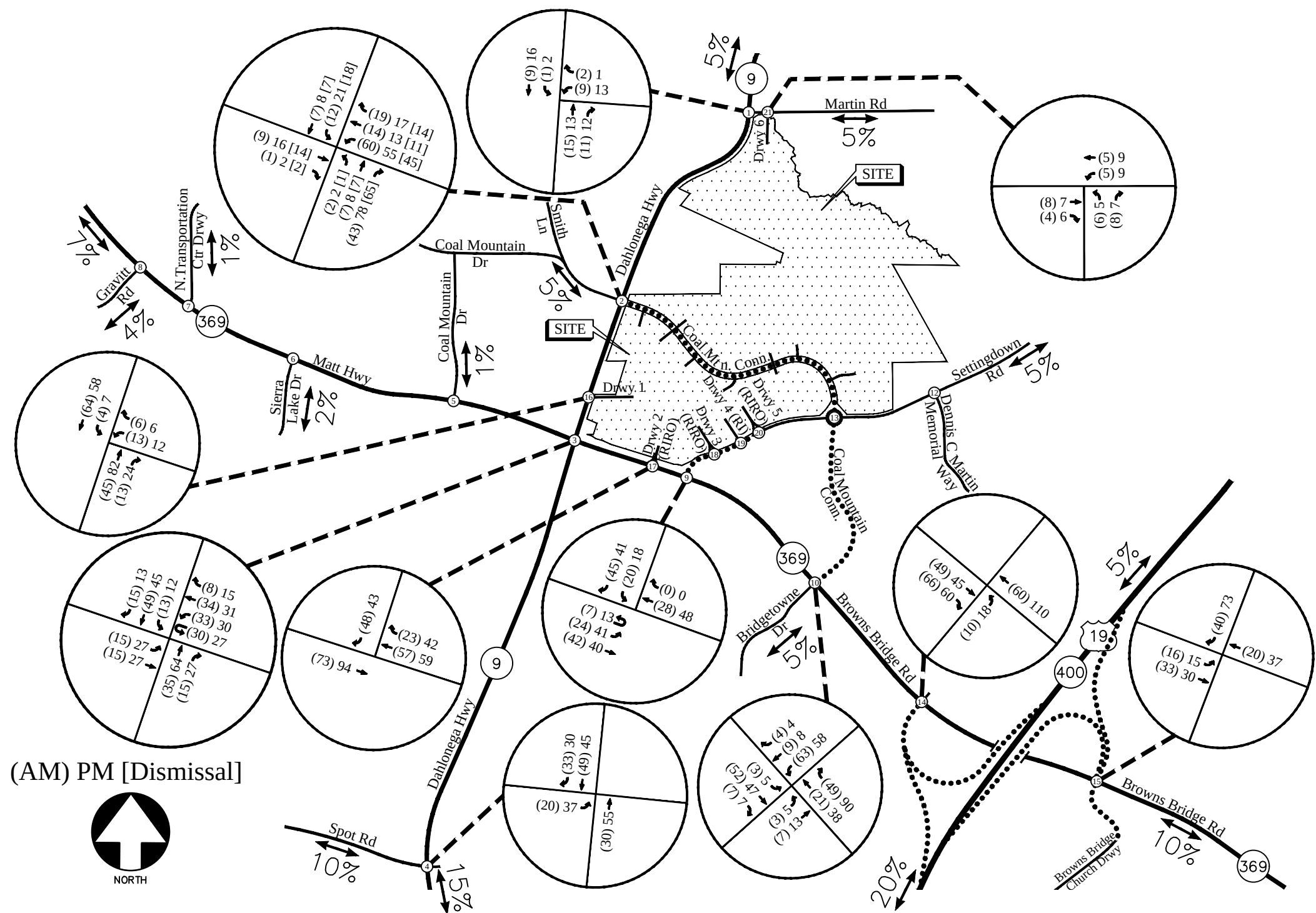
TABLE 4 — TRIP GENERATION											
Land Use	Size	AM Peak Hour			PM Peak Hour			School Dismissal Peak Hour			24-Hour
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	2-way
ITE 210 – Single-Family Detached Housing	261 units	46	132	178	154	91	245	106	76	182	2,439
<i>Mixed-Use Reduction</i>		-3	-3	-6	-11	-8	-19	-7	-4	-11	-223
ITE 215 – Single-Family Attached Housing	219 units	33	75	108	72	55	127	66	39	105	1,618
<i>Mixed-Use Reduction</i>		-2	-2	-4	-7	-5	-12	-4	-3	-7	-148
ITE 221 – Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	300 units	27	93	120	71	46	117	41	26	67	1,385
<i>Mixed-Use Reduction</i>		-1	-2	-3	-6	-4	-10	-4	-3	-7	-127
ITE 710 – General Office Building	20,200 sf	37	5	42	7	37	44	11	12	23	289
<i>Mixed-Use Reduction</i>		-1	-1	-2	-2	-5	-7	-4	-2	-6	-57
ITE 821 – Shopping Plaza (40-150k) - Supermarket – No	73,300 sf	79	48	127	186	194	380	200	210	410	4,949
<i>Mixed-Use Reduction</i>		-8	-7	-15	-21	-25	-46	-12	-19	-31	-549
<i>Pass-by Trips (0%) 40%</i>		0	0	0	-64	-66	-130	-73	-74	-147	-1,300
<i>Alternate Mode Reduction (3%)</i>		-6	-10	-16	-13	-11	-24	-12	-10	-22	-287
Total Trips (without Reductions)		222	353	575	490	423	913	424	363	787	10,680
New Trips (with Reductions)		201	328	529	366	299	665	308	248	556	7,989

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

ITE's 24-hour distribution for 3:00 PM to 4:00 PM hour was used to determine the percentage of traffic that would be generated by the proposed development during the school dismissal peak hour.

Trip Distribution

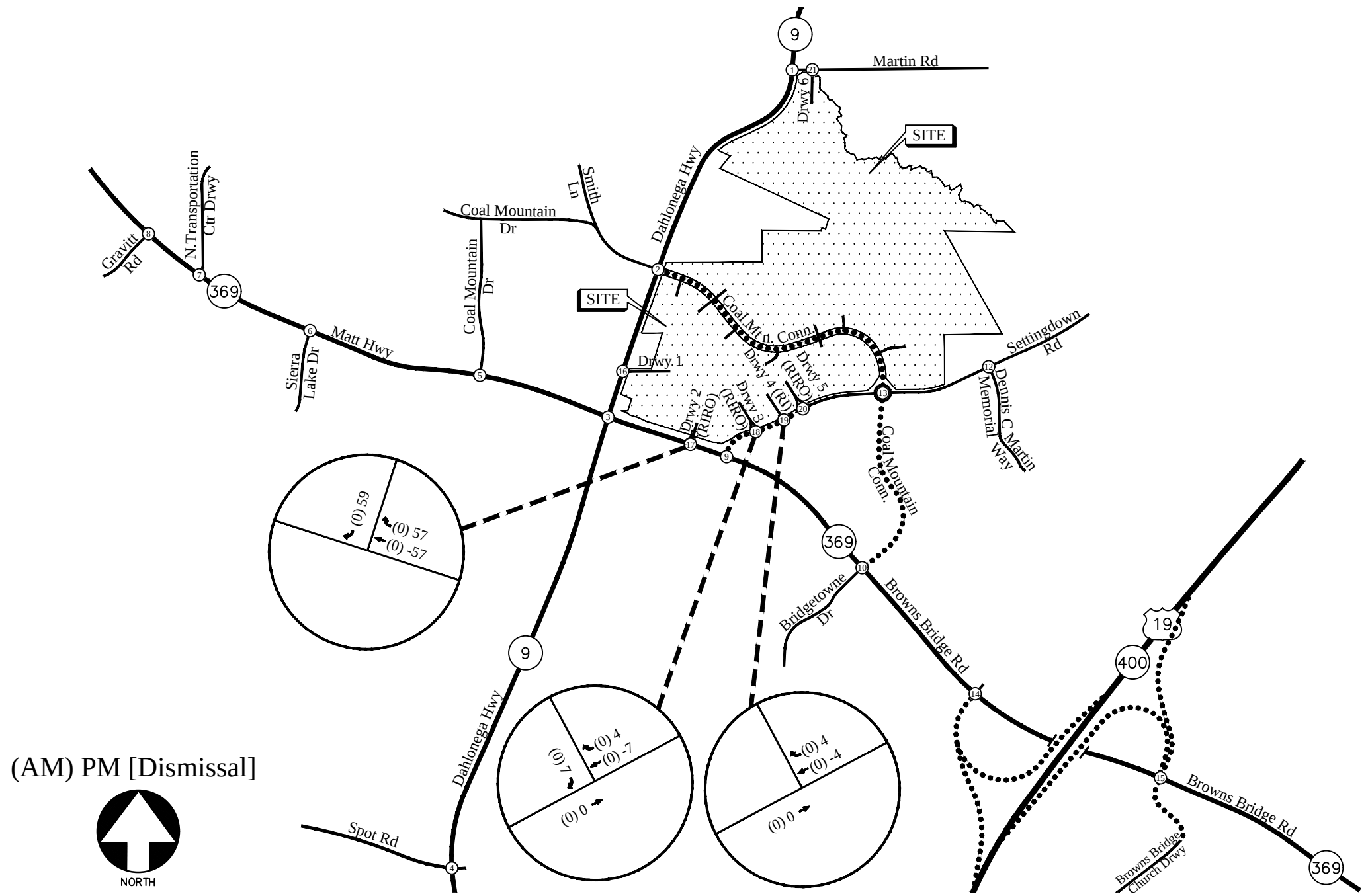
The trip distribution describes how traffic arrives and departs from the site. An overall trip distribution was developed for the site based on a review of GDOT ADT volumes and the locations of major roadways and highways that will serve the development. The site-generated peak hour traffic volumes, 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 Figures 6A and Figure 6B. Pass-by volumes have also been distributed based on existing travel patterns and are shown in Figure 7.



TRIP DISTRIBUTION AND NEW SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES 1 OF 2

FIGURE 6A

A&R Engineering Inc.



WEEKDAY PEAK HOUR PASS-BY VOLUMES

FIGURE 7

A&R Engineering Inc.

FUTURE 2028 TRAFFIC ANALYSIS

The future 2028 traffic operations are analyzed for the “Build” and “No-Build” conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic. Note that survey and construction drawings would be needed to verify the feasibility and extent of additional right-of-way required for any recommended improvements.

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

Future “No-Build” Conditions

The “No-Build” (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The Future “No-Build” volumes consist of the existing traffic volumes (Figure 3) plus increases for annual growth of traffic.

Annual Traffic Growth

In order to evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last five (2015-2019) years revealed growth of approximately 5% 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.

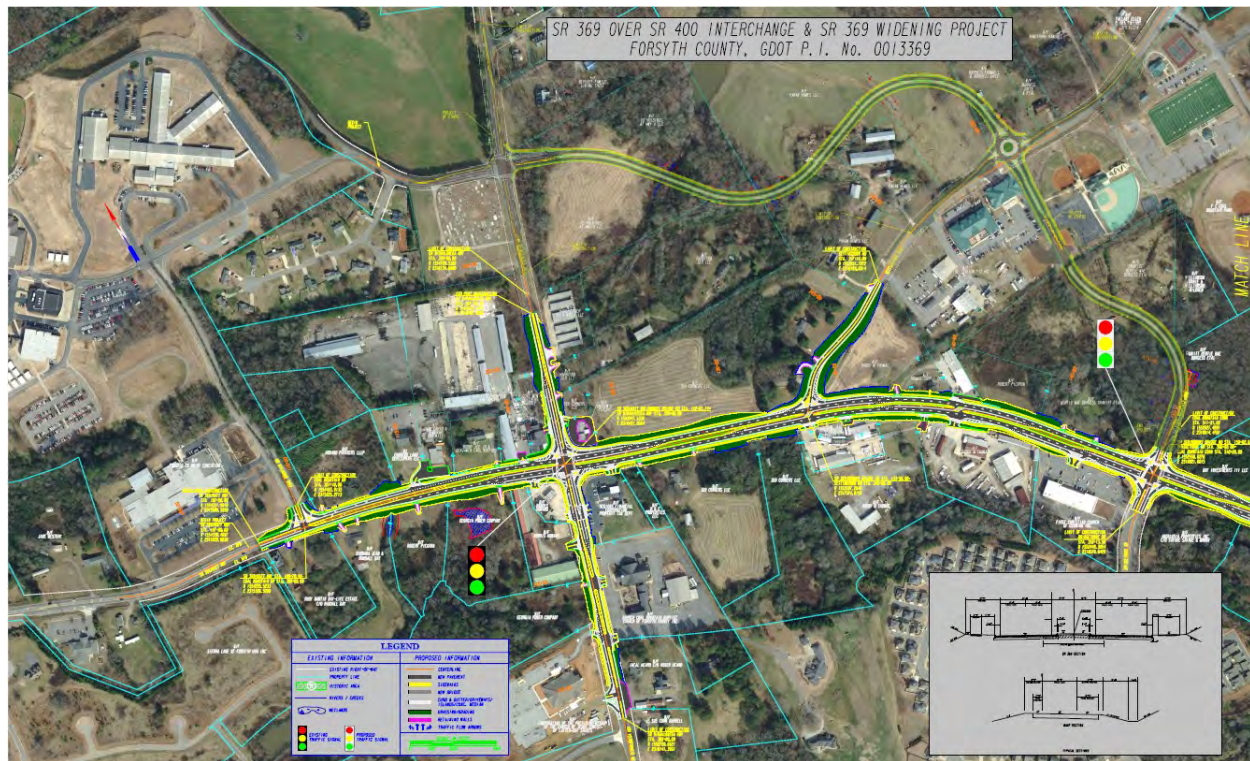
Planned and Programmed Improvements in Study Area

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	Coal Mountain Connector	New Alignment from Bridgetowne Drive to Coal Mountain Drive (This project will extend Coal Mountain Drive southeastward to Browns Bridge Road)	Forsyth County	-	FT-064	2019	2020	2021
2	Spot Road Connector	New Alignment from intersection of SR 306 and SR 9 to intersection of Spot Road and McCoy Circle	Forsyth County	-	FT-046	2021	-	2040
3	SR 369 (Browns Bridge Road) Widening	Just west of SR 9 (Dahlonega Highway) and slightly east of SR 306 (Keith Bridge Road)	GDOT	0015762	-	2016	2017	2020
4	SR 369 and GA 400 Interchange	SR 369 at GA 400 ramps	GDOT	0013369	-	2019	2020	2020

Table 5, Item #1: SR 369 Widening and Coal Mountain Connector Plans



Coal Mountain Connector

Project PI# 0015762 will construct a new two-lane, median-divided roadway (Coal Mountain Connector) connecting SR 9 at Coal Mountain Drive and SR 369 at Bridgetowne Drive. A roundabout will be created at its intersection with Settingdown Road. This project has been incorporated in both the “No-Build” and “Build” conditions. The connector plans are included in the Appendix.

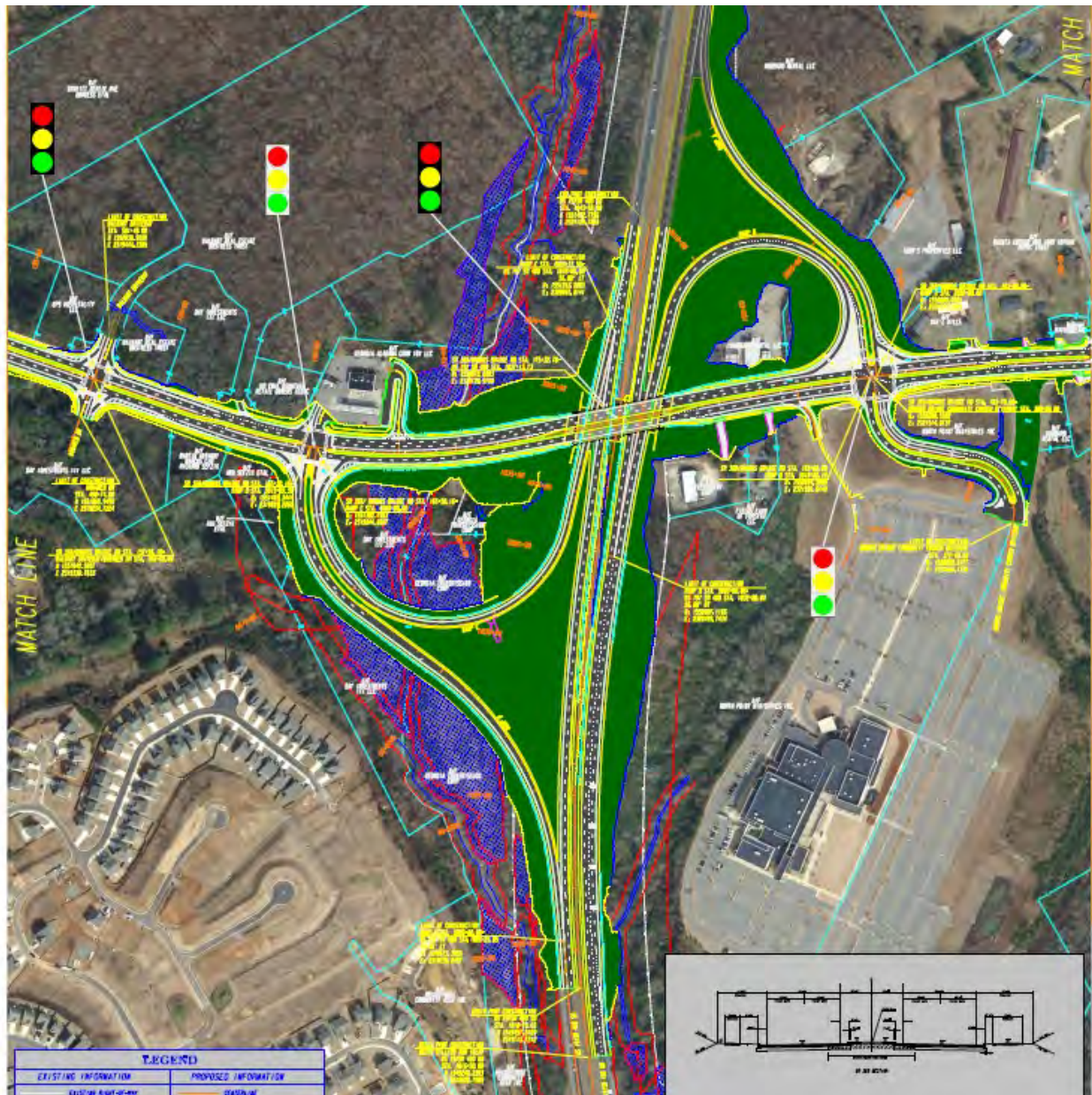
Shifted Traffic due to Coal Mountain Connector

Because of the construction of Coal Mountain Connector, the following shifts in traffic patterns have been assumed:

- 25% of southbound left turn volumes from the intersection of SR 9 and SR 369 will be shifted to the intersection of SR 9 and Coal Mountain Drive / Coal Mountain Connector.
- 25% of westbound right turn volumes from the intersection of SR 9 and SR 369 will be shifted to the intersection of SR 9 and Coal Mountain Drive / Coal Mountain Connector.
- 50% of southbound right turn volumes from the intersection of SR 369 and Settingdown Road will be shifted to the intersection of SR 9 and Coal Mountain Drive / Coal Mountain Connector.
- 10% of southbound left turn volumes from the intersection of SR 369 and Settingdown Road will be shifted to the intersection of SR 369 and Bridgetowne Drive.

The shifted traffic volumes are shown in Figure 8. The shifted 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 9.

Table 5, Item #4: Project PI# 00013369/PEI89 (SR 369 and GA 400 Interchange) Design:

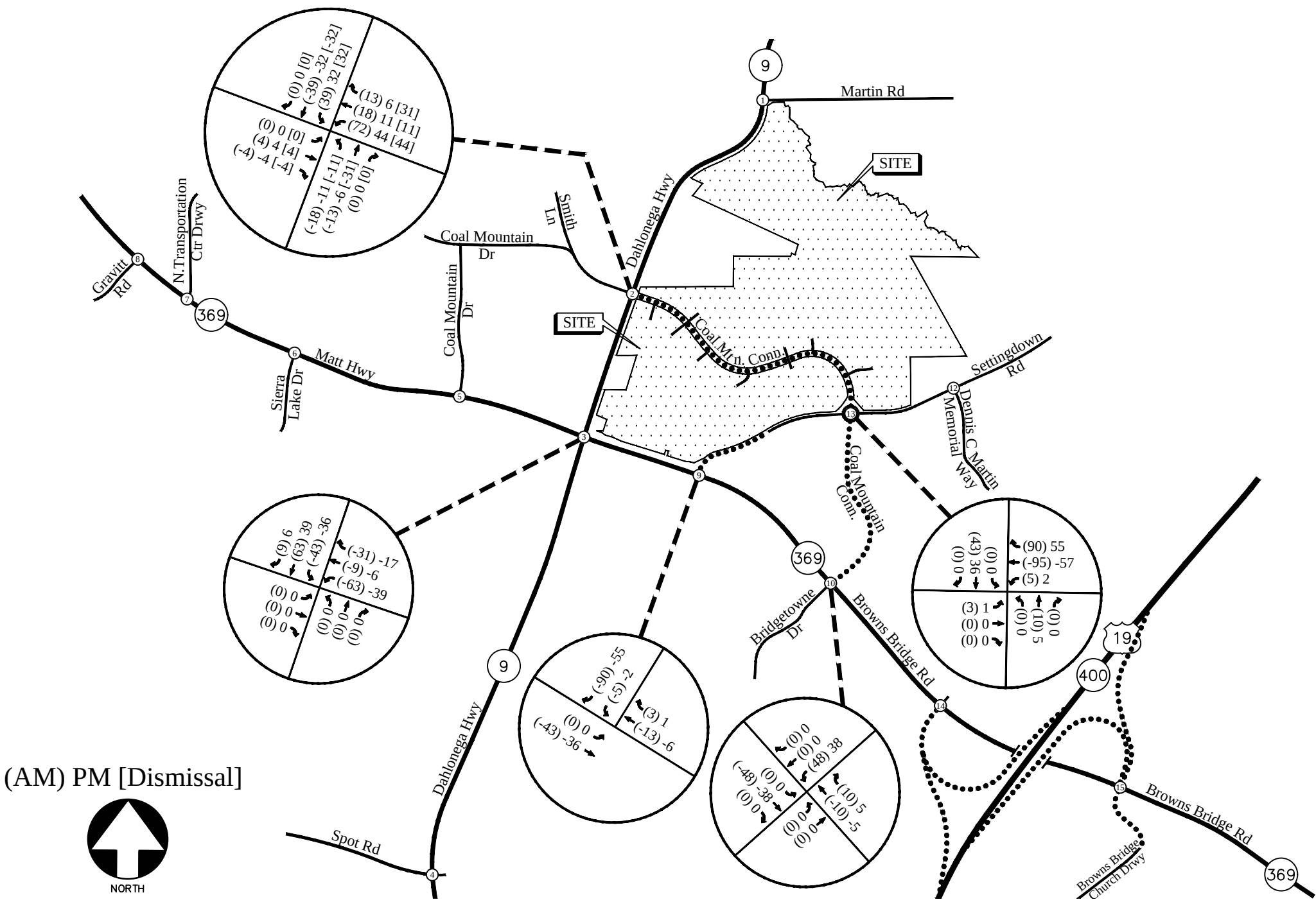


SR 369 Widening and GA 400 Interchange

Project PI# 0013165/PEW29 will widen SR 369 (Browns Bridge Road) from two lanes to four lanes with a 20-foot raised median. The road will be widened from just west of SR 9 (Dahlonega Highway) to slightly east of SR 306 (Keith Bridge Road). The project will also include an 8' enhanced sidewalk trail along the south side of SR 369, with a five-foot sidewalk along the north side. Per Project PI# 00013369/PEI89, there will be a partial cloverleaf interchange at SR 369 and SR 400. Construction of these projects has

already started and is expected to be complete in Spring 2023. Therefore, these improvements were also incorporated in both the “No-Build” and “Build” conditions. The improvement plans are also included in the Appendix.

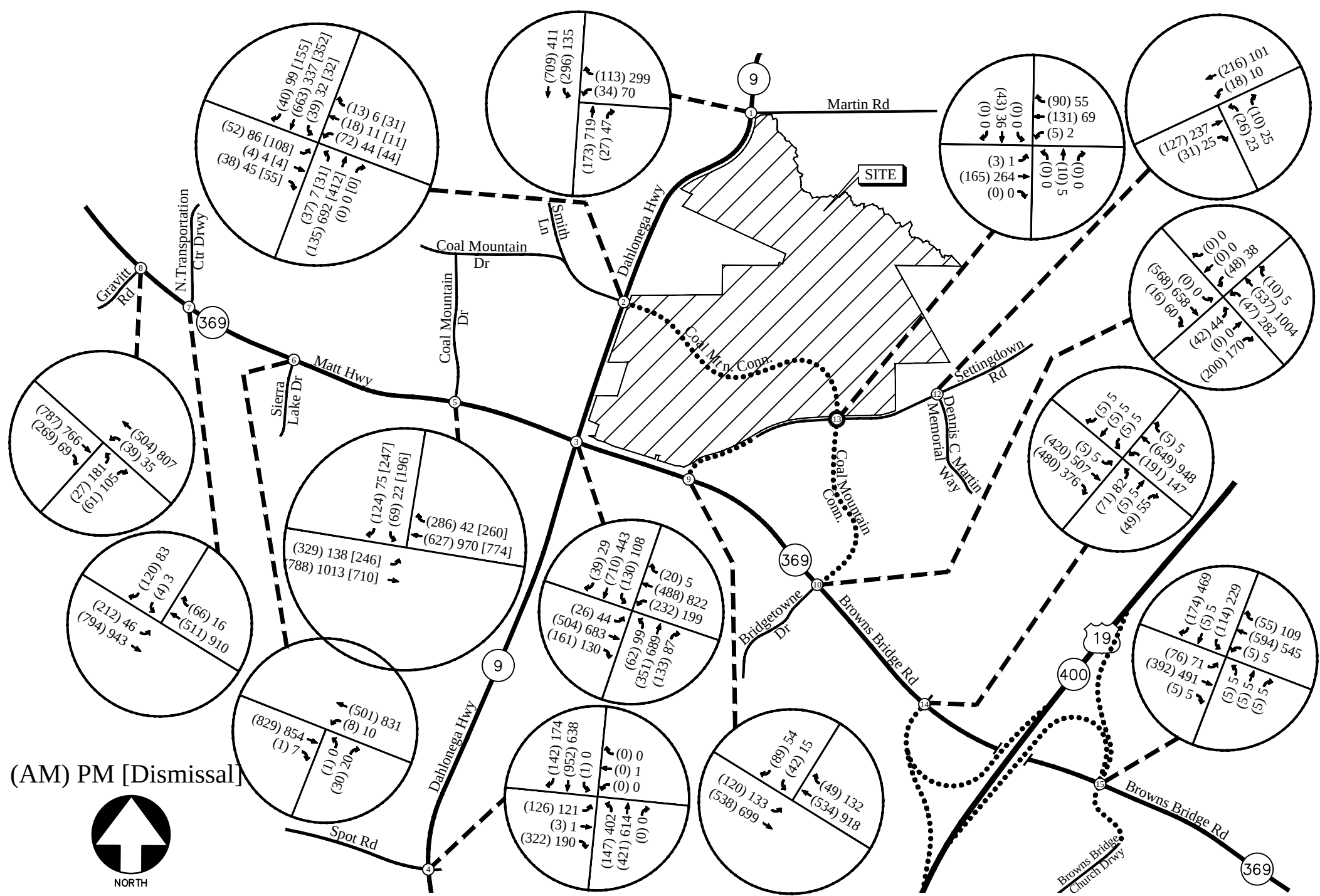
2019 traffic projections given in the “0013369_CR_MAR2016” document’s Appendix 5 Traffic Diagrams/Projections (Drawing Number 10-3) were used for the traffic volumes at the intersections of SR 369 and GA 400 ramps. The 2019 volumes were increased at a 1% growth rate for 9 years to obtain the future 2028 “No-Build” traffic volumes at these ramp intersections and are also shown in Figure 9.



SHIFTED PEAK HOUR VOLUMES DUE TO COAL MOUNTAIN CONNECTOR

FIGURE 8

A&R Engineering Inc.



(AM) PM [Dismissal]



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 9

A&R Engineering Inc.

Future “No-Build” Traffic Operations

The future “No-Build” traffic operations were analyzed using the volumes in Figure 9 and the results are shown in Table 6 below.

TABLE 6 — FUTURE “NO-BUILD” INTERSECTION OPERATIONS							
Intersection		LOS (Delay)					
		NO IMPROVEMENTS			SYSTEM IMPROVEMENTS		
		AM Peak	PM Peak	Dismissal Peak	AM Peak	PM Peak	Dismissal Peak
1	<u>SR 9 (Dahlonega Highway) @ Martin Road</u> -Westbound Approach -Southbound Left	C (23.9) A (8.3)	F (50.0) B (10.1)	Not Evaluated	C (23.9) A (8.3)	F (50.0) B (10.1)	Not Evaluated
2	<u>SR 9 (Dahlonega Highway) @ Coal Mountain Drive / Coal Mountain Connector</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>B (13.2)</u> D (45.6) D (46.1) A (2.7) A (7.6)	<u>B (10.1)</u> D (45.5) D (43.2) A (4.4) A (4.7)	<u>B (12.6)</u> D (43.8) D (40.6) A (4.3) A (6.8)	<u>B (13.2)</u> D (45.6) D (46.1) A (2.7) A (7.6)	<u>B (10.1)</u> D (45.5) D (43.2) A (4.4) A (4.7)	<u>B (12.6)</u> D (43.8) D (40.6) A (4.3) A (6.8)
3	<u>SR 9 (Dahlonega Highway) @ SR 369 (Matt Highway/Browns Bridge Road)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (38.0)</u> D (36.9) C (32.6) C (29.1) D (47.8)	<u>D (41.9)</u> D (41.0) D (38.5) D (54.5) C (31.4)	Not Evaluated	<u>D (38.0)</u> D (36.9) C (32.6) C (29.1) D (47.8)	<u>D (41.9)</u> D (41.0) D (38.5) D (54.5) C (31.2)	Not Evaluated
4	<u>SR 9 (Dahlonega Highway) @ Spot Road</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>C (34.0)</u> D (54.5) A (0.0) B (14.5) D (35.7)	<u>B (19.6)</u> D (45.9) D (36.1) B (14.0) B (16.5)	Not Evaluated	<u>C (34.0)</u> D (54.5) A (0.0) B (14.5) D (35.7)	<u>B (19.6)</u> D (45.9) D (36.1) B (14.0) B (16.5)	Not Evaluated
5	<u>SR 369 (Matt Highway) @ Coal Mountain Drive</u> -Eastbound Left (Approach) -Westbound Approach -Southbound Approach	B (10.8) - F (255.2)	B (11.6) - F (78.3)	B (11.6) - F (*)	<u>A (8.1)</u> A (4.7) A (9.0) D (54.9)	<u>A (8.3)</u> A (5.4) B (10.8) D (52.7)	<u>B (16.6)</u> A (9.0) B (16.9) D (52.4)
6	<u>SR 369 (Matt Highway) @ Sierra Lake Drive</u> -Westbound Left -Northbound Approach	A (9.9) C (17.9)	A (9.8) C (16.4)	Not Evaluated	A (9.9) C (17.9)	A (9.8) C (16.4)	Not Evaluated
7	<u>SR 369 (Matt Highway) @ North Transportation Center Driveway</u> -Eastbound Left -Southbound Approach	A (9.5) C (15.7)	B (10.2) C (21.7)	Not Evaluated	A (9.5) C (15.7)	B (10.2) C (21.7)	Not Evaluated

8	<u>SR 369 (Matt Highway) @ Gravitt Road</u> -Eastbound Approach -Westbound Left (Approach) -Northbound Approach	- B (11.4) D (31.3)	- A (9.8) F (*)	Not Evaluated	<u>B (19.8)</u> C (25.3) A (4.4) D (47.9)	<u>B (15.1)</u> B (13.9) A (7.1) D (42.3)	Not Evaluated
9	<u>SR 369 (Browns Bridge Road) @ Settingdown Road</u> -Eastbound Left -Southbound Approach	A (9.3) C (18.1)	B (11.6) D (25.5)	Not Evaluated	A (9.3) C (18.1)	B (11.6) D (25.5)	Not Evaluated
10	<u>SR 369 (Browns Bridge Road) @ Bridgetowne Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (5.2)</u> A (1.8) A (1.9) D (47.0) D (47.5)	<u>A (4.4)</u> A (1.9) A (3.0) D (47.4) D (46.9)	Not Evaluated	<u>A (5.2)</u> A (1.8) A (1.9) D (47.0) D (47.5)	<u>A (4.4)</u> A (1.9) A (3.0) D (47.4) D (46.9)	Not Evaluated
12	<u>Settingdown Road @ Dennis C Martin Memorial Way</u> -Westbound Left -Northbound Approach	A (7.6) B (11.3)	A (7.8) B (10.6)	Not Evaluated	A (7.6) B (11.3)	A (7.8) B (10.6)	Not Evaluated
13	<u>Settingdown Road @ Coal Mountain Connector (Roundabout)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (4.0)</u> A (4.0) A (4.2) A (3.3) A (3.4)	<u>A (4.2)</u> A (4.7) A (3.5) A (3.6) A (3.1)	Not Evaluated	<u>A (4.0)</u> A (4.0) A (4.2) A (3.3) A (3.4)	<u>A (4.2)</u> A (4.7) A (3.5) A (3.6) A (3.1)	Not Evaluated
14	<u>SR 369 (Browns Bridge Road) @ GA 400 Southbound Ramps</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (3.8)</u> A (2.1) A (0.3) D (47.6) D (43.0)	<u>A (3.5)</u> A (2.4) A (0.3) D (47.0) D (42.0)	Not Evaluated	<u>A (3.8)</u> A (2.1) A (0.3) D (47.6) D (43.0)	<u>A (3.5)</u> A (2.4) A (0.3) D (47.0) D (42.0)	Not Evaluated
15	<u>SR 369 (Browns Bridge Road) @ GA 400 Northbound Ramps</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (8.9)</u> A (3.9) A (4.0) D (49.9) D (49.0)	<u>B (12.6)</u> A (5.1) A (5.0) D (49.9) D (46.8)	Not Evaluated	<u>A (8.9)</u> A (3.9) A (4.0) D (49.9) D (49.0)	<u>B (12.6)</u> A (5.1) A (5.0) D (49.9) D (46.8)	Not Evaluated

* Delay exceeds 300 seconds

The results of future “No-Build” traffic operations show that the following intersections have LOS “E” or “F” for one or more approaches:

1. SR 9 (Dahlonega Highway) @ Martin Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
8. SR 369 (Matt Highway) @ Gravitt Road

The stop-controlled westbound approach to the intersection of SR 9 and Martin Road will operate at LOS “F” in the PM peak hour. The intersection has all the turn lanes in existing conditions. The peak hour volumes at the intersection do not warrant a traffic signal. Since it is not uncommon for stop-controlled

side-streets on arterial roadways to experience delays during peak hours as delays are caused by side-street wait times to turn left onto the mainline, no improvements are identified at this intersection.

Recommended System Improvements

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

Intersection 5: SR 369 (Matt Highway) @ Coal Mountain Drive

- Installation of a traffic signal

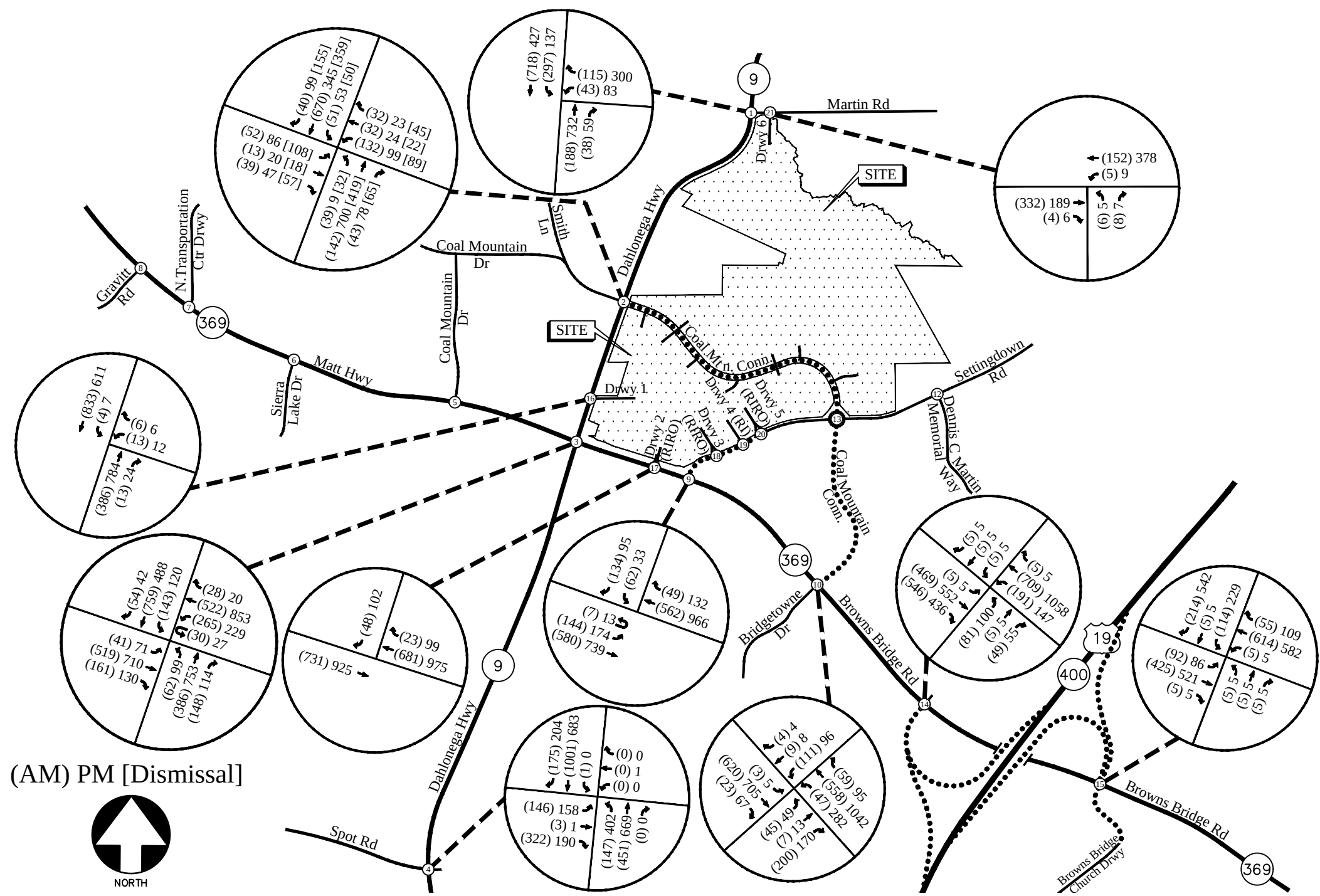
Intersection 8: SR 369 (Matt Highway) @ Gravitt Road

- Installation of a traffic signal

After the recommended system improvements are implemented, the intersections of SR 369 at Coal Mountain Drive and SR 369 at Gravitt Road will operate at LOS “D” or better in both the AM and PM peak hours.

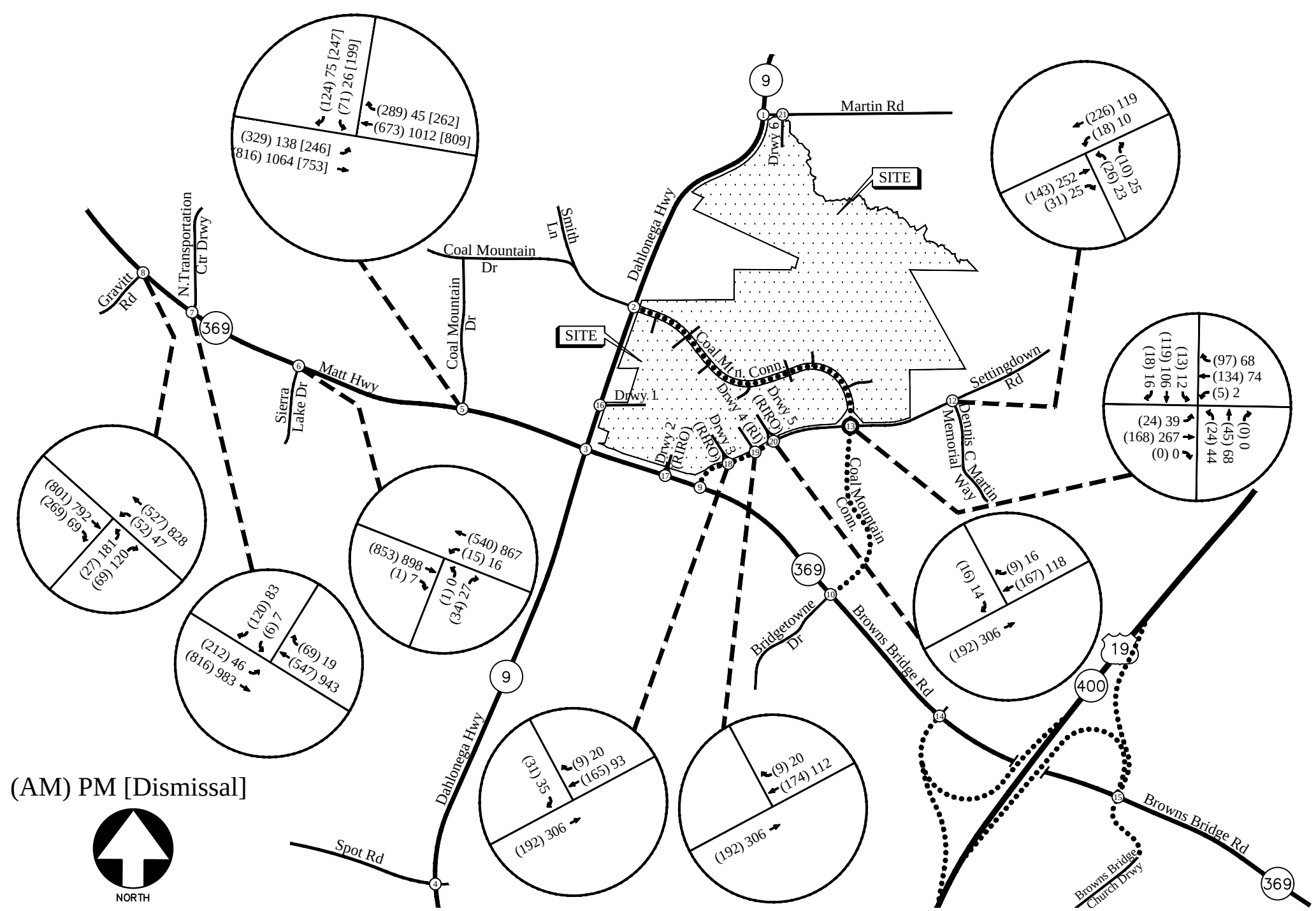
Future “Build” Conditions

The “Build” or development conditions include the estimated background traffic from the “No-Build” conditions plus the added traffic from the proposed development. In order to evaluate future traffic operations in this area, the additional traffic volumes from the site (Figures 6A and 6B) and pass-by volumes (Figure 7) were added to base traffic volumes (Figure 9) to calculate the future traffic volumes after the construction of the development. These total future “Build” traffic volumes are shown in Figures 10A and 10B.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES 1 OF 2

FIGURE 10A
A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES 2 OF 2

FIGURE 10B

A&R Engineering Inc.

Future “Build” Traffic Operations

The future “Build” traffic operations were analyzed using the volumes in Figures 10A and 10B. The results of the future “Build” traffic operations analysis are shown below in Table 7.

TABLE 7 — FUTURE “BUILD” INTERSECTION OPERATIONS							
Intersection		LOS (Delay)					
		NO IMPROVEMENTS			SYSTEM IMPROVEMENTS		
		AM Peak	PM Peak	Dismissal Peak	AM Peak	PM Peak	Dismissal Peak
1	<u>SR 9 (Dahlonega Highway) @ Martin Road</u> -Westbound Approach -Southbound Left	D (30.8) A (8.4)	F (60.9) B (10.2)	Not Evaluated	D (30.8) A (8.4)	F (60.9) B (10.2)	Not Evaluated
2	<u>SR 9 @ Coal Mountain Drive / Coal Mountain Connector</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>B (16.2)</u> D (40.0) D (43.7) A (4.0) B (10.6)	<u>B (12.0)</u> D (43.6) D (45.0) A (4.8) A (5.5)	<u>B (13.8)</u> D (43.0) D (42.7) A (4.4) A (7.2)	<u>B (16.2)</u> D (40.0) D (43.7) A (4.0) B (10.6)	<u>B (12.0)</u> D (43.6) D (45.0) A (4.8) A (5.5)	<u>B (13.8)</u> D (43.0) D (42.7) A (4.4) A (7.2)
3	<u>SR 9 @ SR 369</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (43.8)</u> D (51.2) D (36.5) C (30.4) D (52.5)	<u>D (47.6)</u> D (53.8) D (46.5) D (54.1) C (32.5)	Not Evaluated	<u>D (43.8)</u> D (51.2) D (36.5) C (30.4) D (52.5)	<u>D (47.6)</u> D (53.8) D (46.5) D (54.1) C (32.5)	Not Evaluated
4	<u>SR 9 @ Spot Road</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (41.1)</u> D (53.6) A (0.0) B (17.2) D (48.3)	<u>C (22.1)</u> D (46.0) D (36.0) B (17.8) B (17.7)	Not Evaluated	<u>D (41.1)</u> D (53.6) A (0.0) B (17.2) D (48.3)	<u>C (22.1)</u> D (46.0) D (36.0) B (17.8) B (17.7)	Not Evaluated
5	<u>SR 369 @ Coal Mountain Drive</u> -Eastbound Left (Approach) -Westbound Approach -Southbound Approach	B (11.2) - F (*)	B (12.0) - F (123.4)	B (11.9) - F (*)	<u>A (8.7)</u> A (5.2) A (9.8) D (54.5)	<u>A (9.5)</u> A (6.3) B (12.2) D (52.3)	<u>B (18.0)</u> A (9.9) B (18.3) E (57.3)
6	<u>SR 369 @ Sierra Lake Drive</u> -Westbound Left -Northbound Approach	B (10.0) C (18.6)	B (10.1) C (17.5)	Not Evaluated	B (10.0) C (18.6)	B (10.1) C (17.5)	Not Evaluated
7	<u>SR 369 (Matt Highway) @ North Transportation Center Driveway</u> -Eastbound Left -Southbound Approach	A (9.7) C (17.6)	B (10.4) D (25.7)	Not Evaluated	A (9.7) C (17.6)	B (10.4) D (25.7)	Not Evaluated
8	<u>SR 369 @ Gravitt Road</u> -Eastbound Approach -Westbound Left (Approach) -Northbound Approach	- B (11.6) D (33.7)	- A (10.0) F (*)	Not Evaluated	<u>C (23.3)</u> C (30.8) A (5.4) D (47.5)	<u>B (15.8)</u> B (15.1) A (7.4) D (42.5)	Not Evaluated
9	<u>SR 369 @ Settingdown Road</u> -Eastbound Left -Southbound Approach	A (9.8) D (25.5)	B (14.2) F (70.4)	Not Evaluated	A (9.8) D (25.5)	B (14.2) F (70.4)	Not Evaluated

10	<u>SR 369 @ Bridgetowne Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (8.2)</u> A (3.1) A (3.1) D (42.0) D (45.5)	<u>A (7.1)</u> A (3.0) A (4.6) D (42.9) D (46.1)	Not Evaluated	<u>A (8.2)</u> A (3.1) A (3.1) D (42.0) D (45.5)	<u>A (7.1)</u> A (3.0) A (4.6) D (42.9) D (46.1)	Not Evaluated
12	<u>Settingdown Road @ Dennis C Martin Memorial Way</u> -Westbound Left -Northbound Approach	A (7.6) B (11.7)	A (7.9) B (10.8)	Not Evaluated	A (7.6) B (11.7)	A (7.9) B (10.8)	Not Evaluated
13	<u>Settingdown Road @ Coal Mountain Connector (Roundabout)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (4.6)</u> A (4.7) A (4.8) A (4.0) A (4.4)	<u>A (5.0)</u> A (5.6) A (4.3) A (5.0) A (4.1)	Not Evaluated	<u>A (4.6)</u> A (4.7) A (4.8) A (4.0) A (4.4)	<u>A (5.0)</u> A (5.6) A (4.3) A (5.0) A (4.1)	Not Evaluated
14	<u>SR 369 @ GA 400 SB Ramps</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (4.0)</u> A (2.4) A (0.4) D (47.1) D (42.1)	<u>A (3.8)</u> A (2.9) A (0.3) D (46.2) D (40.5)	Not Evaluated	<u>A (4.0)</u> A (2.4) A (0.4) D (47.1) D (42.1)	<u>A (3.8)</u> A (2.9) A (0.3) D (46.2) D (40.5)	Not Evaluated
15	<u>SR 369 @ GA 400 NB Ramps</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (8.7)</u> A (4.0) A (4.0) D (49.9) D (49.0)	<u>B (12.3)</u> A (5.3) A (5.1) D (49.9) D (46.8)	Not Evaluated	<u>A (8.7)</u> A (4.0) A (4.0) D (49.9) D (49.0)	<u>B (12.3)</u> A (5.3) A (5.1) D (49.9) D (46.8)	Not Evaluated
16	<u>SR 9 @ Site Driveway 1</u> -Westbound Approach -Southbound Left	C (23.1) A (8.2)	D (30.3) A (9.7)	Not Evaluated	C (23.1) A (8.2)	D (30.3) A (9.7)	Not Evaluated
17	<u>SR 369 @ Site Driveway 2 (RIRO)</u> -Southbound Approach	B (11.3)	B (14.4)	Not Evaluated	B (11.3)	B (14.4)	Not Evaluated
18	<u>Settingdown Road @ Site Driveway 3 (RIRO)</u> -Southbound Approach	A (9.3)	A (8.9)	Not Evaluated	A (9.3)	A (8.9)	Not Evaluated
20	<u>Settingdown Road @ Site Driveway 5 (RIRO)</u> -Southbound Approach	A (9.3)	A (9.0)	Not Evaluated	A (9.3)	A (9.0)	Not Evaluated
21	<u>Martin Road @ Site Driveway 6</u> -Westbound Left -Northbound Approach	A (8.0) B (11.3)	A (7.7) B (11.1)	Not Evaluated	A (8.0) B (11.3)	A (7.7) B (11.1)	Not Evaluated

* Delay exceeds 300 seconds

The results of future “Build” traffic operations show that after the addition of site traffic the following intersections will continue to have LOS “E” or “F” for one or more approaches:

1. SR 9 (Dahlonga Highway) @ Martin Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
8. SR 369 (Matt Highway) @ Gravitt Road
9. SR 369 (Browns Bridge Road) @ Settingdown Road

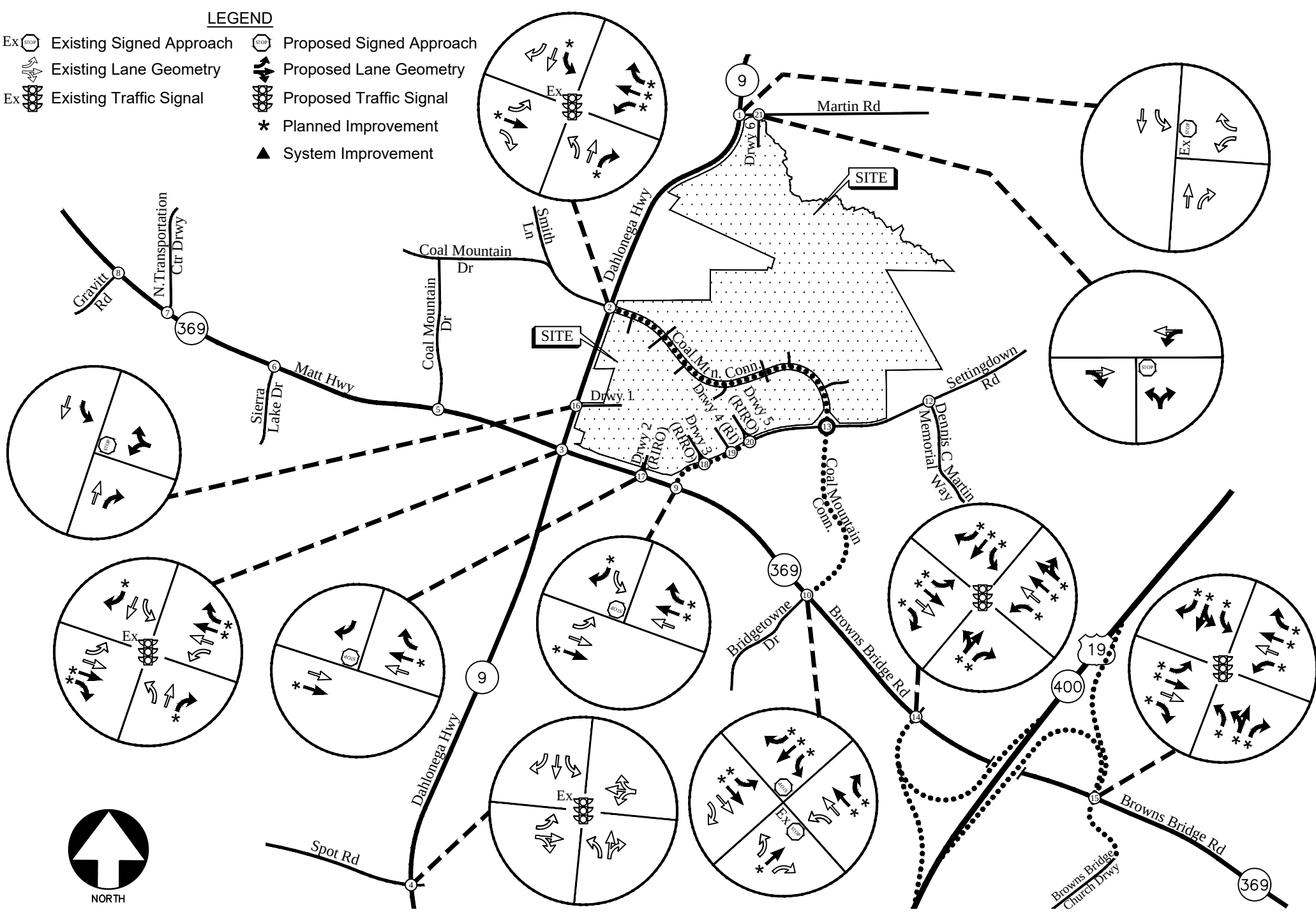
After the recommended system improvements are implemented, the intersections of SR 369 at Coal Mountain Drive and SR 369 at Gravitt Road will operate at LOS “D” or better in both the AM and PM peak hours.

No improvements have been identified at the intersections of SR 9 at Martin Road and SR 369 at Settingdown Road as the intersections will not warrant a traffic signal and have all turn lanes. The side-streets will experience delays during the peak periods waiting to turn left onto the mainline which is not uncommon for stop-controlled side-streets on arterial roadways.

Recommendations for future traffic control and lane geometry are shown in Figures 11A and 11B.

LEGEND

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



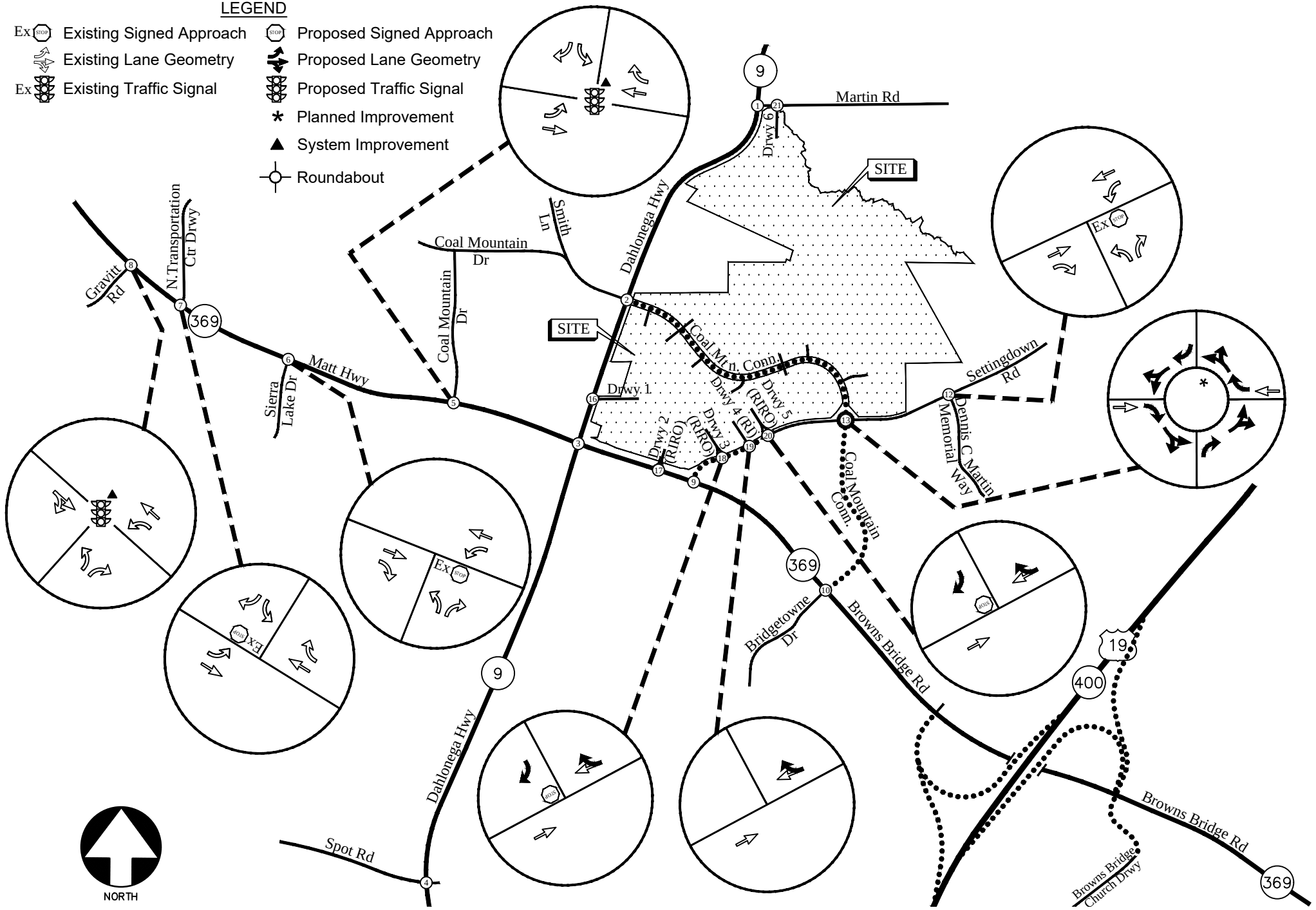
FUTURE TRAFFIC CONTROL AND LANE GEOMETRY 1 OF 2

FIGURE 11A

A&R Engineering Inc.

LEGEND

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



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY 2 OF 2

FIGURE 11B
A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the proposed Coal Mountain Town Center mixed-use development located to the northeast of the intersection of SR 9 (Dahlonega Highway) and SR 369 (Browns Bridge Road) in Forsyth County, Georgia.

Project PI# 0015762 will construct a new two-lane, median-divided roadway (Coal Mountain Connector) connecting SR 9 at Coal Mountain Drive and SR 369 at Bridgetowne Drive. The development proposes several internal driveways along Coal Mountain Connector as well as one full access driveway on SR 9 (Dahlonega Highway), one right-in/right-out driveway on SR 369 (Browns Bridge Road), two right-in/right-out and one right-in only driveways on Settingdown Road and one full access driveway on Martin Road.

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

1. SR 9 (Dahlonega Highway) @ Martin Road
2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
3. SR 9 (Dahlonega Highway) @ SR 369 (Matt Highway/Browns Bridge Road)
4. SR 9 (Dahlonega Highway) @ Spot Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
6. SR 369 (Matt Highway) @ Sierra Lake Drive
7. SR 369 (Matt Highway) @ North Transportation Center Driveway
8. SR 369 (Matt Highway) @ Gravitt Road
9. SR 369 (Browns Bridge Road) @ Settingdown Road
10. SR 369 (Browns Bridge Road) @ Bridgetowne Drive
11. GA 400 @ SR 369 (Browns Bridge Road) – Existing Only
12. Settingdown Road @ Dennis C Martin Memorial Way
13. Settingdown Road @ Coal Mountain Connector – Future conditions
14. SR 369 (Browns Bridge Road) @ GA 400 Southbound Ramps – Future conditions
15. SR 369 (Browns Bridge Road) @ GA 400 Northbound Ramps – Future conditions

Due to the close proximity of schools (Coal Mountain Elementary School, North Forsyth Middle School and North Forsyth High School), the following two intersections were analyzed for the school dismissal peak hour also:

2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive
5. SR 369 (Matt Highway) @ Coal Mountain 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 show that the following intersections will have LOS “E” or “F” for one or more approaches:

1. SR 9 (Dahlonge Highway) @ Martin Road
5. SR 369 (Matt Highway) @ Coal Mountain Drive
8. SR 369 (Matt Highway) @ Gravitt Road

The intersection of SR 369 (Browns Bridge Road) and Settingdown Road (intersection 9) will have LOS “F” for the stop-controlled southbound approach in the “Build” PM peak hour conditions. The stop-controlled westbound approach to the intersection of SR 9 and Martin Road will operate at LOS “F” in the PM peak hour. No improvements have been identified at these intersections of SR 9 at Martin Road and SR 369 at Settingdown Road as the intersections will not warrant a traffic signal and have all turn lanes. The side-streets will experience delays during the peak periods waiting to turn left onto the mainline which is not uncommon for stop-controlled side-streets on arterial roadways.

Recommended System Improvements

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

Intersection 5: SR 369 (Matt Highway) @ Coal Mountain Drive

- Installation of a traffic signal

Intersection 8: SR 369 (Matt Highway) @ Gravitt Road

- Installation of a traffic signal

After the recommended system improvements are implemented, the intersections of SR 369 at Coal Mountain Drive and SR 369 at Gravitt Road will operate at LOS “D” or better in both the AM and PM peak hours.

Recommendation for Site Access Configuration

- **Site Driveway 1: Full access driveway on SR 9 (Dahlonge Highway), north of SR 369**
 - Driveway approach to consist of one entering and one exiting lanes and to be stop-sign controlled.
 - Left turn and Right turn lanes on SR 9 for entering traffic.
- **Site Driveway 2: Right-in/right-out driveway on SR 369 (Browns Bridge Road)**
 - Driveway approach to consist of one entering and one right-only exiting lanes and to be stop-sign controlled.
 - Right turn lane on SR 369 for entering traffic.
- **Site Driveway 3: Right-in/right-out driveway on Settingdown Road**
 - Driveway approach to consist of one entering and one right-only exiting lanes and to be stop-sign controlled.

- **Site Driveway 4: Right-in only driveway on Settingdown Road**
 - Driveway approach to consist of only one right turn entering lane.
- **Site Driveway 5: Right-in/right-out driveway on Settingdown Road**
 - Driveway approach to consist of one entering and one right-only exiting lanes and to be stop-sign controlled.
- **Site Driveway 6: Full access driveway on Martin Road**
 - Driveway approach to consist of one entering and one exiting lanes and to be stop-sign controlled.

Appendix

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

Existing Intersection Traffic Counts

A & R Engineering, Inc.

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

TMC DATA

SR 9 (Dahlonega Hwy) @ Martin Rd
7-9 am | 4-6 pm

File Name : 20220322

Site Code : 20220322

Start Date : 7/21/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Eastbound				Martin 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	17	5	22	53	131	0	184	0	0	0	0	4	0	10	14	220
07:15 AM	0	14	3	17	61	148	0	209	0	0	0	0	4	0	10	14	240
07:30 AM	0	30	3	33	62	155	0	217	0	0	0	0	6	0	23	29	279
07:45 AM	0	44	6	50	59	135	0	194	0	0	0	0	9	0	31	40	284
Total	0	105	17	122	235	569	0	804	0	0	0	0	23	0	74	97	1023
08:00 AM	0	45	9	54	46	107	0	153	0	0	0	0	7	0	23	30	237
08:15 AM	0	44	4	48	42	107	0	149	0	0	0	0	6	0	23	29	226
08:30 AM	0	52	7	59	29	114	0	143	0	0	0	0	6	0	22	28	230
08:45 AM	0	58	8	66	41	118	0	159	0	0	0	0	7	0	33	40	265
Total	0	199	28	227	158	446	0	604	0	0	0	0	26	0	101	127	958
*** BREAK ***																	
04:00 PM	0	131	10	141	17	67	0	84	0	0	0	0	5	0	48	53	278
04:15 PM	0	127	14	141	19	80	0	99	0	0	0	0	7	0	43	50	290
04:30 PM	0	136	9	145	21	51	0	72	0	0	0	0	6	0	57	63	280
04:45 PM	0	143	11	154	21	70	0	91	0	0	0	0	9	0	58	67	312
Total	0	537	44	581	78	268	0	346	0	0	0	0	27	0	206	233	1160
05:00 PM	0	142	10	152	24	64	0	88	0	0	0	0	12	0	56	68	308
05:15 PM	0	142	7	149	30	96	0	126	0	0	0	0	17	0	56	73	348
05:30 PM	0	129	10	139	38	77	0	115	0	0	0	0	12	0	58	70	324
05:45 PM	0	140	9	149	12	79	0	91	0	0	0	0	13	0	60	73	313
Total	0	553	36	589	104	316	0	420	0	0	0	0	54	0	230	284	1293
Grand Total	0	1394	125	1519	575	1599	0	2174	0	0	0	0	130	0	611	741	4434
Apprch %	0	91.8	8.2		26.4	73.6	0		0	0	0		17.5	0	82.5		
Total %	0	31.4	2.8	34.3	13	36.1	0	49	0	0	0	0	2.9	0	13.8	16.7	

A & R Engineering, Inc.

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Marietta, GA 30067

TMC DATA

SR 9 (Dahlonega Hwy) @ Martin Rd
7-9 am | 4-6 pm

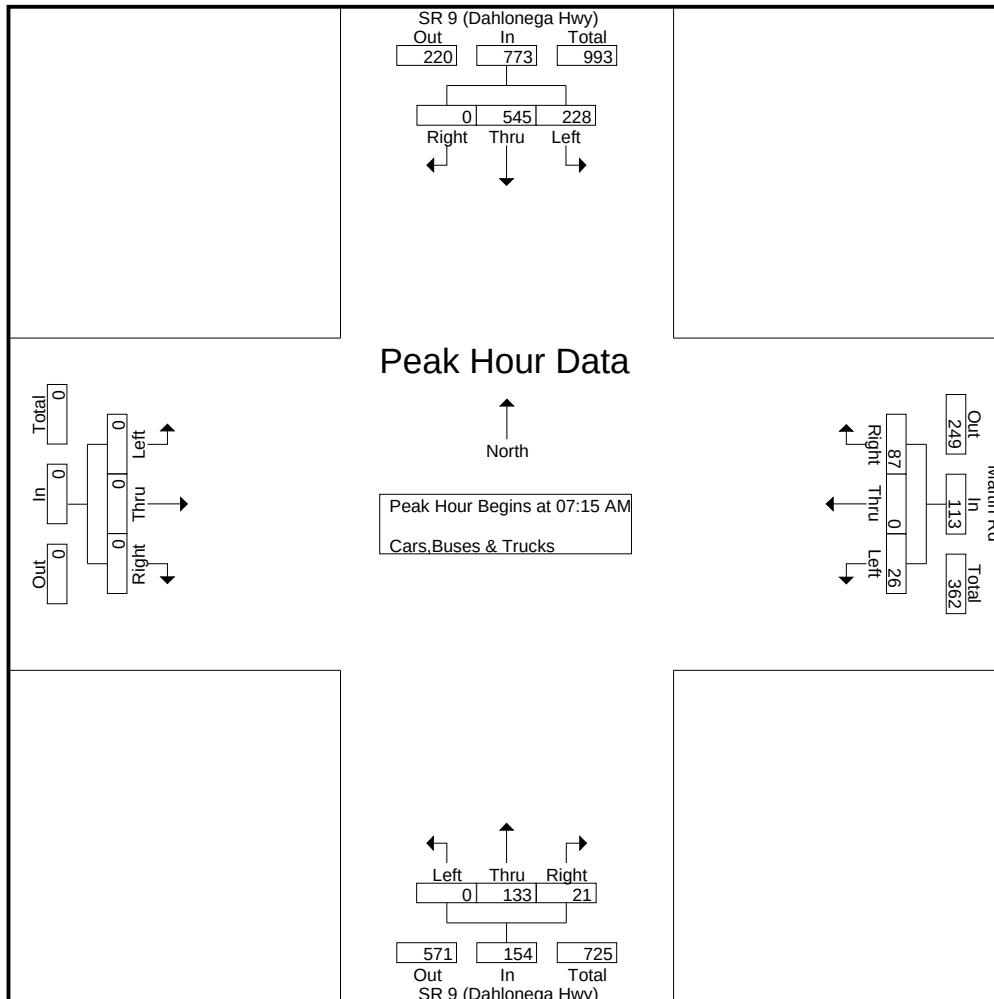
File Name : 20220322

Site Code : 20220322

Start Date : 7/21/2022

Page No : 2

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Eastbound				Martin Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	14	3	17	61	148	0	209	0	0	0	0	4	0	10	14	240
07:30 AM	0	30	3	33	62	155	0	217	0	0	0	0	6	0	23	29	279
07:45 AM	0	44	6	50	59	135	0	194	0	0	0	0	9	0	31	40	284
08:00 AM	0	45	9	54	46	107	0	153	0	0	0	0	7	0	23	30	237
Total Volume	0	133	21	154	228	545	0	773	0	0	0	0	26	0	87	113	1040
% App. Total	0	86.4	13.6		29.5	70.5	0		0	0	0		23	0	77		
PHF	.000	.739	.583	.713	.919	.879	.000	.891	.000	.000	.000	.000	.722	.000	.702	.706	.915



A & R Engineering, Inc.

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Marietta, GA 30067

TMC DATA

SR 9 (Dahlonega Hwy) @ Martin Rd
7-9 am | 4-6 pm

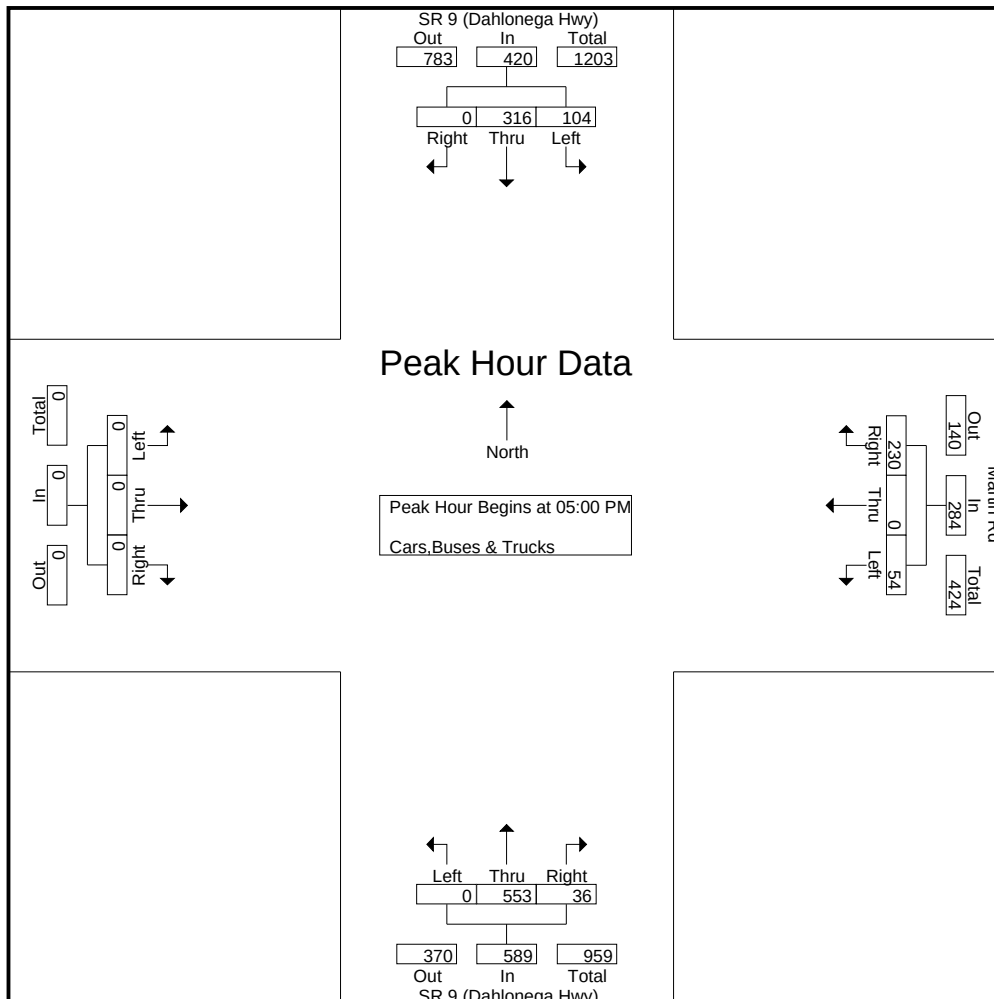
File Name : 20220322

Site Code : 20220322

Start Date : 7/21/2022

Page No : 3

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Eastbound				Martin 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	142	10	152	24	64	0	88	0	0	0	0	12	0	56	68	308
05:15 PM	0	142	7	149	30	96	0	126	0	0	0	0	17	0	56	73	348
05:30 PM	0	129	10	139	38	77	0	115	0	0	0	0	12	0	58	70	324
05:45 PM	0	140	9	149	12	79	0	91	0	0	0	0	13	0	60	73	313
Total Volume	0	553	36	589	104	316	0	420	0	0	0	0	54	0	230	284	1293
% App. Total	0	93.9	6.1		24.8	75.2	0		0	0	0		19	0	81		
PHF	.000	.974	.900	.969	.684	.823	.000	.833	.000	.000	.000	.000	.794	.000	.958	.973	.929



A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',

TMC DATA

SR 9 (Dahlonega Hwy) @ Coal Mountain Dr
7-9 am | 4-6 pm

File Name : 20220328

Site Code : 20220328

Start Date : 7/21/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Coal Mountain Drive 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	3	19	0	22	0	133	2	135	3	0	3	6	0	0	0	0	163
07:15 AM	9	10	0	19	0	144	8	152	7	0	8	15	0	0	0	0	186
07:30 AM	15	18	0	33	0	150	11	161	15	0	11	26	0	0	0	0	220
07:45 AM	12	38	0	50	0	137	7	144	12	0	8	20	0	0	0	0	214
Total	39	85	0	124	0	564	28	592	37	0	30	67	0	0	0	0	783
08:00 AM	6	48	0	54	0	109	5	114	6	0	5	11	0	0	0	0	179
08:15 AM	14	44	0	58	0	105	8	113	4	0	7	11	0	0	0	0	182
08:30 AM	15	44	0	59	0	108	12	120	15	0	12	27	0	0	0	0	206
08:45 AM	17	45	0	62	0	114	11	125	21	0	13	34	0	0	0	0	221
Total	52	181	0	233	0	436	36	472	46	0	37	83	0	0	0	0	788
*** BREAK ***																	
02:00 PM	10	70	0	80	0	67	25	92	11	0	9	20	0	0	0	0	192
02:15 PM	5	70	0	75	0	68	21	89	46	0	26	72	0	0	0	0	236
02:30 PM	4	80	0	84	0	70	13	83	28	0	17	45	0	0	0	0	212
02:45 PM	4	85	0	89	0	69	9	78	16	0	15	31	0	0	0	0	198
Total	23	305	0	328	0	274	68	342	101	0	67	168	0	0	0	0	838
03:00 PM	3	70	0	73	0	69	10	79	11	0	12	23	0	0	0	0	175
03:15 PM	5	88	0	93	0	78	22	100	21	0	11	32	0	0	0	0	225
03:30 PM	9	87	0	96	0	67	47	114	19	0	10	29	0	0	0	0	239
03:45 PM	15	96	0	111	0	81	40	121	32	0	12	44	0	0	0	0	276
Total	32	341	0	373	0	295	119	414	83	0	45	128	0	0	0	0	915
04:00 PM	2	131	0	133	0	69	22	91	22	0	11	33	0	0	0	0	257
04:15 PM	3	136	0	139	0	84	19	103	15	0	10	25	0	0	0	0	267
04:30 PM	5	127	0	132	0	55	16	71	18	0	9	27	0	0	0	0	230
04:45 PM	4	143	0	147	0	76	19	95	11	0	8	19	0	0	0	0	261
Total	14	537	0	551	0	284	76	360	66	0	38	104	0	0	0	0	1015
05:00 PM	5	142	0	147	0	74	13	87	10	0	7	17	0	0	0	0	251
05:15 PM	7	131	0	138	0	95	7	102	18	0	6	24	0	0	0	0	264
05:30 PM	2	124	0	126	0	87	2	89	15	0	8	23	0	0	0	0	238
05:45 PM	10	143	0	153	0	84	8	92	6	0	4	10	0	0	0	0	255
Total	24	540	0	564	0	340	30	370	49	0	25	74	0	0	0	0	1008
Grand Total	184	1989	0	2173	0	2193	357	2550	382	0	242	624	0	0	0	0	5347
Apprch %	8.5	91.5	0		0	86	14		61.2	0	38.8		0	0	0		
Total %	3.4	37.2	0	40.6	0	41	6.7	47.7	7.1	0	4.5	11.7	0	0	0	0	

A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',

TMC DATA

SR 9 (Dahlonega Hwy) @ Coal Mountain Dr
7-9 am | 4-6 pm

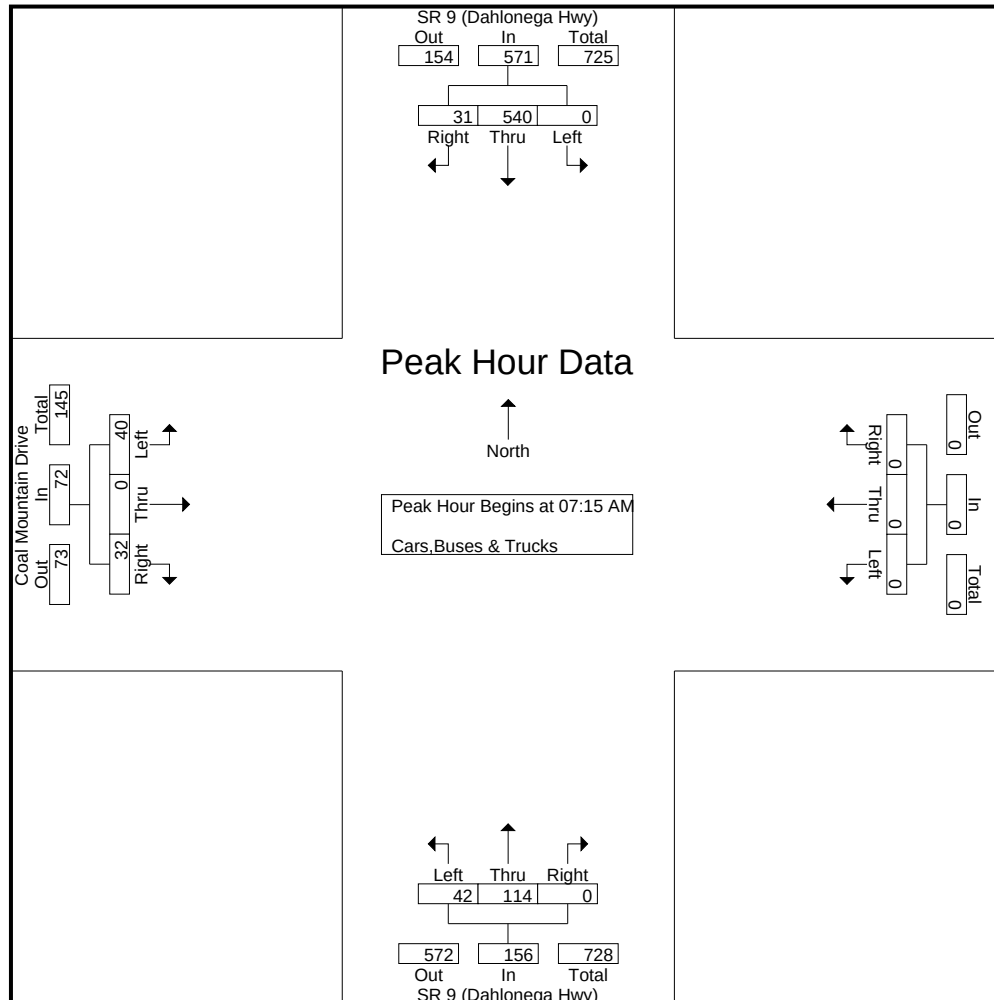
File Name : 20220328

Site Code : 20220328

Start Date : 7/21/2022

Page No : 2

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Coal Mountain Drive 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	9	10	0	19	0	144	8	152	7	0	8	15	0	0	0	0	186
07:30 AM	15	18	0	33	0	150	11	161	15	0	11	26	0	0	0	0	220
07:45 AM	12	38	0	50	0	137	7	144	12	0	8	20	0	0	0	0	214
08:00 AM	6	48	0	54	0	109	5	114	6	0	5	11	0	0	0	0	179
Total Volume	42	114	0	156	0	540	31	571	40	0	32	72	0	0	0	0	799
% App. Total	26.9	73.1	0		0	94.6	5.4		55.6	0	44.4		0	0	0		
PHF	.700	.594	.000	.722	.000	.900	.705	.887	.667	.000	.727	.692	.000	.000	.000	.000	.908



A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',

TMC DATA

SR 9 (Dahlonega Hwy) @ Coal Mountain Dr
7-9 am | 4-6 pm

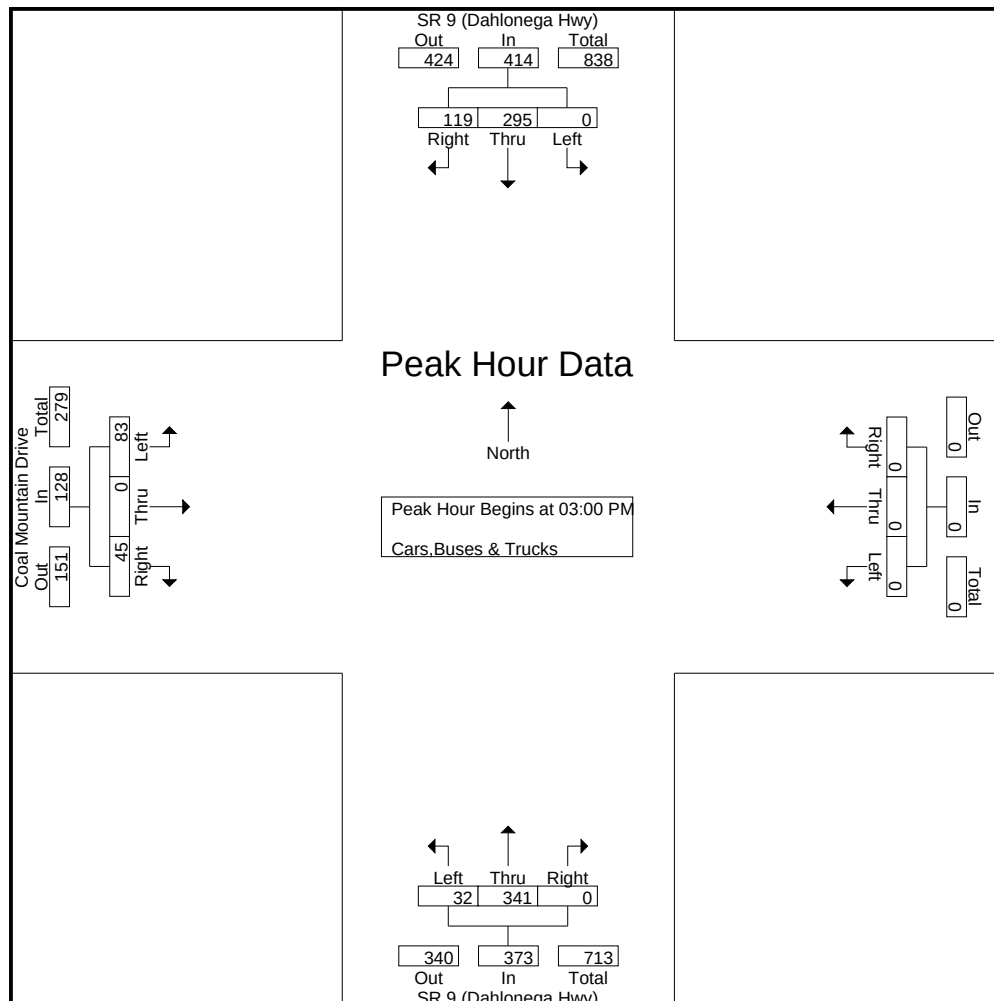
File Name : 20220328

Site Code : 20220328

Start Date : 7/21/2022

Page No : 3

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Coal Mountain Drive 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 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	3	70	0	73	0	69	10	79	11	0	12	23	0	0	0	0	175
03:15 PM	5	88	0	93	0	78	22	100	21	0	11	32	0	0	0	0	225
03:30 PM	9	87	0	96	0	67	47	114	19	0	10	29	0	0	0	0	239
03:45 PM	15	96	0	111	0	81	40	121	32	0	12	44	0	0	0	0	276
Total Volume	32	341	0	373	0	295	119	414	83	0	45	128	0	0	0	0	915
% App. Total	8.6	91.4	0		0	71.3	28.7		64.8	0	35.2		0	0	0		
PHF	.533	.888	.000	.840	.000	.910	.633	.855	.648	.000	.938	.727	.000	.000	.000	.000	.829



A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',

TMC DATA

SR 9 (Dahlonega Hwy) @ Coal Mountain Dr
7-9 am | 4-6 pm

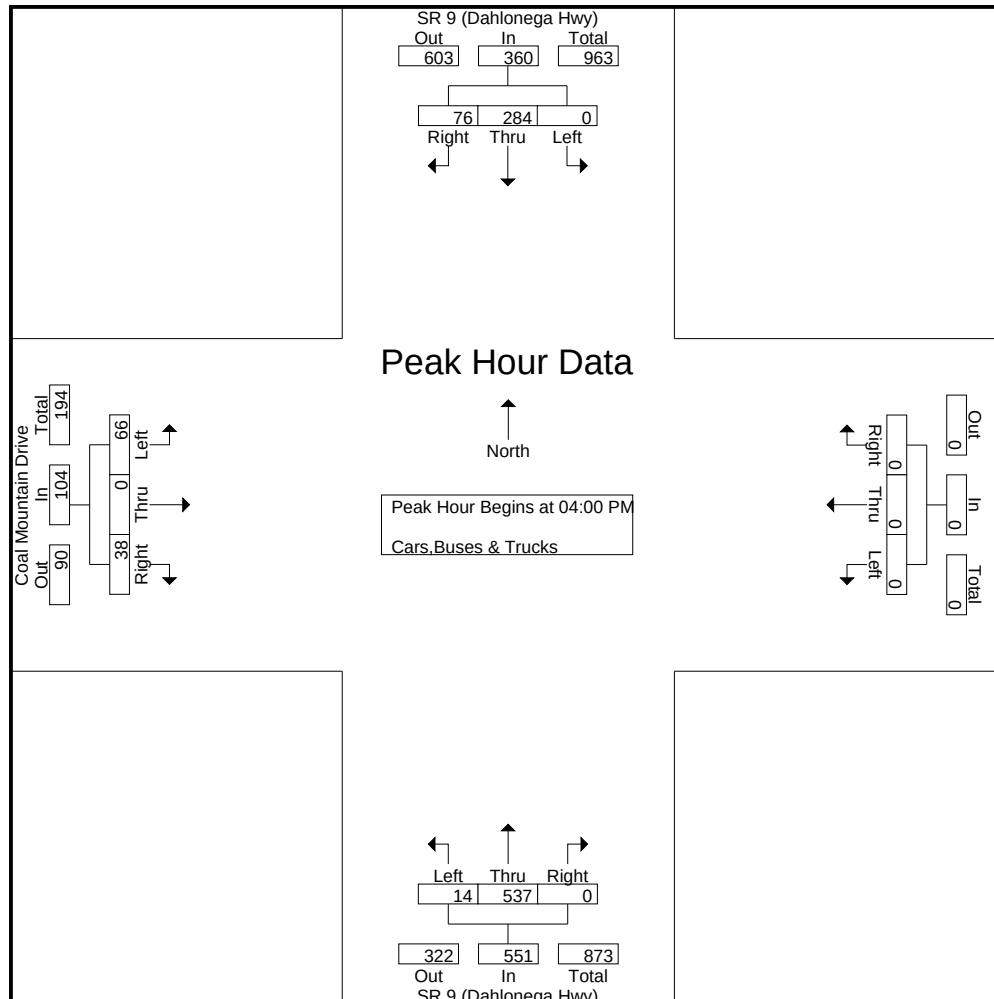
File Name : 20220328

Site Code : 20220328

Start Date : 7/21/2022

Page No : 4

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Coal Mountain Drive 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 04:00 PM																	
04:00 PM	2	131	0	133	0	69	22	91	22	0	11	33	0	0	0	0	257
04:15 PM	3	136	0	139	0	84	19	103	15	0	10	25	0	0	0	0	267
04:30 PM	5	127	0	132	0	55	16	71	18	0	9	27	0	0	0	0	230
04:45 PM	4	143	0	147	0	76	19	95	11	0	8	19	0	0	0	0	261
Total Volume	14	537	0	551	0	284	76	360	66	0	38	104	0	0	0	0	1015
% App. Total	2.5	97.5	0		0	78.9	21.1		63.5	0	36.5		0	0	0		
PHF	.700	.939	.000	.937	.000	.845	.864	.874	.750	.000	.864	.788	.000	.000	.000	.000	.950



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 9 (Dahlonega Hwy) @ SR 369

(Matt Hwy / Browns Bridge Rd)

7-9 am | 2-6 pm

File Name : 20190106

Site Code : 20190106

Start Date : 5/23/2019

Page No : 1

Groups Printed- Cars, Trucks & Buses

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Browns Bridge 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	17	24	28	69	20	110	12	142	4	124	28	156	25	112	17	154	521
07:15 AM	20	21	23	64	28	115	8	151	6	122	25	153	46	153	15	214	582
07:30 AM	19	39	33	91	42	127	2	171	3	115	22	140	49	149	15	213	615
07:45 AM	14	33	30	77	45	99	5	149	7	106	32	145	48	153	15	216	587
Total	70	117	114	301	135	451	27	613	20	467	107	594	168	567	62	797	2305
08:00 AM	20	28	19	67	52	101	5	158	4	125	16	145	47	123	13	183	553
08:15 AM	17	33	23	73	63	82	6	151	10	109	31	150	31	122	13	166	540
08:30 AM	21	35	10	66	28	62	6	96	10	107	16	133	30	118	16	164	459
08:45 AM	20	31	20	71	49	62	8	119	9	111	24	144	32	109	14	155	489
Total	78	127	72	277	192	307	25	524	33	452	87	572	140	472	56	668	2041
*** BREAK ***																	
02:00 PM	26	42	36	104	27	42	5	74	7	111	21	139	27	134	17	178	495
02:15 PM	29	52	42	123	42	49	16	107	5	121	16	142	20	124	13	157	529
02:30 PM	19	40	28	87	23	34	9	66	14	113	15	142	25	139	16	180	475
02:45 PM	23	61	41	125	24	50	10	84	18	121	14	153	25	128	19	172	534
Total	97	195	147	439	116	175	40	331	44	466	66	576	97	525	65	687	2033
03:00 PM	22	64	49	135	25	42	10	77	9	143	12	164	28	135	20	183	559
03:15 PM	22	42	37	101	14	32	15	61	5	126	15	146	20	151	18	189	497
03:30 PM	19	65	33	117	30	63	14	107	13	105	19	137	25	122	24	171	532
03:45 PM	24	70	28	122	25	53	14	92	5	142	12	159	27	143	21	191	564
Total	87	241	147	475	94	190	53	337	32	516	58	606	100	551	83	734	2152
04:00 PM	21	61	35	117	28	63	17	108	12	131	16	159	37	154	15	206	590
04:15 PM	25	86	19	130	37	93	8	138	16	84	37	137	37	132	19	188	593
04:30 PM	15	78	22	115	34	79	17	130	12	125	24	161	40	134	27	201	607
04:45 PM	18	77	32	127	16	30	13	59	10	142	14	166	33	144	30	207	559
Total	79	302	108	489	115	265	55	435	50	482	91	623	147	564	91	802	2349
05:00 PM	24	77	33	134	19	36	25	80	12	162	11	185	27	130	26	183	582
05:15 PM	17	73	23	113	28	26	20	74	7	161	10	178	29	120	45	194	559
05:30 PM	6	73	20	99	21	39	8	68	13	125	17	155	29	109	41	179	501
05:45 PM	22	61	22	105	29	52	17	98	8	127	10	145	33	132	36	201	549
Total	69	284	98	451	97	153	70	320	40	575	48	663	118	491	148	757	2191
Grand Total	480	1266	686	2432	749	1541	270	2560	219	2958	457	3634	770	3170	505	4445	13071
Apprch %	19.7	52.1	28.2		29.3	60.2	10.5		6	81.4	12.6		17.3	71.3	11.4		
Total %	3.7	9.7	5.2	18.6	5.7	11.8	2.1	19.6	1.7	22.6	3.5	27.8	5.9	24.3	3.9	34	

A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 9 (Dahlonega Hwy) @ SR 369
(Matt Hwy / Browns Bridge Rd)
7-9 am | 2-6 pm

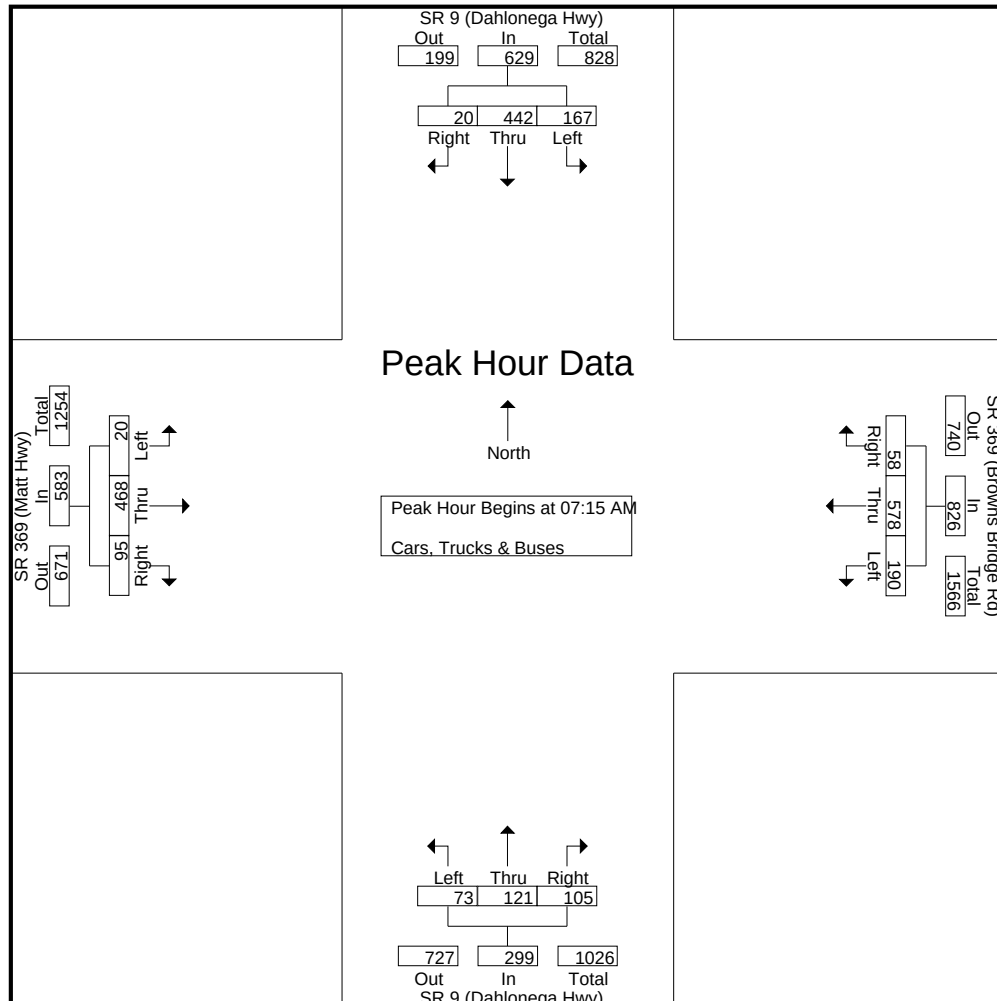
File Name : 20190106

Site Code : 20190106

Start Date : 5/23/2019

Page No : 2

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Browns Bridge 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 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	20	21	23	64	28	115	8	151	6	122	25	153	46	153	15	214	582
07:30 AM	19	39	33	91	42	127	2	171	3	115	22	140	49	149	15	213	615
07:45 AM	14	33	30	77	45	99	5	149	7	106	32	145	48	153	15	216	587
08:00 AM	20	28	19	67	52	101	5	158	4	125	16	145	47	123	13	183	553
Total Volume	73	121	105	299	167	442	20	629	20	468	95	583	190	578	58	826	2337
% App. Total	24.4	40.5	35.1		26.6	70.3	3.2		3.4	80.3	16.3		23	70	7		
PHF	.913	.776	.795	.821	.803	.870	.625	.920	.714	.936	.742	.953	.969	.944	.967	.956	.950



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 9 (Dahlonega Hwy) @ SR 369
(Matt Hwy / Browns Bridge Rd)
7-9 am | 2-6 pm

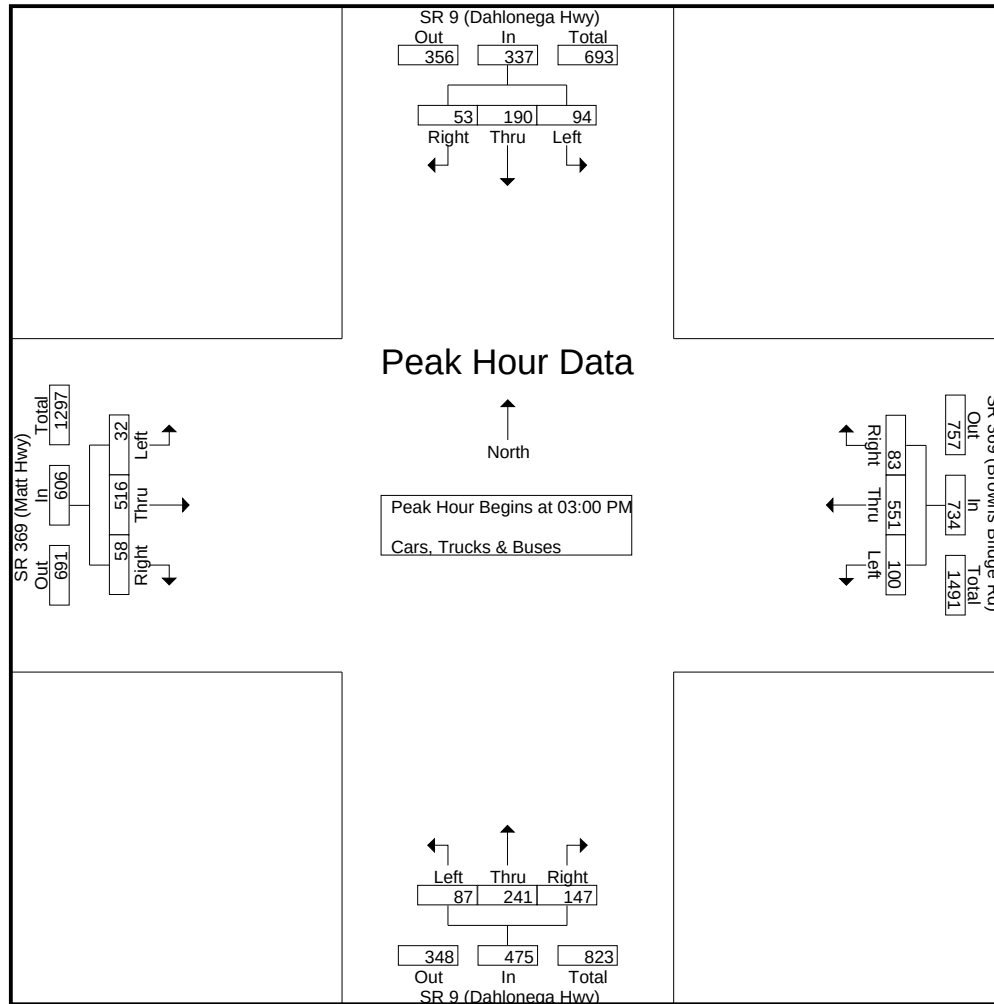
File Name : 20190106

Site Code : 20190106

Start Date : 5/23/2019

Page No : 3

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Browns Bridge 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 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	22	64	49	135	25	42	10	77	9	143	12	164	28	135	20	183	559
03:15 PM	22	42	37	101	14	32	15	61	5	126	15	146	20	151	18	189	497
03:30 PM	19	65	33	117	30	63	14	107	13	105	19	137	25	122	24	171	532
03:45 PM	24	70	28	122	25	53	14	92	5	142	12	159	27	143	21	191	564
Total Volume	87	241	147	475	94	190	53	337	32	516	58	606	100	551	83	734	2152
% App. Total	18.3	50.7	30.9		27.9	56.4	15.7		5.3	85.1	9.6		13.6	75.1	11.3		
PHF	.906	.861	.750	.880	.783	.754	.883	.787	.615	.902	.763	.924	.893	.912	.865	.961	.954



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 9 (Dahlonega Hwy) @ SR 369

(Matt Hwy / Browns Bridge Rd)

7-9 am | 2-6 pm

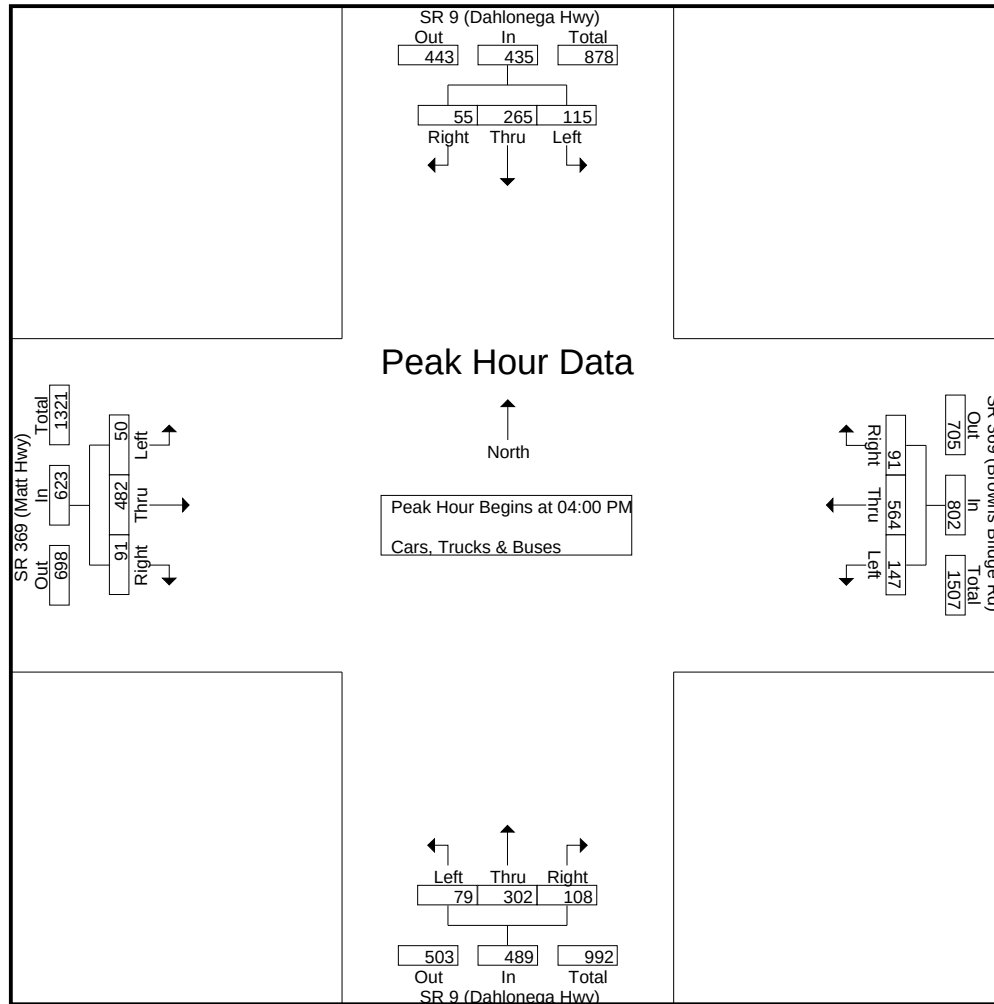
File Name : 20190106

Site Code : 20190106

Start Date : 5/23/2019

Page No : 4

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Browns Bridge Rd) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	21	61	35	117	28	63	17	108	12	131	16	159	37	154	15	206	590
04:15 PM	25	86	19	130	37	93	8	138	16	84	37	137	37	132	19	188	593
04:30 PM	15	78	22	115	34	79	17	130	12	125	24	161	40	134	27	201	607
04:45 PM	18	77	32	127	16	30	13	59	10	142	14	166	33	144	30	207	559
Total Volume	79	302	108	489	115	265	55	435	50	482	91	623	147	564	91	802	2349
% App. Total	16.2	61.8	22.1		26.4	60.9	12.6		8	77.4	14.6		18.3	70.3	11.3		
PHF	.790	.878	.771	.940	.777	.712	.809	.788	.781	.849	.615	.938	.919	.916	.758	.969	.967



A & R Engineering, Inc.

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

TMC DATA

SR 9 (Dahlonega Hwy) @ Spot Rd

7-9 am | 4-6 pm

File Name : 20220323

Site Code : 20220323

Start Date : 7/21/2022

Page No : 1

Groups Printed- Cars,Buses - Trucks

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Spot Rd Eastbound				Mark Heard Fuel Co Drwy 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	12	48	1	61	0	161	19	180	14	0	45	59	0	0	0	0	300
07:15 AM	24	55	0	79	0	169	27	196	15	1	74	90	0	0	0	0	365
07:30 AM	19	61	0	80	1	174	31	206	26	0	94	120	0	0	1	1	407
07:45 AM	26	67	0	93	0	177	31	208	28	1	84	113	0	0	0	0	414
Total	81	231	1	313	1	681	108	790	83	2	297	382	0	0	1	1	1486
08:00 AM	30	79	0	109	0	183	26	209	18	0	52	70	0	0	0	0	388
08:15 AM	27	87	0	114	0	188	28	216	22	0	52	74	0	0	0	0	404
08:30 AM	30	91	0	121	1	184	24	209	29	1	60	90	0	0	0	0	420
08:45 AM	39	78	0	117	0	160	39	199	36	0	47	83	0	0	0	0	399
Total	126	335	0	461	1	715	117	833	105	1	211	317	0	0	0	0	1611
*** BREAK ***																	
04:00 PM	81	87	0	168	0	89	30	119	21	0	26	47	0	1	2	3	337
04:15 PM	57	90	0	147	0	99	37	136	17	0	31	48	1	0	0	1	332
04:30 PM	26	109	0	135	0	112	23	135	6	0	15	21	1	1	0	2	293
04:45 PM	74	114	0	188	0	125	27	152	19	1	26	46	0	0	0	0	386
Total	238	400	0	638	0	425	117	542	63	1	98	162	2	2	2	6	1348
05:00 PM	87	119	0	206	0	130	36	166	23	0	36	59	0	0	0	0	431
05:15 PM	75	126	0	201	0	122	38	160	27	0	36	63	0	0	0	0	424
05:30 PM	73	113	0	186	0	114	33	147	24	0	48	72	0	1	0	1	406
05:45 PM	60	104	0	164	0	110	34	144	26	0	36	62	0	0	0	0	370
Total	295	462	0	757	0	476	141	617	100	0	156	256	0	1	0	1	1631
Grand Total	740	1428	1	2169	2	2297	483	2782	351	4	762	1117	2	3	3	8	6076
Apprch %	34.1	65.8	0		0.1	82.6	17.4		31.4	0.4	68.2		25	37.5	37.5		
Total %	12.2	23.5	0	35.7	0	37.8	7.9	45.8	5.8	0.1	12.5	18.4	0	0	0	0.1	
Cars,Buses	719	1376	1	2096	2	2236	468	2706	328	4	744	1076	2	3	3	8	5886
% Cars,Buses	97.2	96.4	100	96.6	100	97.3	96.9	97.3	93.4	100	97.6	96.3	100	100	100	100	96.9
Trucks	21	52	0	73	0	61	15	76	23	0	18	41	0	0	0	0	190
% Trucks	2.8	3.6	0	3.4	0	2.7	3.1	2.7	6.6	0	2.4	3.7	0	0	0	0	3.1

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

TMC DATA

SR 9 (Dahlonega Hwy) @ Spot Rd

7-9 am | 4-6 pm

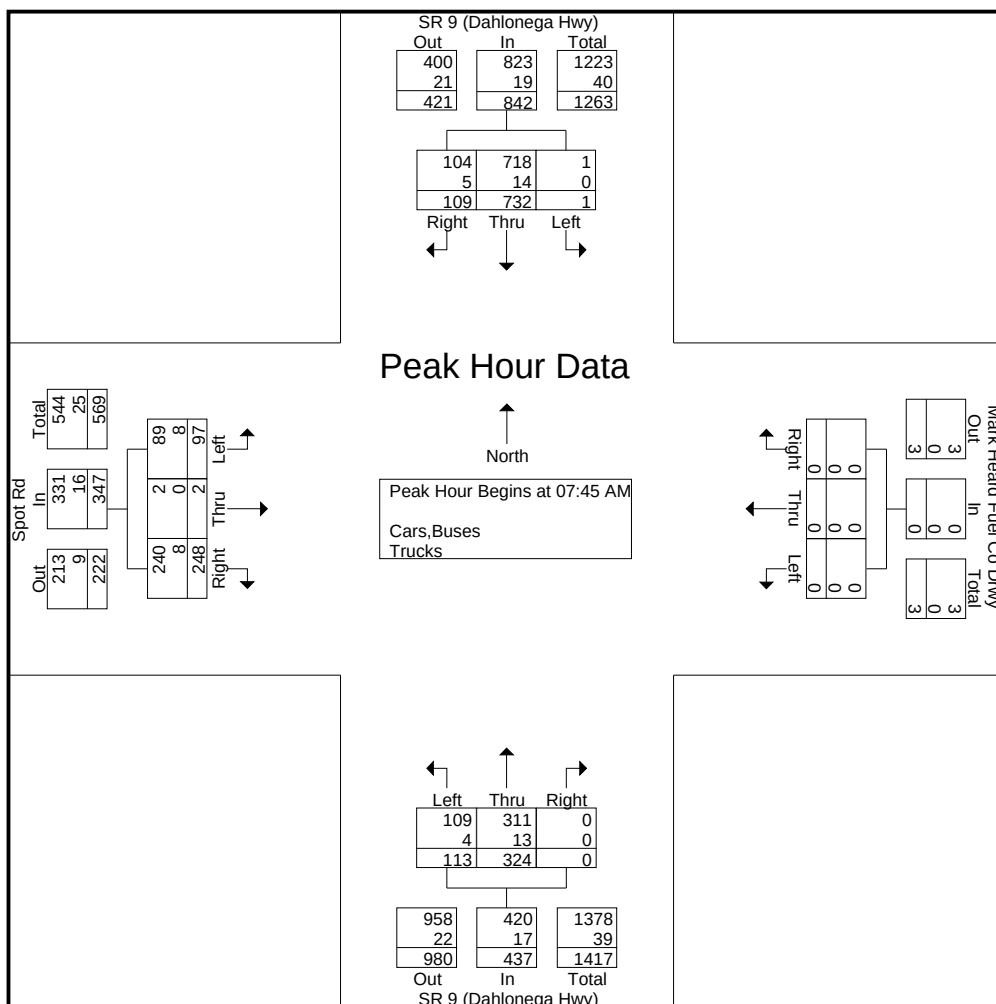
File Name : 20220323

Site Code : 20220323

Start Date : 7/21/2022

Page No : 2

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Spot Rd Eastbound				Mark Heard Fuel Co Drwy 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	26	67	0	93	0	177	31	208	28	1	84	113	0	0	0	0	414
08:00 AM	30	79	0	109	0	183	26	209	18	0	52	70	0	0	0	0	388
08:15 AM	27	87	0	114	0	188	28	216	22	0	52	74	0	0	0	0	404
08:30 AM	30	91	0	121	1	184	24	209	29	1	60	90	0	0	0	0	420
Total Volume	113	324	0	437	1	732	109	842	97	2	248	347	0	0	0	0	1626
% App. Total	25.9	74.1	0		0.1	86.9	12.9		28	0.6	71.5		0	0	0		
PHF	.942	.890	.000	.903	.250	.973	.879	.975	.836	.500	.738	.768	.000	.000	.000	.000	.968
Cars,Buses	109	311	0	420	1	718	104	823	89	2	240	331	0	0	0	0	1574
% Cars,Buses	96.5	96.0	0	96.1	100	98.1	95.4	97.7	91.8	100	96.8	95.4	0	0	0	0	96.8
Trucks	4	13	0	17	0	14	5	19	8	0	8	16	0	0	0	0	52
% Trucks	3.5	4.0	0	3.9	0	1.9	4.6	2.3	8.2	0	3.2	4.6	0	0	0	0	3.2



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2160 Kingston Court, Suite 'O',
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TMC DATA

SR 9 (Dahlonega Hwy) @ Spot Rd

7-9 am | 4-6 pm

File Name : 20220323

Site Code : 20220323

Start Date : 7/21/2022

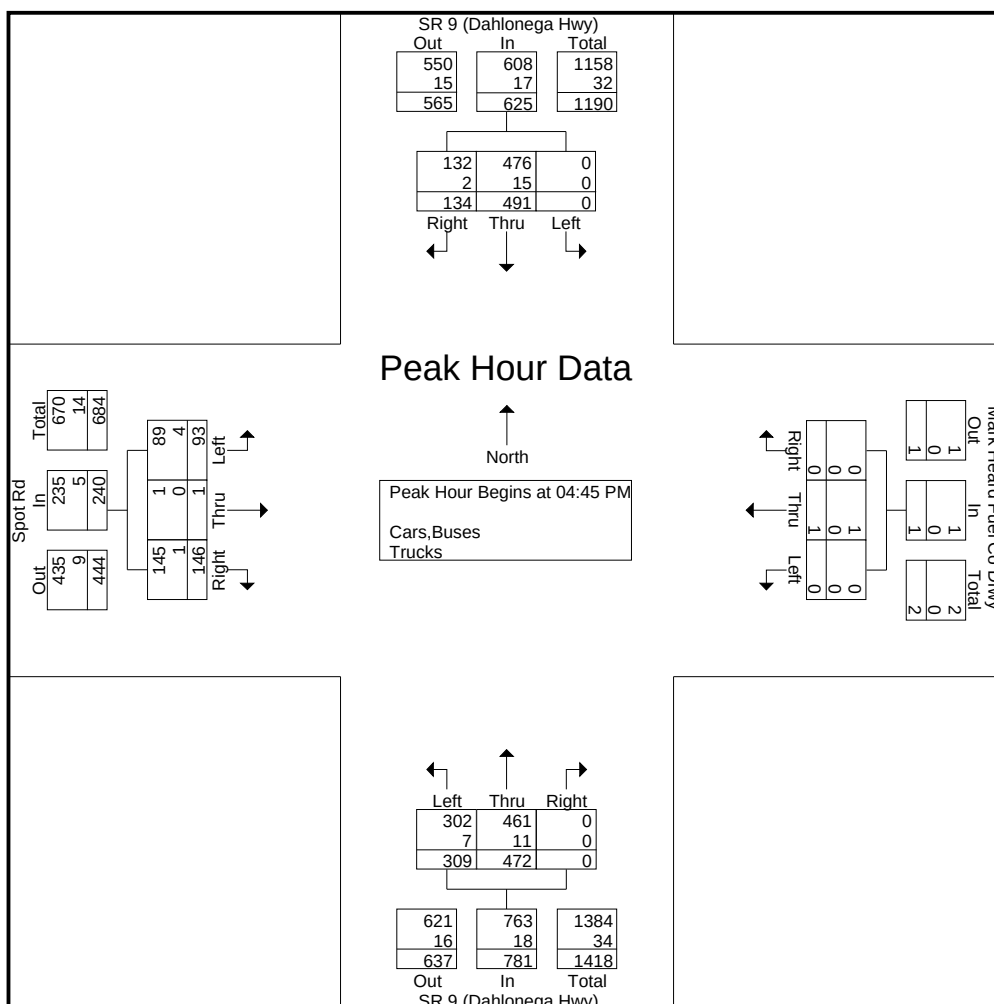
Page No : 3

	SR 9 (Dahlonega Hwy) Northbound				SR 9 (Dahlonega Hwy) Southbound				Spot Rd Eastbound				Mark Heard Fuel Co Drwy 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	74	114	0	188	0	125	27	152	19	1	26	46	0	0	0	0	386
05:00 PM	87	119	0	206	0	130	36	166	23	0	36	59	0	0	0	0	431
05:15 PM	75	126	0	201	0	122	38	160	27	0	36	63	0	0	0	0	424
05:30 PM	73	113	0	186	0	114	33	147	24	0	48	72	0	1	0	1	406
Total Volume	309	472	0	781	0	491	134	625	93	1	146	240	0	1	0	1	1647
% App. Total	39.6	60.4	0		0	78.6	21.4		38.8	0.4	60.8		0	100	0		
PHF	.888	.937	.000	.948	.000	.944	.882	.941	.861	.250	.760	.833	.000	.250	.000	.250	.955
Cars,Buses	302	461	0	763	0	476	132	608	89	1	145	235	0	1	0	1	1607
% Cars,Buses	97.7	97.7	0	97.7	0	96.9	98.5	97.3	95.7	100	99.3	97.9	0	100	0	100	97.6
Trucks	7	11	0	18	0	15	2	17	4	0	1	5	0	0	0	0	40
% Trucks	2.3	2.3	0	2.3	0	3.1	1.5	2.7	4.3	0	0.7	2.1	0	0	0	0	2.4



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TMC DATA

SR 369 (Matt Hwy) @ Coal
mountain Dr
7-9 am | 2-6 pm

File Name : 20190105

Site Code : 20190105

Start Date : 5/23/2019

Page No : 1

Groups Printed- Cars, Trucks & Buses

Start Time	Northbound				Coal Mountain Dr Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt Hwy) Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	3	3	41	156	0	197	0	91	50	141	341
07:15 AM	0	0	0	0	2	0	5	7	46	151	0	197	0	114	67	181	385
07:30 AM	0	0	0	0	10	0	5	15	32	130	0	162	0	118	52	170	347
07:45 AM	0	0	0	0	22	0	14	36	34	123	0	157	0	112	60	172	365
Total	0	0	0	0	34	0	27	61	153	560	0	713	0	435	229	664	1438
08:00 AM	0	0	0	0	8	0	27	35	60	137	0	197	0	100	48	148	380
08:15 AM	0	0	0	0	11	0	19	30	47	139	0	186	0	105	40	145	361
08:30 AM	0	0	0	0	5	0	23	28	79	128	0	207	0	102	43	145	380
08:45 AM	0	0	0	0	10	0	22	32	49	134	0	183	0	104	33	137	352
Total	0	0	0	0	34	0	91	125	235	538	0	773	0	411	164	575	1473
*** BREAK ***																	
02:00 PM	0	0	0	0	15	0	7	22	25	124	0	149	0	143	22	165	336
02:15 PM	0	0	0	0	22	0	16	38	22	120	0	142	0	144	25	169	349
02:30 PM	0	0	0	0	28	0	29	57	31	114	0	145	0	132	35	167	369
02:45 PM	0	0	0	0	35	0	21	56	35	118	0	153	0	119	42	161	370
Total	0	0	0	0	100	0	73	173	113	476	0	589	0	538	124	662	1424
03:00 PM	0	0	0	0	32	0	53	85	39	132	0	171	0	119	48	167	423
03:15 PM	0	0	0	0	42	0	51	93	45	104	0	149	0	143	45	188	430
03:30 PM	0	0	0	0	35	0	36	71	42	102	0	144	0	112	43	155	370
03:45 PM	0	0	0	0	22	0	25	47	38	137	0	175	0	143	38	181	403
Total	0	0	0	0	131	0	165	296	164	475	0	639	0	517	174	691	1626
04:00 PM	0	0	0	0	17	0	32	49	28	142	0	170	0	172	20	192	411
04:15 PM	0	0	0	0	14	0	38	52	18	123	0	141	0	153	12	165	358
04:30 PM	0	0	0	0	7	0	23	30	15	154	0	169	0	161	5	166	365
04:45 PM	0	0	0	0	2	0	14	16	11	165	0	176	0	172	3	175	367
Total	0	0	0	0	40	0	107	147	72	584	0	656	0	658	40	698	1501
05:00 PM	0	0	0	0	3	0	9	12	26	181	0	207	0	168	11	179	398
05:15 PM	0	0	0	0	3	0	4	7	40	177	0	217	0	148	9	157	381
05:30 PM	0	0	0	0	3	0	2	5	22	150	0	172	0	135	6	141	318
05:45 PM	0	0	0	0	0	0	3	3	14	145	0	159	0	149	4	153	315
Total	0	0	0	0	9	0	18	27	102	653	0	755	0	600	30	630	1412
Grand Total	0	0	0	0	348	0	481	829	839	3286	0	4125	0	3159	761	3920	8874
Apprch %	0	0	0		42	0	58		20.3	79.7	0		0	80.6	19.4		
Total %	0	0	0		3.9	0	5.4	9.3	9.5	37	0	46.5	0	35.6	8.6	44.2	

A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ Coal

mountain Dr

7-9 am | 2-6 pm

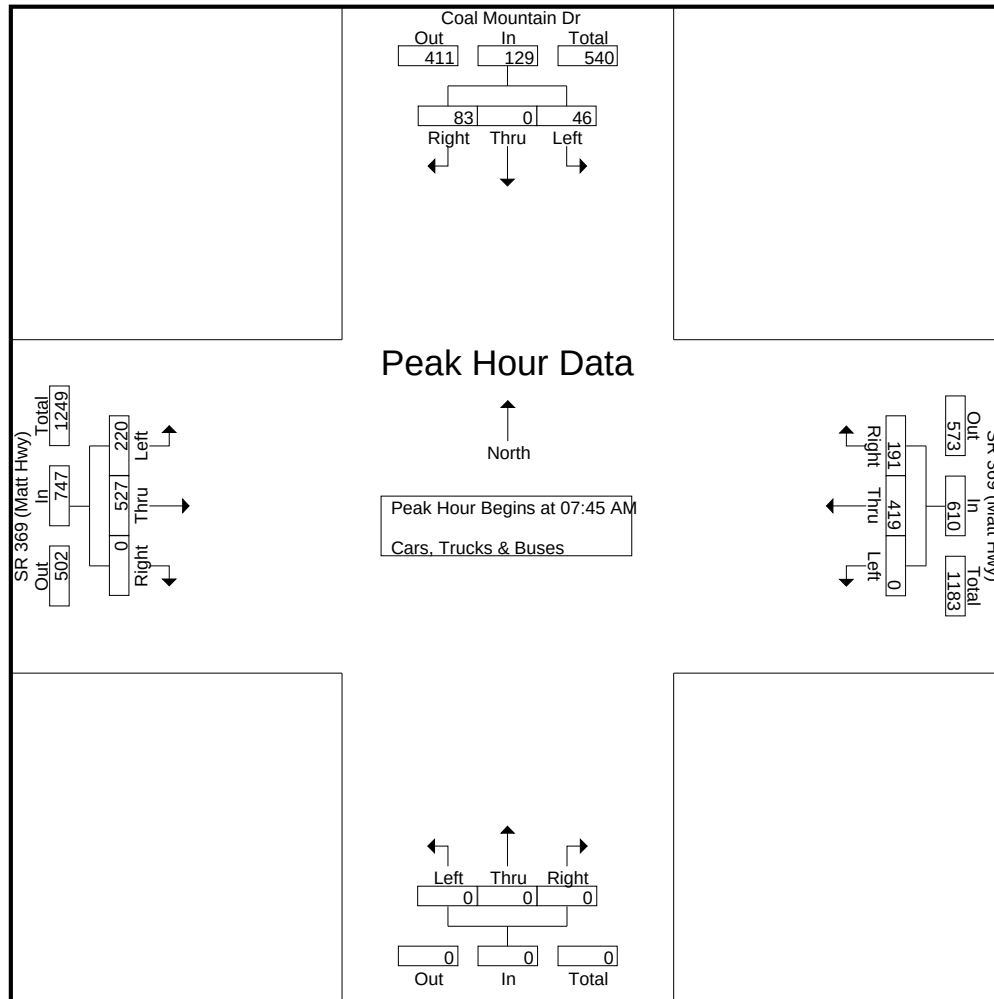
File Name : 20190105

Site Code : 20190105

Start Date : 5/23/2019

Page No : 2

	Northbound				Coal Mountain Dr Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 10:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	22	0	14	36	34	123	0	157	0	112	60	172	365
08:00 AM	0	0	0	0	8	0	27	35	60	137	0	197	0	100	48	148	380
08:15 AM	0	0	0	0	11	0	19	30	47	139	0	186	0	105	40	145	361
08:30 AM	0	0	0	0	5	0	23	28	79	128	0	207	0	102	43	145	380
Total Volume	0	0	0	0	46	0	83	129	220	527	0	747	0	419	191	610	1486
% App. Total	0	0	0	0	35.7	0	64.3		29.5	70.5	0		0	68.7	31.3		
PHF	.000	.000	.000	.000	.523	.000	.769	.896	.696	.948	.000	.902	.000	.935	.796	.887	.978



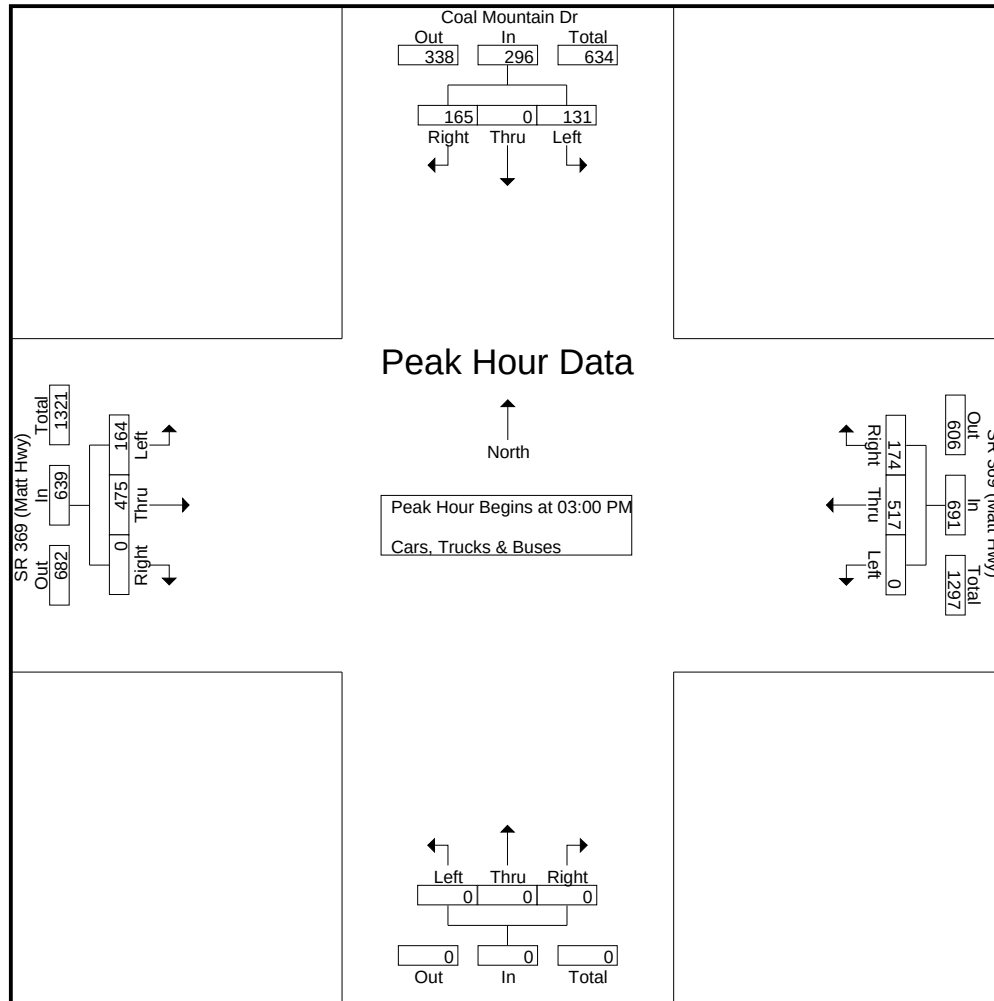
A&R Engineering, Inc.

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Marietta, GA 30067

TMC DATA
SR 369 (Matt Hwy) @ Coal
mountain Dr
7-9 am | 2-6 pm

File Name : 20190105
Site Code : 20190105
Start Date : 5/23/2019
Page No : 3

	Northbound				Coal Mountain Dr Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 11:00 AM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	0	0	0	0	32	0	53	85	39	132	0	171	0	119	48	167	423
03:15 PM	0	0	0	0	42	0	51	93	45	104	0	149	0	143	45	188	430
03:30 PM	0	0	0	0	35	0	36	71	42	102	0	144	0	112	43	155	370
03:45 PM	0	0	0	0	22	0	25	47	38	137	0	175	0	143	38	181	403
Total Volume	0	0	0	0	131	0	165	296	164	475	0	639	0	517	174	691	1626
% App. Total	0	0	0		44.3	0	55.7		25.7	74.3	0		0	74.8	25.2		
PHF	.000	.000	.000	.000	.780	.000	.778	.796	.911	.867	.000	.913	.000	.904	.906	.919	.945



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TMC DATA

SR 369 (Matt Hwy) @ Coal
mountain Dr
7-9 am | 2-6 pm

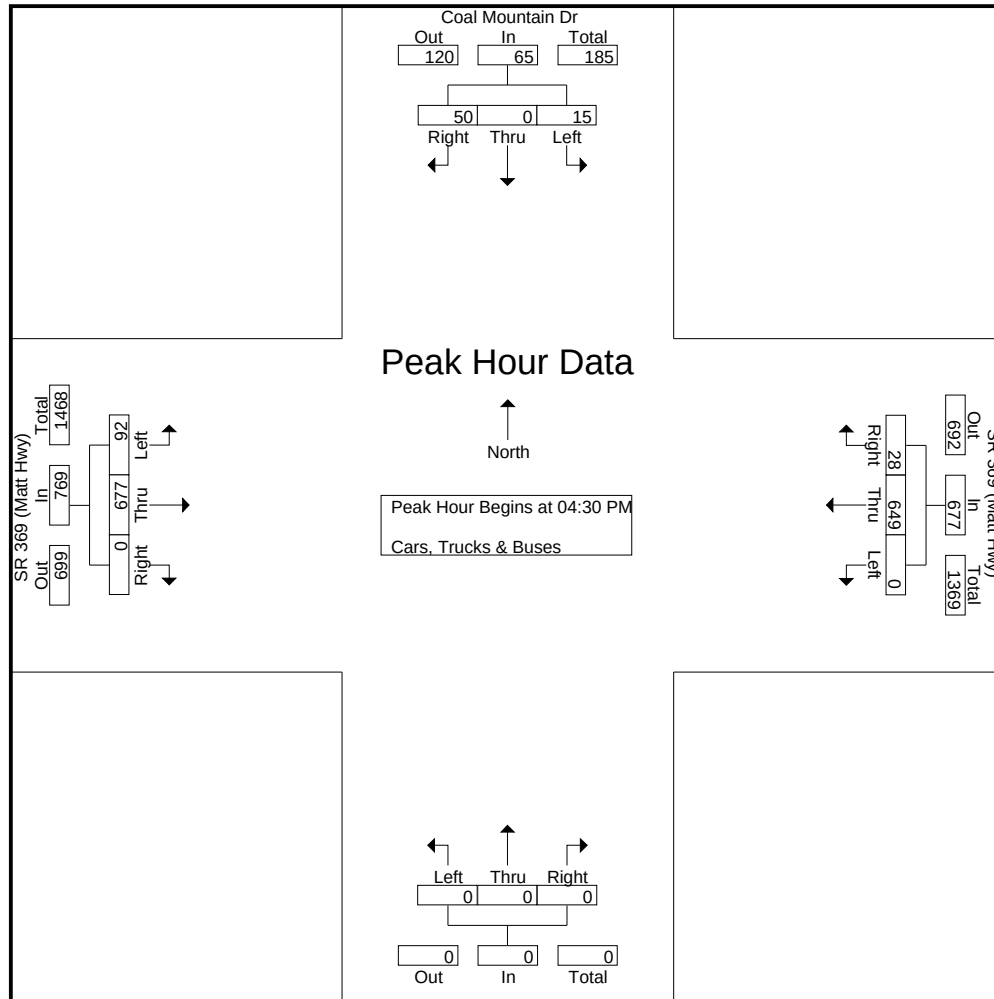
File Name : 20190105

Site Code : 20190105

Start Date : 5/23/2019

Page No : 4

	Northbound				Coal Mountain Dr Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 04:30 PM																	
04:30 PM	0	0	0	0	7	0	23	30	15	154	0	169	0	161	5	166	365
04:45 PM	0	0	0	0	2	0	14	16	11	165	0	176	0	172	3	175	367
05:00 PM	0	0	0	0	3	0	9	12	26	181	0	207	0	168	11	179	398
05:15 PM	0	0	0	0	3	0	4	7	40	177	0	217	0	148	9	157	381
Total Volume	0	0	0	0	15	0	50	65	92	677	0	769	0	649	28	677	1511
% App. Total	0	0	0		23.1	0	76.9		12	88	0		0	95.9	4.1		
PHF	.000	.000	.000	.000	.536	.000	.543	.542	.575	.935	.000	.886	.000	.943	.636	.946	.949



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

TMC DATA
SR 369 @ Sierra Lake Dr
7-9 am | 4-6 pm

File Name : 20220321
Site Code : 20220321
Start Date : 7/21/2022
Page No : 1

Groups Printed- Cars,Buses - Trucks

	Sierra Lake Dr Northbound				Southbound				SR 369 Eastbound				SR 369 Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	2	2	0	0	0	0	0	155	0	155	1	86	0	87	244
07:15 AM	0	0	1	1	0	0	0	0	0	123	0	123	3	57	0	60	184
07:30 AM	1	0	1	2	0	0	0	0	0	123	0	123	3	50	0	53	178
07:45 AM	0	0	5	5	0	0	0	0	0	156	0	156	1	75	0	76	237
Total	1	0	9	10	0	0	0	0	0	557	0	557	8	268	0	276	843
08:00 AM	1	0	5	6	0	0	0	0	0	123	0	123	0	70	0	70	199
08:15 AM	0	0	6	6	0	0	0	0	0	132	0	132	0	88	0	88	226
08:30 AM	0	0	4	4	0	0	0	0	0	144	1	145	4	102	0	106	255
08:45 AM	1	0	0	1	0	0	0	0	0	137	0	137	5	87	0	92	230
Total	2	0	15	17	0	0	0	0	0	536	1	537	9	347	0	356	910
*** BREAK ***																	
04:00 PM	1	0	3	4	0	0	0	0	0	120	0	120	2	159	0	161	285
04:15 PM	2	0	3	5	0	0	0	0	0	142	2	144	2	144	0	146	295
04:30 PM	0	0	3	3	0	0	0	0	0	146	1	147	5	157	0	162	312
04:45 PM	0	0	4	4	0	0	0	0	0	159	3	162	4	131	0	135	301
Total	3	0	13	16	0	0	0	0	0	567	6	573	13	591	0	604	1193
05:00 PM	0	0	3	3	0	0	0	0	0	130	0	130	1	166	0	167	300
05:15 PM	0	0	2	2	0	0	0	0	0	160	0	160	1	156	0	157	319
05:30 PM	0	0	4	4	0	0	0	0	0	154	5	159	1	142	0	143	306
05:45 PM	0	0	5	5	0	0	0	0	0	182	0	182	5	145	0	150	337
Total	0	0	14	14	0	0	0	0	0	626	5	631	8	609	0	617	1262
Grand Total	6	0	51	57	0	0	0	0	0	2286	12	2298	38	1815	0	1853	4208
Apprch %	10.5	0	89.5		0	0	0		0	99.5	0.5		2.1	97.9	0		
Total %	0.1	0	1.2	1.4	0	0	0	0	0	54.3	0.3	54.6	0.9	43.1	0	44	
Cars,Buses	6	0	49	55	0	0	0	0	0	2163	12	2175	35	1693	0	1728	3958
% Cars,Buses	100	0	96.1	96.5	0	0	0	0	0	94.6	100	94.6	92.1	93.3	0	93.3	94.1
Trucks	0	0	2	2	0	0	0	0	0	123	0	123	3	122	0	125	250
% Trucks	0	0	3.9	3.5	0	0	0	0	0	5.4	0	5.4	7.9	6.7	0	6.7	5.9

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TMC DATA

SR 369 @ Sierra Lake Dr

7-9 am | 4-6 pm

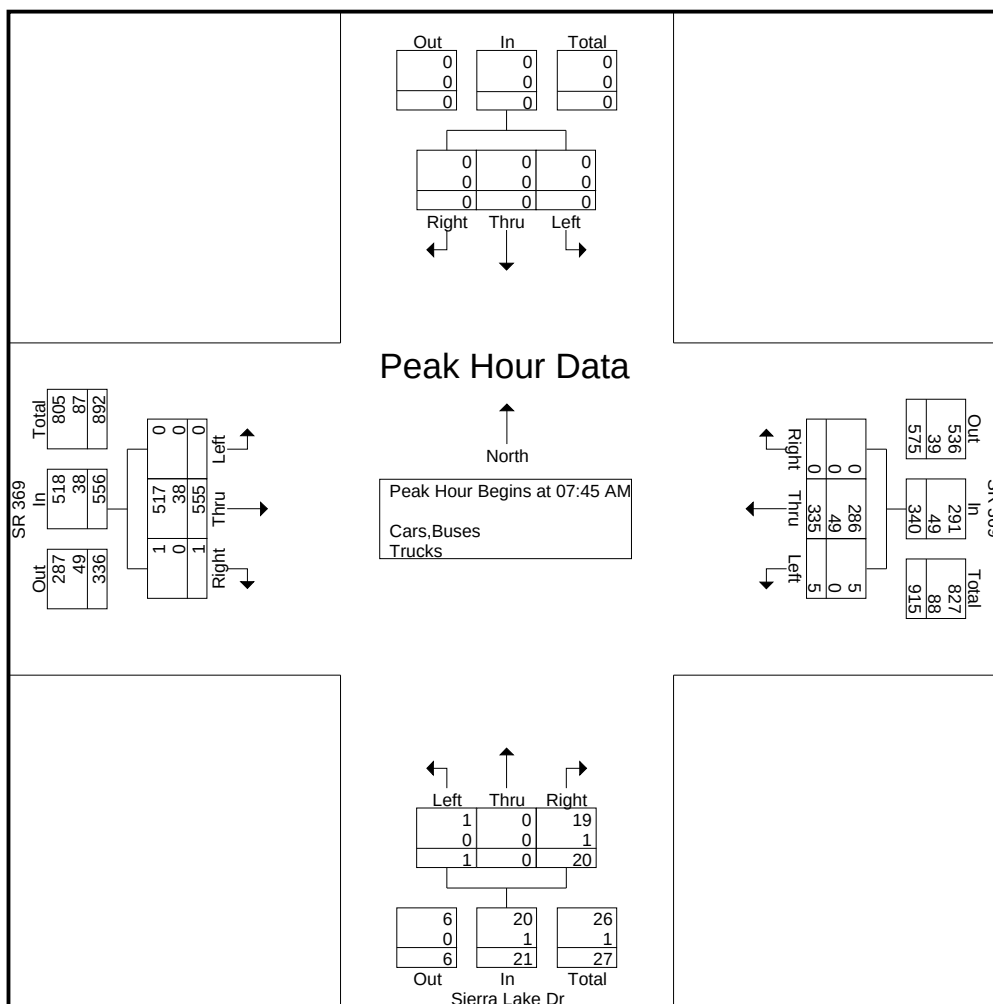
File Name : 20220321

Site Code : 20220321

Start Date : 7/21/2022

Page No : 2

	Sierra Lake Dr Northbound				Southbound				SR 369 Eastbound				SR 369 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	0	5	5	0	0	0	0	0	156	0	156	1	75	0	76	237
08:00 AM	1	0	5	6	0	0	0	0	0	123	0	123	0	70	0	70	199
08:15 AM	0	0	6	6	0	0	0	0	0	132	0	132	0	88	0	88	226
08:30 AM	0	0	4	4	0	0	0	0	0	144	1	145	4	102	0	106	255
Total Volume	1	0	20	21	0	0	0	0	0	555	1	556	5	335	0	340	917
% App. Total	4.8	0	95.2		0	0	0		0	99.8	0.2		1.5	98.5	0		
PHF	.250	.000	.833	.875	.000	.000	.000	.000	.000	.889	.250	.891	.313	.821	.000	.802	.899
Cars,Buses	1	0	19	20	0	0	0	0	0	517	1	518	5	286	0	291	829
% Cars,Buses	100	0	95.0	95.2	0	0	0	0	0	93.2	100	93.2	100	85.4	0	85.6	90.4
Trucks	0	0	1	1	0	0	0	0	0	38	0	38	0	49	0	49	88
% Trucks	0	0	5.0	4.8	0	0	0	0	0	6.8	0	6.8	0	14.6	0	14.4	9.6



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Marietta, GA 30067

TMC DATA

SR 369 @ Sierra Lake Dr

7-9 am | 4-6 pm

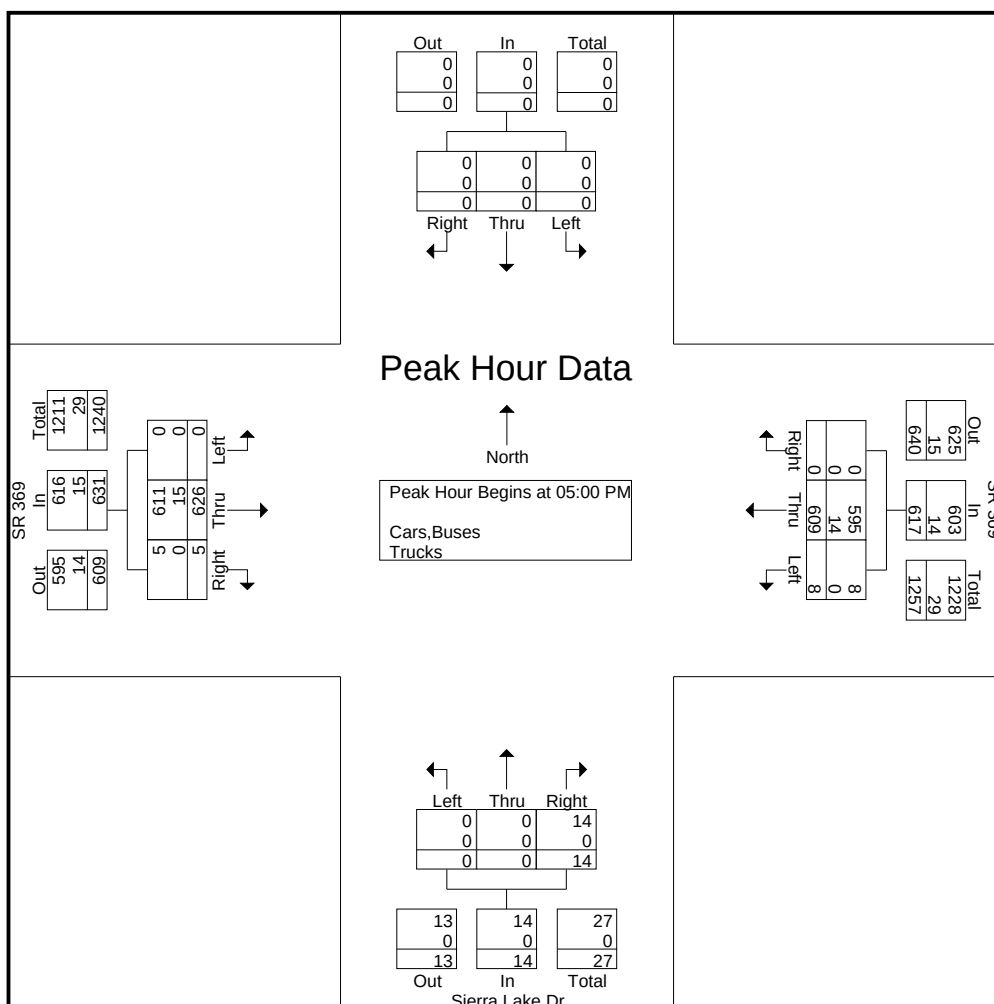
File Name : 20220321

Site Code : 20220321

Start Date : 7/21/2022

Page No : 3

	Sierra Lake Dr Northbound				Southbound				SR 369 Eastbound				SR 369 Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	3	3	0	0	0	0	0	130	0	130	1	166	0	167	300
05:15 PM	0	0	2	2	0	0	0	0	0	160	0	160	1	156	0	157	319
05:30 PM	0	0	4	4	0	0	0	0	0	154	5	159	1	142	0	143	306
05:45 PM	0	0	5	5	0	0	0	0	0	182	0	182	5	145	0	150	337
Total Volume	0	0	14	14	0	0	0	0	0	626	5	631	8	609	0	617	1262
% App. Total	0	0	100		0	0	0		0	99.2	0.8		1.3	98.7	0		
PHF	.000	.000	.700	.700	.000	.000	.000	.000	.000	.860	.250	.867	.400	.917	.000	.924	.936
Cars,Buses	0	0	14	14	0	0	0	0	0	611	5	616	8	595	0	603	1233
% Cars,Buses	0	0	100	100	0	0	0	0	0	97.6	100	97.6	100	97.7	0	97.7	97.7
Trucks	0	0	0	0	0	0	0	0	0	15	0	15	0	14	0	14	29
% Trucks	0	0	0	0	0	0	0	0	0	2.4	0	2.4	0	2.3	0	2.3	2.3



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ North

Transportation Center Drwy

7 am | 7 pm

File Name : 20190104

Site Code : 20190104

Start Date : 5/23/2019

Page No : 1

Groups Printed- Cars, Trucks & Buses

	Northbound				North Transportation Center Drwy Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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	0	0	0	0	0	0	0	0	11	197	0	208	0	94	0	94	302
07:15 AM	0	0	0	0	1	0	1	2	69	197	0	266	0	109	10	119	387
07:30 AM	0	0	0	0	0	0	8	8	49	162	0	211	0	102	21	123	342
07:45 AM	0	0	0	0	0	0	16	16	42	157	0	199	0	118	8	126	341
Total	0	0	0	0	1	0	25	26	171	713	0	884	0	423	39	462	1372
08:00 AM	0	0	0	0	1	0	17	18	58	196	0	254	0	116	11	127	399
08:15 AM	0	0	0	0	0	0	29	29	36	189	0	225	0	109	15	124	378
08:30 AM	0	0	0	0	2	0	18	20	6	205	0	211	0	115	10	125	356
08:45 AM	0	0	0	0	3	0	16	19	11	180	0	191	0	111	15	126	336
Total	0	0	0	0	6	0	80	86	111	770	0	881	0	451	51	502	1469
09:00 AM	0	0	0	0	3	0	19	22	6	125	0	131	0	120	7	127	280
09:15 AM	0	0	0	0	1	0	8	9	2	155	0	157	0	101	2	103	269
09:30 AM	0	0	0	0	1	0	1	2	3	175	0	178	0	95	0	95	275
09:45 AM	0	0	0	0	1	0	1	2	7	164	0	171	0	119	0	119	292
Total	0	0	0	0	6	0	29	35	18	619	0	637	0	435	9	444	1116
10:00 AM	0	0	0	0	12	0	20	32	11	156	0	167	0	147	6	153	352
10:15 AM	0	0	0	0	5	0	7	12	13	128	0	141	0	129	10	139	292
10:30 AM	0	0	0	0	2	0	3	5	5	143	0	148	0	128	7	135	288
10:45 AM	0	0	0	0	2	0	6	8	4	119	0	123	0	116	10	126	257
Total	0	0	0	0	21	0	36	57	33	546	0	579	0	520	33	553	1189
11:00 AM	0	0	0	0	2	0	6	8	13	167	0	180	0	125	13	138	326
11:15 AM	0	0	0	0	4	0	9	13	17	156	0	173	0	146	3	149	335
11:30 AM	0	0	0	0	1	0	6	7	1	137	0	138	0	102	3	105	250
11:45 AM	0	0	0	0	5	0	0	5	2	135	0	137	0	131	4	135	277
Total	0	0	0	0	12	0	21	33	33	595	0	628	0	504	23	527	1188
12:00 PM	0	0	0	0	3	0	3	6	9	137	0	146	0	148	6	154	306
12:15 PM	0	0	0	0	4	0	10	14	4	152	0	156	0	124	8	132	302
12:30 PM	0	0	0	0	5	0	11	16	11	161	0	172	0	131	7	138	326
12:45 PM	0	0	0	0	1	0	10	11	11	153	0	164	0	152	6	158	333
Total	0	0	0	0	13	0	34	47	35	603	0	638	0	555	27	582	1267
01:00 PM	0	0	0	0	26	0	66	92	10	126	0	136	0	199	8	207	435
01:15 PM	0	0	0	0	5	0	20	25	15	125	0	140	0	135	5	140	305
01:30 PM	0	0	0	0	3	0	4	7	4	134	0	138	0	127	4	131	276
01:45 PM	0	0	0	0	1	0	5	6	4	147	0	151	0	166	6	172	329
Total	0	0	0	0	35	0	95	130	33	532	0	565	0	627	23	650	1345
02:00 PM	0	0	0	0	5	0	10	15	5	144	0	149	0	147	3	150	314
02:15 PM	0	0	0	0	5	0	9	14	6	137	0	143	0	159	1	160	317
02:30 PM	0	0	0	0	1	0	10	11	7	112	0	119	0	161	0	161	291
02:45 PM	0	0	0	0	2	0	6	8	1	151	0	152	0	138	2	140	300
Total	0	0	0	0	13	0	35	48	19	544	0	563	0	605	6	611	1222
03:00 PM	0	0	0	0	0	0	7	7	14	171	0	185	0	171	1	172	364
03:15 PM	0	0	0	0	0	0	7	7	2	149	0	151	0	193	1	194	352

A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ North

Transportation Center Drwy

7 am | 7 pm

File Name : 20190104

Site Code : 20190104

Start Date : 5/23/2019

Page No : 2

Groups Printed- Cars, Trucks & Buses

	Northbound				North Transportation Center Drwy Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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
03:30 PM	0	0	0	0	3	0	10	13	4	141	0	145	0	148	0	148	306
03:45 PM	0	0	0	0	0	0	8	8	6	175	0	181	0	165	3	168	357
Total	0	0	0	0	3	0	32	35	26	636	0	662	0	677	5	682	1379
04:00 PM	0	0	0	0	1	0	4	5	9	177	0	186	0	202	2	204	395
04:15 PM	0	0	0	0	0	0	27	27	8	149	0	157	0	191	0	191	375
04:30 PM	0	0	0	0	0	0	36	36	2	169	0	171	0	184	0	184	391
04:45 PM	0	0	0	0	0	0	8	8	4	176	0	180	0	181	5	186	374
Total	0	0	0	0	1	0	75	76	23	671	0	694	0	758	7	765	1535
05:00 PM	0	0	0	0	1	0	4	5	14	206	0	220	0	176	1	177	402
05:15 PM	0	0	0	0	1	0	8	9	10	216	0	226	0	148	4	152	387
05:30 PM	0	0	0	0	1	0	5	6	7	171	0	178	0	135	2	137	321
05:45 PM	0	0	0	0	1	0	3	4	4	158	0	162	0	151	1	152	318
Total	0	0	0	0	4	0	20	24	35	751	0	786	0	610	8	618	1428
06:00 PM	0	0	0	0	0	0	3	3	1	163	0	164	0	160	1	161	328
06:15 PM	0	0	0	0	0	0	2	2	4	158	0	162	0	158	0	158	322
06:30 PM	0	0	0	0	1	0	4	5	1	165	0	166	0	161	0	161	332
06:45 PM	0	0	0	0	0	0	9	9	0	86	0	86	0	125	0	125	220
Total	0	0	0	0	1	0	18	19	6	572	0	578	0	604	1	605	1202
Grand Total	0	0	0	0	116	0	500	616	543	7552	0	8095	0	6769	232	7001	15712
Apprch %	0	0	0		18.8	0	81.2		6.7	93.3	0		0	96.7	3.3		
Total %	0	0	0	0	0.7	0	3.2	3.9	3.5	48.1	0	51.5	0	43.1	1.5	44.6	

A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ North

Transportation Center Drwy

7 am | 7 pm

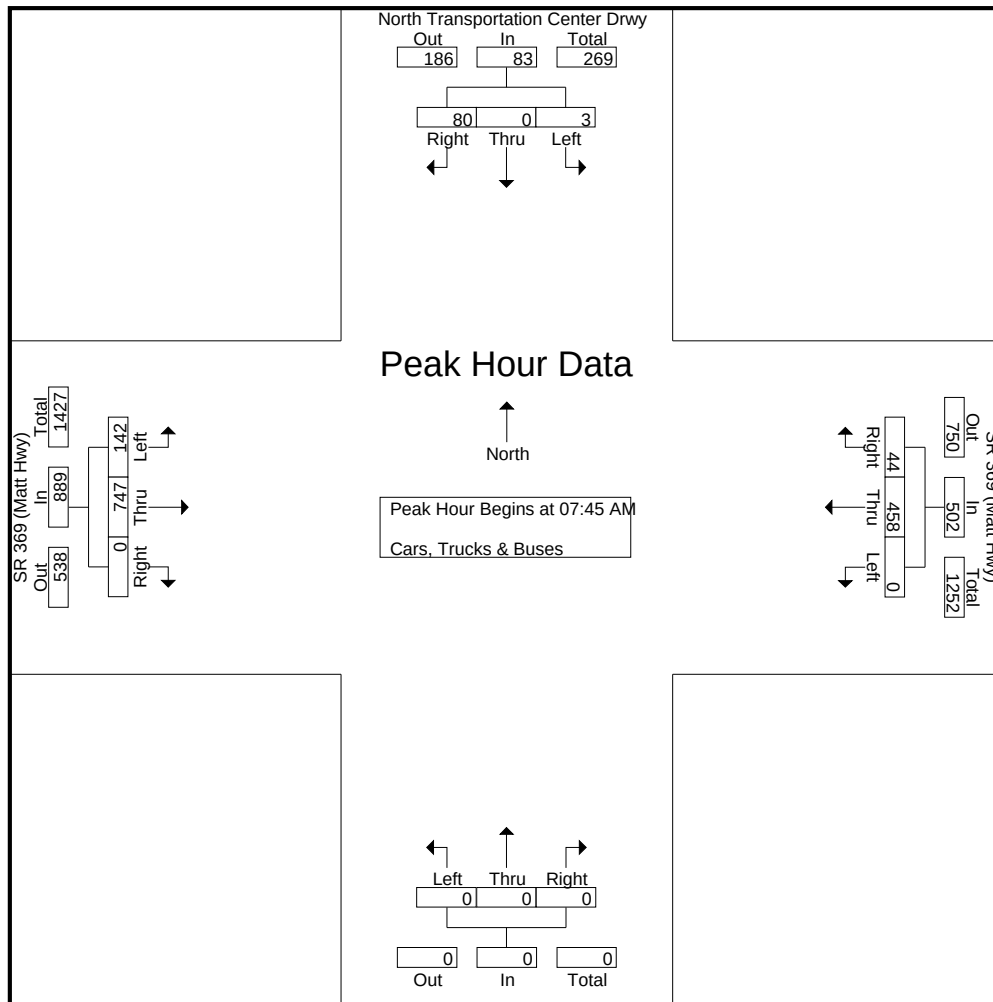
File Name : 20190104

Site Code : 20190104

Start Date : 5/23/2019

Page No : 3

	Northbound				North Transportation Center Drwy Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 10:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	0	16	16	42	157	0	199	0	118	8	126	341
08:00 AM	0	0	0	0	1	0	17	18	58	196	0	254	0	116	11	127	399
08:15 AM	0	0	0	0	0	0	29	29	36	189	0	225	0	109	15	124	378
08:30 AM	0	0	0	0	2	0	18	20	6	205	0	211	0	115	10	125	356
Total Volume	0	0	0	0	3	0	80	83	142	747	0	889	0	458	44	502	1474
% App. Total	0	0	0		3.6	0	96.4		16	84	0		0	91.2	8.8		
PHF	.000	.000	.000	.000	.375	.000	.690	.716	.612	.911	.000	.875	.000	.970	.733	.988	.924



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TMC DATA

SR 369 (Matt Hwy) @ North

Transportation Center Drwy

7 am | 7 pm

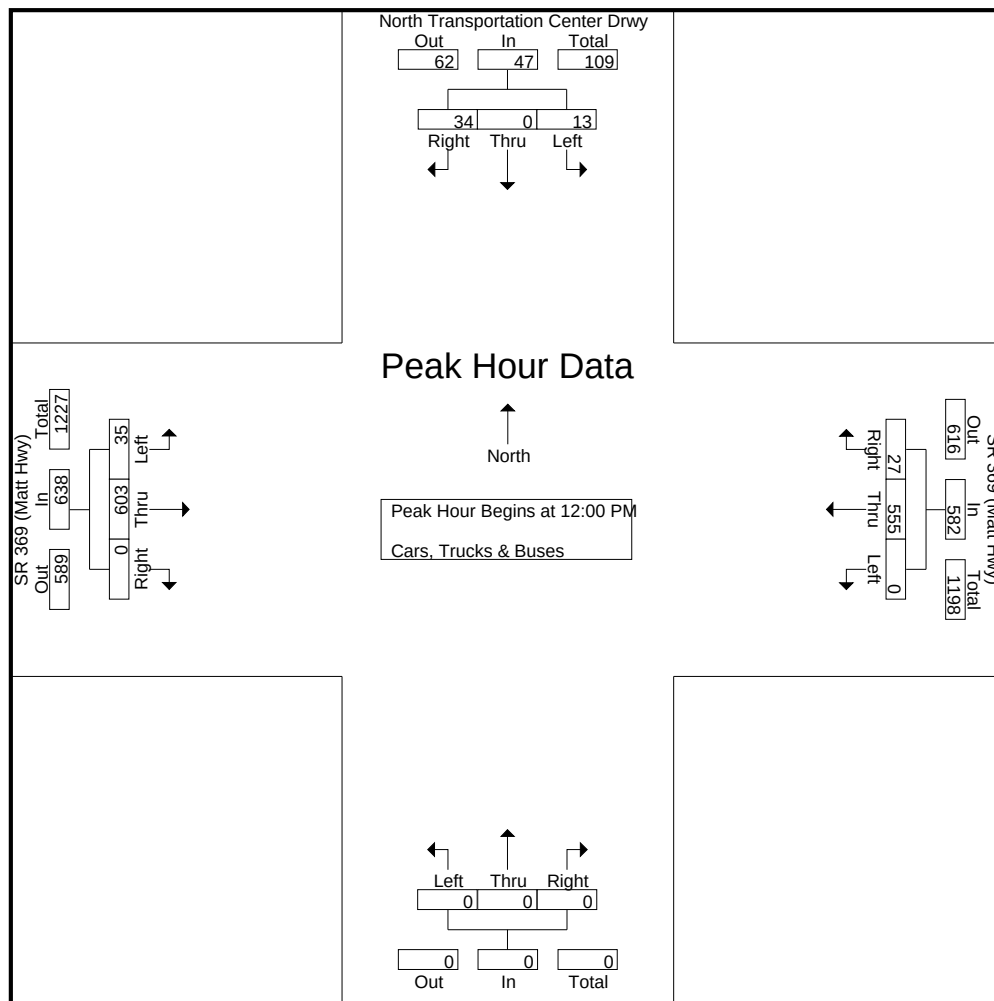
File Name : 20190104

Site Code : 20190104

Start Date : 5/23/2019

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	Northbound				North Transportation Center Drwy Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 11:00 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	3	0	3	6	9	137	0	146	0	148	6	154	306
12:15 PM	0	0	0	0	4	0	10	14	4	152	0	156	0	124	8	132	302
12:30 PM	0	0	0	0	5	0	11	16	11	161	0	172	0	131	7	138	326
12:45 PM	0	0	0	0	1	0	10	11	11	153	0	164	0	152	6	158	333
Total Volume	0	0	0	0	13	0	34	47	35	603	0	638	0	555	27	582	1267
% App. Total	0	0	0		27.7	0	72.3		5.5	94.5	0		0	95.4	4.6		
PHF	.000	.000	.000	.000	.650	.000	.773	.734	.795	.936	.000	.927	.000	.913	.844	.921	.951



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ North

Transportation Center Drwy

7 am | 7 pm

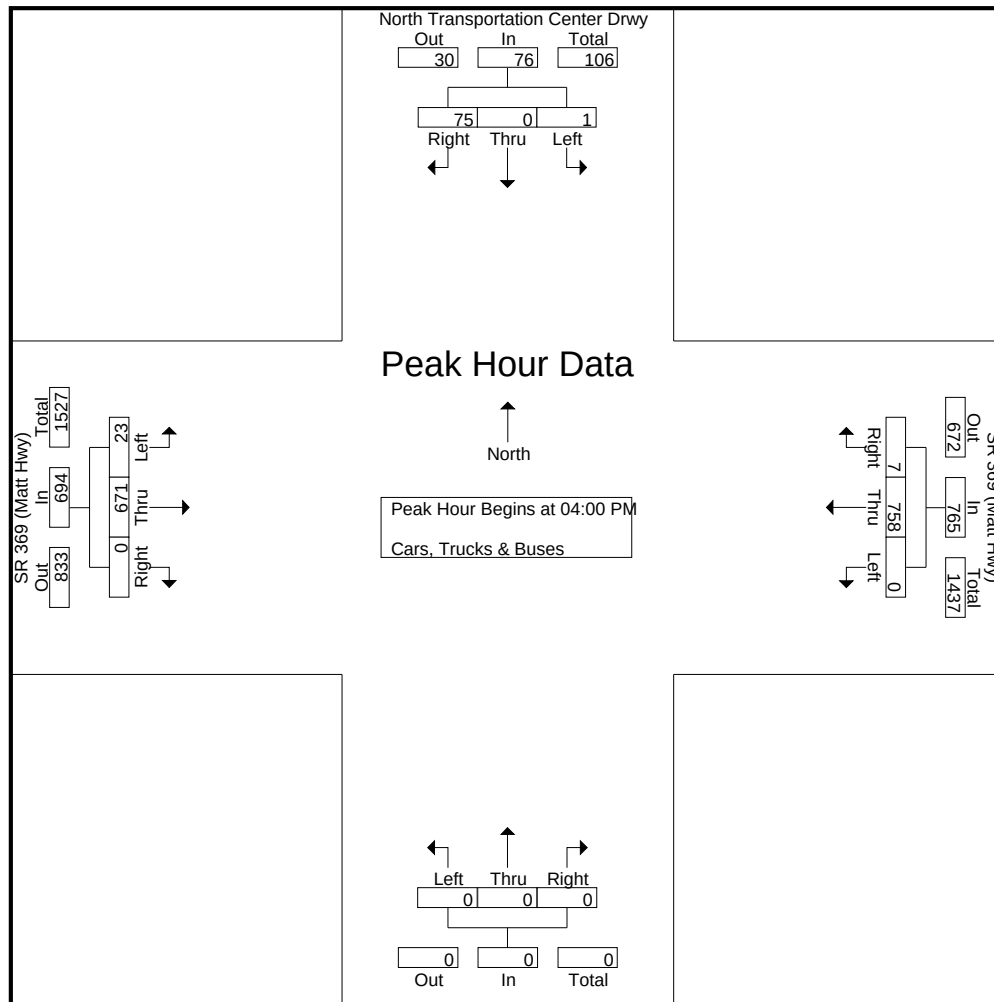
File Name : 20190104

Site Code : 20190104

Start Date : 5/23/2019

Page No : 5

	Northbound				North Transportation Center Drwy Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 01:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	1	0	4	5	9	177	0	186	0	202	2	204	395
04:15 PM	0	0	0	0	0	0	27	27	8	149	0	157	0	191	0	191	375
04:30 PM	0	0	0	0	0	0	36	36	2	169	0	171	0	184	0	184	391
04:45 PM	0	0	0	0	0	0	8	8	4	176	0	180	0	181	5	186	374
Total Volume	0	0	0	0	1	0	75	76	23	671	0	694	0	758	7	765	1535
% App. Total	0	0	0		1.3	0	98.7		3.3	96.7	0		0	99.1	0.9		
PHF	.000	.000	.000	.000	.250	.000	.521	.528	.639	.948	.000	.933	.000	.938	.350	.938	.972



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ Gravitt Rd

7 am | 7 pm

File Name : 20190103

Site Code : 20190103

Start Date : 5/23/2019

Page No : 1

Groups Printed- Cars, Trucks & Buses

Start Time	Gravitt Rd Northbound				Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt Hwy) Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	0	31	34	0	0	0	0	0	177	35	212	13	81	0	94	340
07:15 AM	7	0	31	38	0	0	0	0	0	235	76	311	34	76	0	110	459
07:30 AM	3	0	13	16	0	0	0	0	0	198	66	264	30	80	0	110	390
07:45 AM	8	0	22	30	0	0	0	0	0	177	55	232	40	94	0	134	396
Total	21	0	97	118	0	0	0	0	0	787	232	1019	117	331	0	448	1585
08:00 AM	5	0	28	33	0	0	0	0	0	226	33	259	20	113	0	133	425
08:15 AM	2	0	17	19	0	0	0	0	0	208	31	239	14	124	0	138	396
08:30 AM	6	0	18	24	0	0	0	0	0	193	20	213	25	108	0	133	370
08:45 AM	0	0	31	31	0	0	0	0	0	160	12	172	17	110	0	127	330
Total	13	0	94	107	0	0	0	0	0	787	96	883	76	455	0	531	1521
09:00 AM	8	0	9	17	0	0	0	0	0	122	4	126	15	124	0	139	282
09:15 AM	3	0	10	13	0	0	0	0	0	147	12	159	10	99	0	109	281
09:30 AM	5	0	15	20	0	0	0	0	0	163	5	168	7	89	0	96	284
09:45 AM	9	0	13	22	0	0	0	0	0	158	4	162	10	110	0	120	304
Total	25	0	47	72	0	0	0	0	0	590	25	615	42	422	0	464	1151
10:00 AM	4	0	17	21	0	0	0	0	0	150	8	158	35	132	0	167	346
10:15 AM	0	0	7	7	0	0	0	0	0	134	17	151	19	117	0	136	294
10:30 AM	3	0	9	12	0	0	0	0	0	139	8	147	9	122	0	131	290
10:45 AM	7	0	14	21	0	0	0	0	0	109	5	114	9	113	0	122	257
Total	14	0	47	61	0	0	0	0	0	532	38	570	72	484	0	556	1187
11:00 AM	9	0	14	23	0	0	0	0	0	166	4	170	14	117	0	131	324
11:15 AM	5	0	19	24	0	0	0	0	0	154	5	159	15	140	0	155	338
11:30 AM	5	0	12	17	0	0	0	0	0	126	3	129	7	101	0	108	254
11:45 AM	7	0	11	18	0	0	0	0	0	126	7	133	5	126	0	131	282
Total	26	0	56	82	0	0	0	0	0	572	19	591	41	484	0	525	1198
12:00 PM	6	0	6	12	0	0	0	0	0	140	1	141	14	137	0	151	304
12:15 PM	6	0	15	21	0	0	0	0	0	141	7	148	13	121	0	134	303
12:30 PM	5	0	15	20	0	0	0	0	0	157	5	162	11	131	0	142	324
12:45 PM	7	0	14	21	0	0	0	0	0	150	12	162	12	150	0	162	345
Total	24	0	50	74	0	0	0	0	0	588	25	613	50	539	0	589	1276
01:00 PM	2	0	14	16	0	0	0	0	0	122	9	131	37	228	0	265	412
01:15 PM	5	0	7	12	0	0	0	0	0	133	10	143	13	142	0	155	310
01:30 PM	3	0	12	15	0	0	0	0	0	126	9	135	9	122	0	131	281
01:45 PM	7	0	14	21	0	0	0	0	0	137	7	144	19	152	0	171	336
Total	17	0	47	64	0	0	0	0	0	518	35	553	78	644	0	722	1339
02:00 PM	7	0	16	23	0	0	0	0	0	133	13	146	15	142	0	157	326
02:15 PM	8	0	9	17	0	0	0	0	0	134	10	144	21	147	0	168	329
02:30 PM	11	0	15	26	0	0	0	0	0	119	6	125	15	156	0	171	322
02:45 PM	9	0	15	24	0	0	0	0	0	137	10	147	13	131	0	144	315
Total	35	0	55	90	0	0	0	0	0	523	39	562	64	576	0	640	1292
03:00 PM	12	0	25	37	0	0	0	0	0	160	19	179	16	162	0	178	394
03:15 PM	9	0	12	21	0	0	0	0	0	139	17	156	18	182	0	200	377
03:30 PM	23	0	11	34	0	0	0	0	0	134	9	143	11	147	0	158	335

A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ Gravitt Rd

7 am | 7 pm

File Name : 20190103

Site Code : 20190103

Start Date : 5/23/2019

Page No : 2

Groups Printed- Cars, Trucks & Buses

	Gravitt Rd Northbound				Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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
03:45 PM	17	0	16	33	0	0	0	0	0	165	6	171	21	152	0	173	377
Total	61	0	64	125	0	0	0	0	0	598	51	649	66	643	0	709	1483
04:00 PM	22	0	21	43	0	0	0	0	0	165	11	176	26	180	0	206	425
04:15 PM	24	0	25	49	0	0	0	0	0	132	10	142	20	198	0	218	409
04:30 PM	36	0	24	60	0	0	0	0	0	147	11	158	25	195	0	220	438
04:45 PM	40	0	35	75	0	0	0	0	0	145	10	155	23	166	0	189	419
Total	122	0	105	227	0	0	0	0	0	589	42	631	94	739	0	833	1691
05:00 PM	39	0	43	82	0	0	0	0	0	177	7	184	14	166	0	180	446
05:15 PM	36	0	41	77	0	0	0	0	0	183	5	188	11	145	0	156	421
05:30 PM	31	0	30	61	0	0	0	0	0	148	9	157	10	130	0	140	358
05:45 PM	32	0	23	55	0	0	0	0	0	139	4	143	15	139	0	154	352
Total	138	0	137	275	0	0	0	0	0	647	25	672	50	580	0	630	1577
06:00 PM	25	0	26	51	0	0	0	0	0	138	10	148	13	150	0	163	362
06:15 PM	23	0	21	44	0	0	0	0	0	141	11	152	17	143	0	160	356
06:30 PM	20	0	19	39	0	0	0	0	0	147	8	155	9	156	0	165	359
06:45 PM	14	0	11	25	0	0	0	0	0	75	8	83	10	124	0	134	242
Total	82	0	77	159	0	0	0	0	0	501	37	538	49	573	0	622	1319
Grand Total	578	0	876	1454	0	0	0	0	0	7232	664	7896	799	6470	0	7269	16619
Apprch %	39.8	0	60.2		0	0	0		0	91.6	8.4		11	89	0		
Total %	3.5	0	5.3	8.7	0	0	0	0	0	43.5	4	47.5	4.8	38.9	0	43.7	

A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ Gravitt Rd

7 am | 7 pm

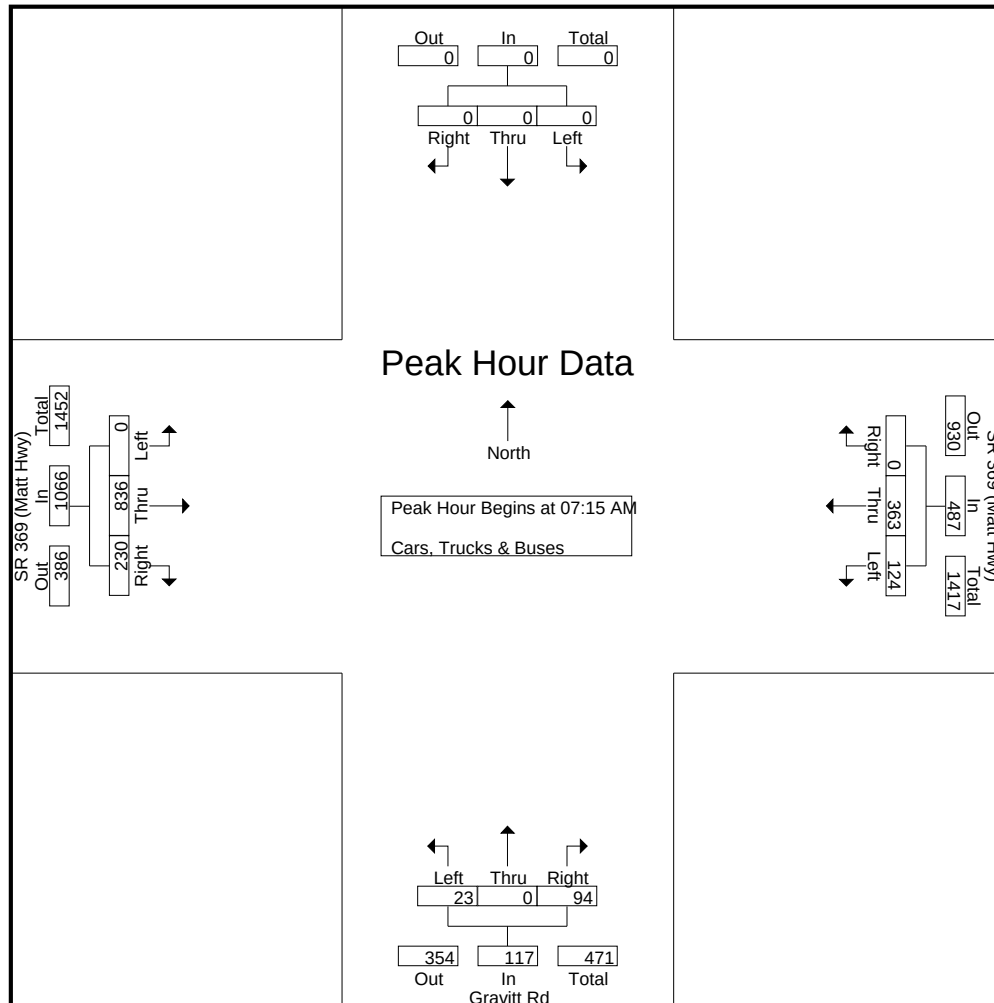
File Name : 20190103

Site Code : 20190103

Start Date : 5/23/2019

Page No : 3

	Gravitt Rd Northbound				Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	7	0	31	38	0	0	0	0	0	235	76	311	34	76	0	110	459
07:30 AM	3	0	13	16	0	0	0	0	0	198	66	264	30	80	0	110	390
07:45 AM	8	0	22	30	0	0	0	0	0	177	55	232	40	94	0	134	396
08:00 AM	5	0	28	33	0	0	0	0	0	226	33	259	20	113	0	133	425
Total Volume	23	0	94	117	0	0	0	0	0	836	230	1066	124	363	0	487	1670
% App. Total	19.7	0	80.3		0	0	0		0	78.4	21.6		25.5	74.5	0		
PHF	.719	.000	.758	.770	.000	.000	.000	.000	.000	.889	.757	.857	.775	.803	.000	.909	.910



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ Gravitt Rd

7 am | 7 pm

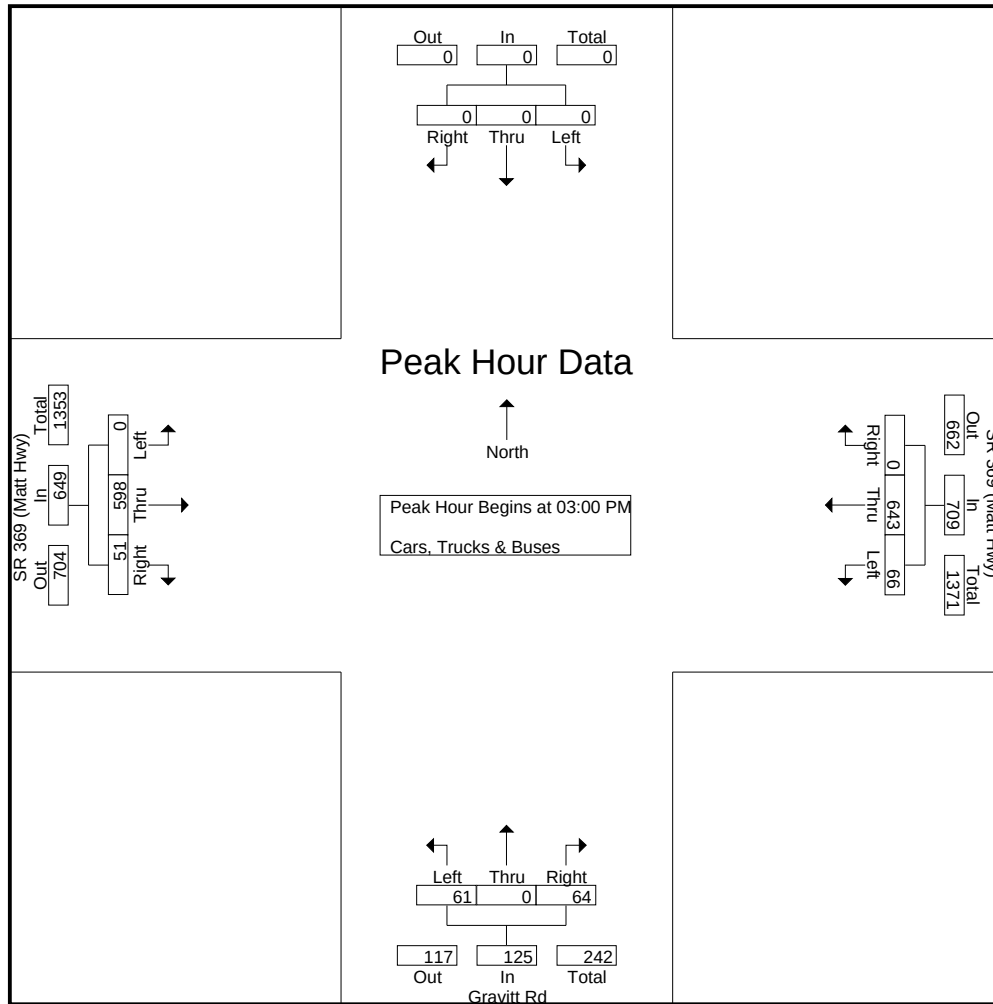
File Name : 20190103

Site Code : 20190103

Start Date : 5/23/2019

Page No : 4

	Gravitt Rd Northbound				Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	12	0	25	37	0	0	0	0	0	160	19	179	16	162	0	178	394
03:15 PM	9	0	12	21	0	0	0	0	0	139	17	156	18	182	0	200	377
03:30 PM	23	0	11	34	0	0	0	0	0	134	9	143	11	147	0	158	335
03:45 PM	17	0	16	33	0	0	0	0	0	165	6	171	21	152	0	173	377
Total Volume	61	0	64	125	0	0	0	0	0	598	51	649	66	643	0	709	1483
% App. Total	48.8	0	51.2		0	0	0		0	92.1	7.9		9.3	90.7	0		
PHF	.663	.000	.640	.845	.000	.000	.000	.000	.000	.906	.671	.906	.786	.883	.000	.886	.941



A&R Engineering, Inc.

2160 Kingston Court, Suite O
Marietta, GA 30067

TMC DATA

SR 369 (Matt Hwy) @ Gravitt Rd

7 am | 7 pm

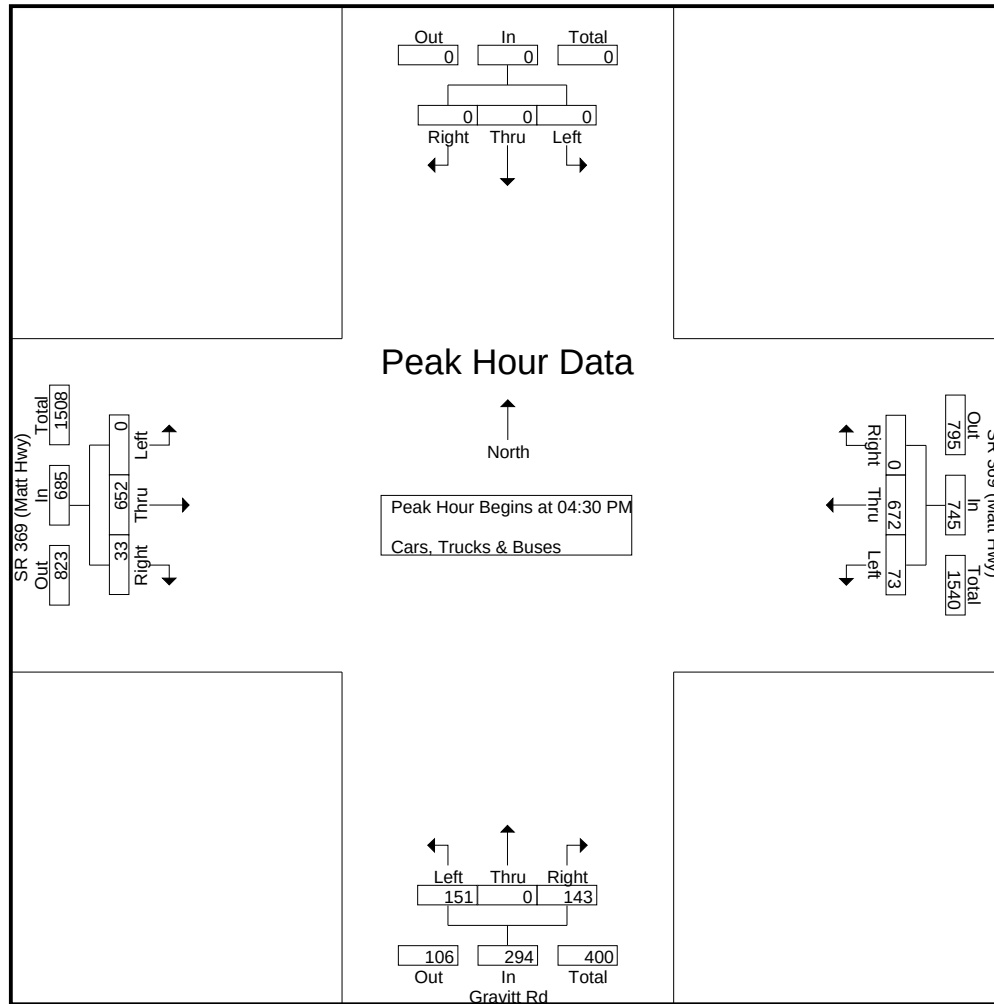
File Name : 20190103

Site Code : 20190103

Start Date : 5/23/2019

Page No : 5

	Gravitt Rd Northbound				Southbound				SR 369 (Matt Hwy) Eastbound				SR 369 (Matt 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 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	36	0	24	60	0	0	0	0	0	147	11	158	25	195	0	220	438
04:45 PM	40	0	35	75	0	0	0	0	0	145	10	155	23	166	0	189	419
05:00 PM	39	0	43	82	0	0	0	0	0	177	7	184	14	166	0	180	446
05:15 PM	36	0	41	77	0	0	0	0	0	183	5	188	11	145	0	156	421
Total Volume	151	0	143	294	0	0	0	0	0	652	33	685	73	672	0	745	1724
% App. Total	51.4	0	48.6		0	0	0		0	95.2	4.8		9.8	90.2	0		
PHF	.944	.000	.831	.896	.000	.000	.000	.000	.000	.891	.750	.911	.730	.862	.000	.847	.966



A & R Engineering, Inc.

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

TMC Data
SR 369 @ Settingdown Rd
7-9 am | 4-6 pm

File Name : 20220317
Site Code : 20220317
Start Date : 7/21/2022
Page No : 1

Groups Printed- Cars,Buses - Trucks

	Northbound				Settingdown Rd Southbound				SR 369 Eastbound				SR 369 Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	5	0	13	18	21	122	0	143	0	79	6	85	246
07:15 AM	0	0	0	0	10	0	37	47	24	112	0	136	0	67	10	77	260
07:30 AM	0	0	0	0	15	0	50	65	28	112	0	140	0	99	9	108	313
07:45 AM	0	0	0	0	7	0	40	47	19	114	0	133	0	111	5	116	296
Total	0	0	0	0	37	0	140	177	92	460	0	552	0	356	30	386	1115
08:00 AM	0	0	0	0	6	0	28	34	24	98	0	122	0	106	9	115	271
08:15 AM	0	0	0	0	8	0	20	28	21	123	0	144	0	105	12	117	289
08:30 AM	0	0	0	0	5	0	33	38	10	113	0	123	0	107	9	116	277
08:45 AM	0	0	0	0	13	0	22	35	22	127	0	149	0	98	12	110	294
Total	0	0	0	0	32	0	103	135	77	461	0	538	0	416	42	458	1131
*** BREAK ***																	
04:00 PM	0	0	0	0	1	0	18	19	25	126	0	151	0	173	26	199	369
04:15 PM	0	0	0	0	6	0	21	27	21	137	0	158	0	183	30	213	398
04:30 PM	0	0	0	0	4	0	24	28	20	136	0	156	0	170	22	192	376
04:45 PM	0	0	0	0	1	0	20	21	23	139	0	162	0	183	24	207	390
Total	0	0	0	0	12	0	83	95	89	538	0	627	0	709	102	811	1533
05:00 PM	0	0	0	0	3	0	17	20	22	138	0	160	0	191	29	220	400
05:15 PM	0	0	0	0	1	0	26	27	20	140	0	160	0	169	23	192	379
05:30 PM	0	0	0	0	2	0	15	17	34	133	0	167	0	163	21	184	368
05:45 PM	0	0	0	0	7	0	26	33	26	154	0	180	0	188	28	216	429
Total	0	0	0	0	13	0	84	97	102	565	0	667	0	711	101	812	1576
Grand Total	0	0	0	0	94	0	410	504	360	2024	0	2384	0	2192	275	2467	5355
Apprch %	0	0	0		18.7	0	81.3		15.1	84.9	0		0	88.9	11.1		
Total %	0	0	0	0	1.8	0	7.7	9.4	6.7	37.8	0	44.5	0	40.9	5.1	46.1	
Cars,Buses	0	0	0	0	93	0	399	492	348	1912	0	2260	0	2068	268	2336	5088
% Cars,Buses	0	0	0	0	98.9	0	97.3	97.6	96.7	94.5	0	94.8	0	94.3	97.5	94.7	95
Trucks	0	0	0	0	1	0	11	12	12	112	0	124	0	124	7	131	267
% Trucks	0	0	0	0	1.1	0	2.7	2.4	3.3	5.5	0	5.2	0	5.7	2.5	5.3	5

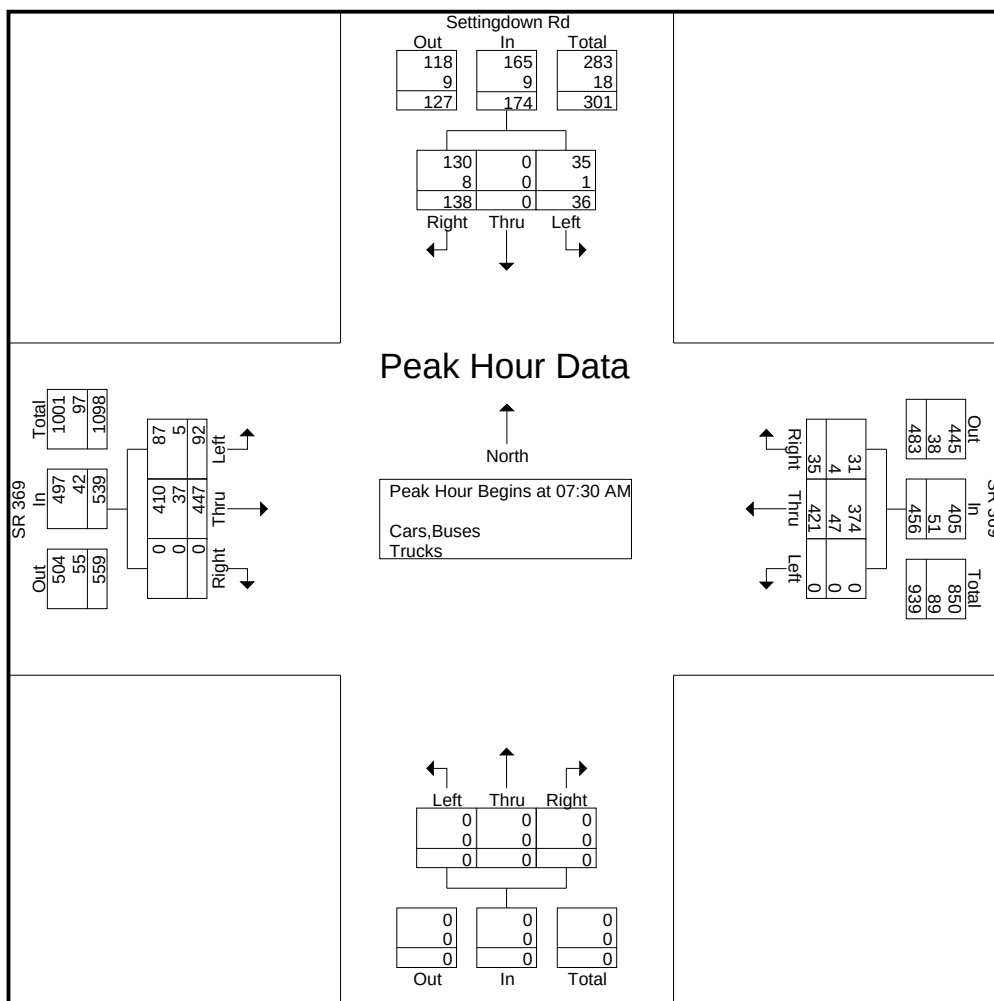
A & R Engineering, Inc.

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

TMC Data
SR 369 @ Settingdown Rd
7-9 am | 4-6 pm

File Name : 20220317
Site Code : 20220317
Start Date : 7/21/2022
Page No : 2

	Northbound				Settingdown Rd Southbound				SR 369 Eastbound				SR 369 Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	15	0	50	65	28	112	0	140	0	99	9	108	313
07:45 AM	0	0	0	0	7	0	40	47	19	114	0	133	0	111	5	116	296
08:00 AM	0	0	0	0	6	0	28	34	24	98	0	122	0	106	9	115	271
08:15 AM	0	0	0	0	8	0	20	28	21	123	0	144	0	105	12	117	289
Total Volume	0	0	0	0	36	0	138	174	92	447	0	539	0	421	35	456	1169
% App. Total	0	0	0	0	20.7	0	79.3		17.1	82.9	0		0	92.3	7.7		
PHF	.000	.000	.000	.000	.600	.000	.690	.669	.821	.909	.000	.936	.000	.948	.729	.974	.934
Cars,Buses	0	0	0	0	35	0	130	165	87	410	0	497	0	374	31	405	1067
% Cars,Buses	0	0	0	0	97.2	0	94.2	94.8	94.6	91.7	0	92.2	0	88.8	88.6	88.8	91.3
Trucks	0	0	0	0	1	0	8	9	5	37	0	42	0	47	4	51	102
% Trucks	0	0	0	0	2.8	0	5.8	5.2	5.4	8.3	0	7.8	0	11.2	11.4	11.2	8.7



A & R Engineering, Inc.

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

TMC Data

SR 369 @ Settingdown Rd

7-9 am | 4-6 pm

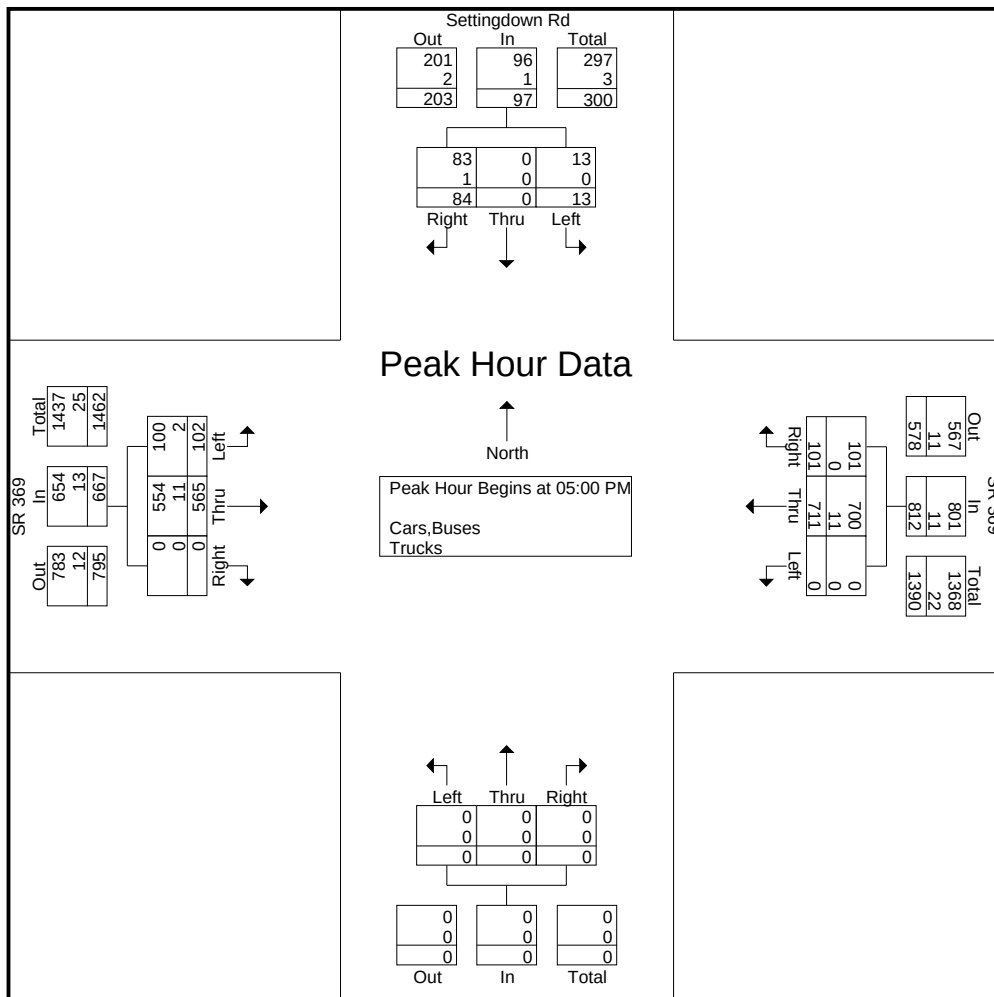
File Name : 20220317

Site Code : 20220317

Start Date : 7/21/2022

Page No : 3

	Northbound				Settingdown Rd Southbound				SR 369 Eastbound				SR 369 Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	3	0	17	20	22	138	0	160	0	191	29	220	400
05:15 PM	0	0	0	0	1	0	26	27	20	140	0	160	0	169	23	192	379
05:30 PM	0	0	0	0	2	0	15	17	34	133	0	167	0	163	21	184	368
05:45 PM	0	0	0	0	7	0	26	33	26	154	0	180	0	188	28	216	429
Total Volume	0	0	0	0	13	0	84	97	102	565	0	667	0	711	101	812	1576
% App. Total	0	0	0	0	13.4	0	86.6		15.3	84.7	0		0	87.6	12.4		
PHF	.000	.000	.000	.000	.464	.000	.808	.735	.750	.917	.000	.926	.000	.931	.871	.923	.918
Cars,Buses	0	0	0	0	13	0	83	96	100	554	0	654	0	700	101	801	1551
% Cars,Buses	0	0	0	0	100	0	98.8	99.0	98.0	98.1	0	98.1	0	98.5	100	98.6	98.4
Trucks	0	0	0	0	0	0	1	1	2	11	0	13	0	11	0	11	25
% Trucks	0	0	0	0	0	0	1.2	1.0	2.0	1.9	0	1.9	0	1.5	0	1.4	1.6



A & R Engineering, Inc.

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

TMC Data
SR 369 @ Bridgetown Dr
7-9 am | 4-6 pm

File Name : 20220318
Site Code : 20220318
Start Date : 7/21/2022
Page No : 1

Groups Printed- Cars,Buses - Trucks

	Bridgetown Dr Northbound				Southbound				SR 369 Eastbound				SR 369 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	9	0	32	41	0	0	0	0	0	122	5	127	7	76	0	83	251
07:15 AM	8	0	38	46	0	0	0	0	0	119	3	122	11	69	0	80	248
07:30 AM	10	0	44	54	0	0	0	0	0	128	2	130	6	99	0	105	289
07:45 AM	2	0	44	46	0	0	0	0	0	121	1	122	6	113	0	119	287
Total	29	0	158	187	0	0	0	0	0	490	11	501	30	357	0	387	1075
08:00 AM	8	0	29	37	0	0	0	0	0	102	2	104	10	104	0	114	255
08:15 AM	12	0	37	49	0	0	0	0	0	123	7	130	14	105	0	119	298
08:30 AM	12	0	29	41	0	0	0	0	0	113	5	118	11	104	0	115	274
08:45 AM	7	0	32	39	0	0	0	0	0	138	3	141	10	102	0	112	292
Total	39	0	127	166	0	0	0	0	0	476	17	493	45	415	0	460	1119
*** BREAK ***																	
04:00 PM	6	0	32	38	0	0	0	0	0	115	13	128	50	192	0	242	408
04:15 PM	6	0	30	36	0	0	0	0	0	135	8	143	36	209	0	245	424
04:30 PM	5	0	29	34	0	0	0	0	0	135	6	141	45	187	0	232	407
04:45 PM	3	0	39	42	0	0	0	0	0	129	12	141	45	200	0	245	428
Total	20	0	130	150	0	0	0	0	0	514	39	553	176	788	0	964	1667
05:00 PM	9	0	30	39	0	0	0	0	0	132	11	143	52	211	0	263	445
05:15 PM	6	0	30	36	0	0	0	0	0	127	14	141	51	187	0	238	415
05:30 PM	7	0	45	52	0	0	0	0	0	126	10	136	56	174	0	230	418
05:45 PM	12	0	26	38	0	0	0	0	0	150	11	161	58	204	0	262	461
Total	34	0	131	165	0	0	0	0	0	535	46	581	217	776	0	993	1739
Grand Total	122	0	546	668	0	0	0	0	0	2015	113	2128	468	2336	0	2804	5600
Apprch %	18.3	0	81.7		0	0	0		0	94.7	5.3		16.7	83.3	0		
Total %	2.2	0	9.8	11.9	0	0	0	0	0	36	2	38	8.4	41.7	0	50.1	
Cars,Buses	122	0	545	667	0	0	0	0	0	1902	113	2015	467	2205	0	2672	5354
% Cars,Buses	100	0	99.8	99.9	0	0	0	0	0	94.4	100	94.7	99.8	94.4	0	95.3	95.6
Trucks	0	0	1	1	0	0	0	0	0	113	0	113	1	131	0	132	246
% Trucks	0	0	0.2	0.1	0	0	0	0	0	5.6	0	5.3	0.2	5.6	0	4.7	4.4

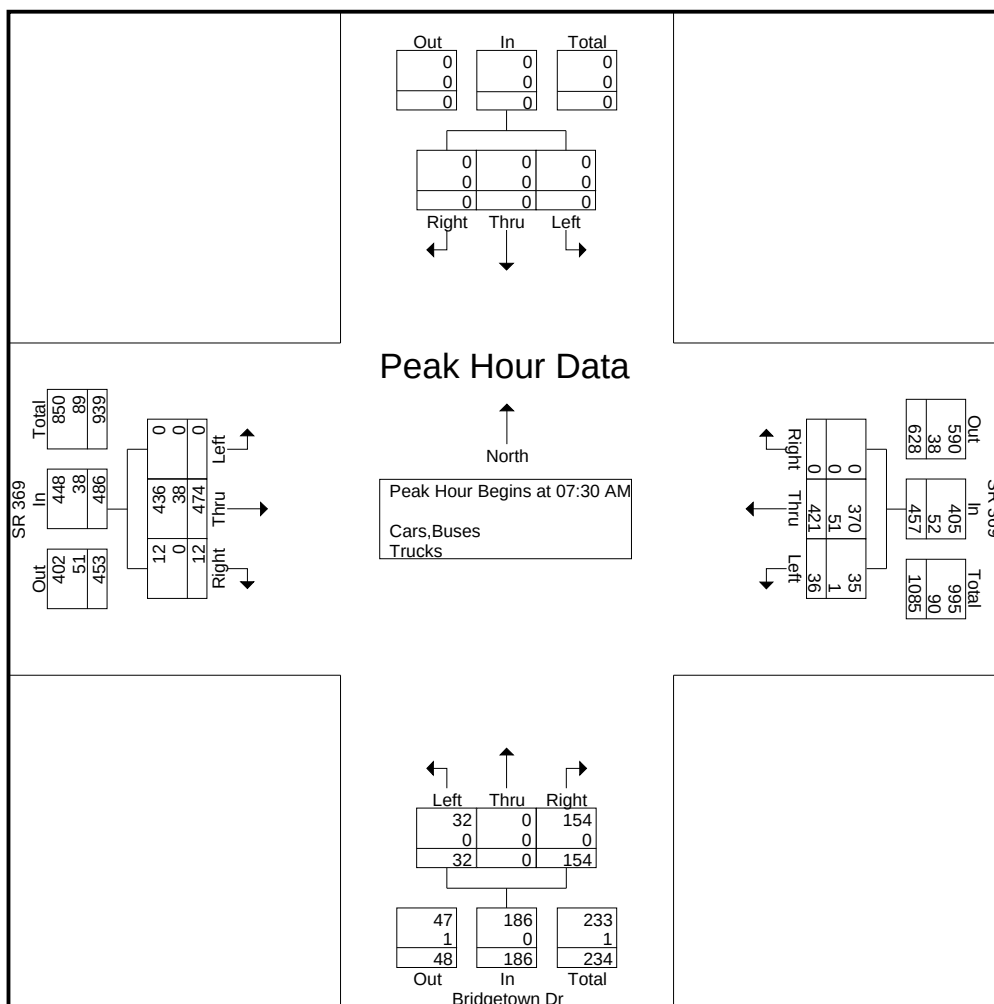
A & R Engineering, Inc.

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

TMC Data
SR 369 @ Bridgetown Dr
7-9 am | 4-6 pm

File Name : 20220318
Site Code : 20220318
Start Date : 7/21/2022
Page No : 2

	Bridgetown Dr Northbound				Southbound				SR 369 Eastbound				SR 369 Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	10	0	44	54	0	0	0	0	0	128	2	130	6	99	0	105	289
07:45 AM	2	0	44	46	0	0	0	0	0	121	1	122	6	113	0	119	287
08:00 AM	8	0	29	37	0	0	0	0	0	102	2	104	10	104	0	114	255
08:15 AM	12	0	37	49	0	0	0	0	0	123	7	130	14	105	0	119	298
Total Volume	32	0	154	186	0	0	0	0	0	474	12	486	36	421	0	457	1129
% App. Total	17.2	0	82.8		0	0	0		0	97.5	2.5		7.9	92.1	0		
PHF	.667	.000	.875	.861	.000	.000	.000	.000	.000	.926	.429	.935	.643	.931	.000	.960	.947
Cars,Buses	32	0	154	186	0	0	0	0	0	436	12	448	35	370	0	405	1039
% Cars,Buses	100	0	100	100	0	0	0	0	0	92.0	100	92.2	97.2	87.9	0	88.6	92.0
Trucks	0	0	0	0	0	0	0	0	0	38	0	38	1	51	0	52	90
% Trucks	0	0	0	0	0	0	0	0	0	8.0	0	7.8	2.8	12.1	0	11.4	8.0



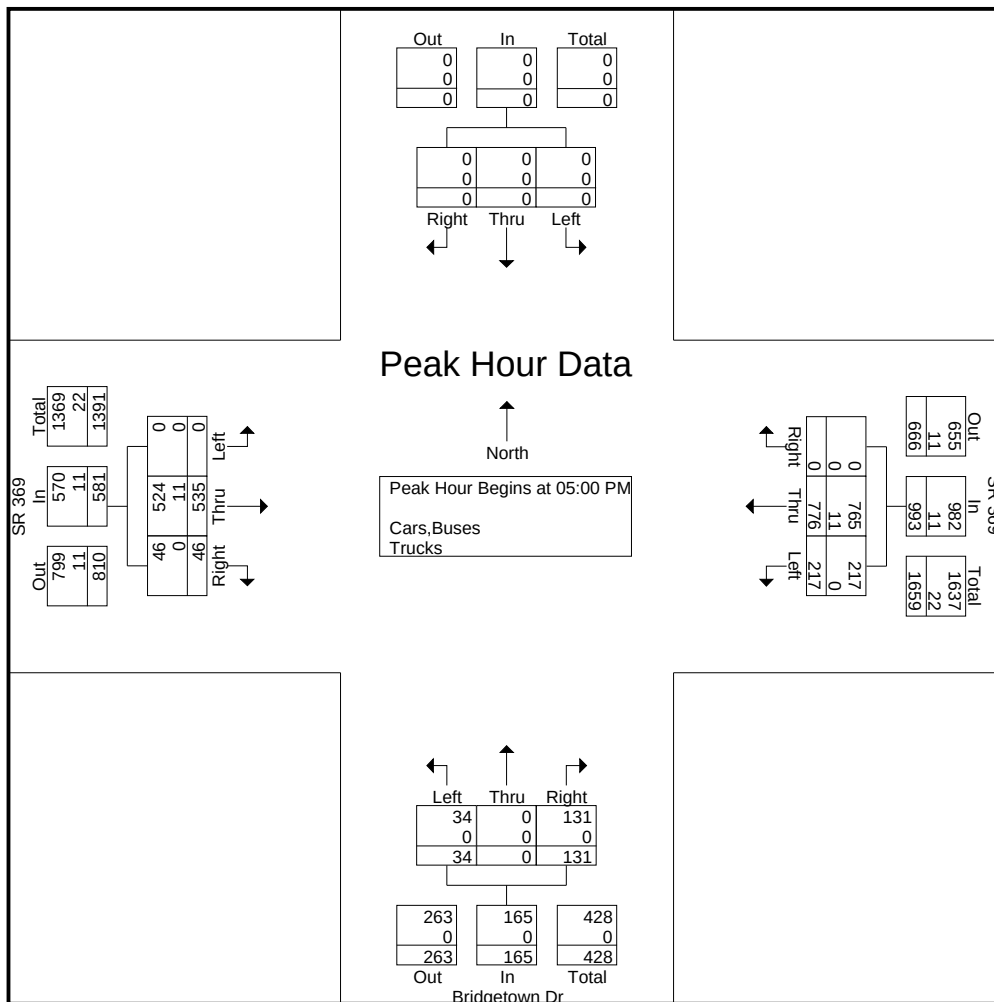
A & R Engineering, Inc.

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

TMC Data
SR 369 @ Bridgetown Dr
7-9 am | 4-6 pm

File Name : 20220318
Site Code : 20220318
Start Date : 7/21/2022
Page No : 3

	Bridgetown Dr Northbound				Southbound				SR 369 Eastbound				SR 369 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	9	0	30	39	0	0	0	0	0	132	11	143	52	211	0	263	445
05:15 PM	6	0	30	36	0	0	0	0	0	127	14	141	51	187	0	238	415
05:30 PM	7	0	45	52	0	0	0	0	0	126	10	136	56	174	0	230	418
05:45 PM	12	0	26	38	0	0	0	0	0	150	11	161	58	204	0	262	461
Total Volume	34	0	131	165	0	0	0	0	0	535	46	581	217	776	0	993	1739
% App. Total	20.6	0	79.4		0	0	0		0	92.1	7.9		21.9	78.1	0		
PHF	.708	.000	.728	.793	.000	.000	.000	.000	.000	.892	.821	.902	.935	.919	.000	.944	.943
Cars,Buses	34	0	131	165	0	0	0	0	0	524	46	570	217	765	0	982	1717
% Cars,Buses	100	0	100	100	0	0	0	0	0	97.9	100	98.1	100	98.6	0	98.9	98.7
Trucks	0	0	0	0	0	0	0	0	0	11	0	11	0	11	0	11	22
% Trucks	0	0	0	0	0	0	0	0	0	2.1	0	1.9	0	1.4	0	1.1	1.3



A & R Engineering, Inc.

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

TMC DATA
SR 369 @ GA 400
7-9 am | 4-6 pm

File Name : 20220319
Site Code : 20220319
Start Date : 7/21/2022
Page No : 1

Groups Printed- Cars,Buses - Trucks

	GA 400 Northbound				GA 400 Southbound				SR 369 Eastbound				SR 369 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	40	153	12	205	5	454	16	475	1	52	106	159	14	66	12	92	931
07:15 AM	27	170	17	214	7	506	15	528	9	38	79	126	22	36	8	66	934
07:30 AM	50	139	30	219	7	517	9	533	7	27	95	129	21	48	10	79	960
07:45 AM	63	224	19	306	7	550	8	565	6	38	124	168	17	56	8	81	1120
Total	180	686	78	944	26	2027	48	2101	23	155	404	582	74	206	38	318	3945
08:00 AM	70	212	25	307	3	323	8	334	10	42	96	148	20	57	12	89	878
08:15 AM	38	245	20	303	4	536	11	551	8	40	74	122	23	69	6	98	1074
08:30 AM	58	249	27	334	8	470	27	505	12	50	56	118	22	50	8	80	1037
08:45 AM	46	217	21	284	6	431	20	457	12	51	53	116	17	61	9	87	944
Total	212	923	93	1228	21	1760	66	1847	42	183	279	504	82	237	35	354	3933
*** BREAK ***																	
04:00 PM	175	512	46	733	10	292	26	328	24	54	76	154	16	56	14	86	1301
04:15 PM	176	525	41	742	10	272	24	306	16	62	70	148	15	65	11	91	1287
04:30 PM	177	570	29	776	9	277	19	305	16	60	83	159	24	63	7	94	1334
04:45 PM	210	556	28	794	8	261	17	286	13	71	72	156	8	81	13	102	1338
Total	738	2163	144	3045	37	1102	86	1225	69	247	301	617	63	265	45	373	5260
05:00 PM	215	596	27	838	10	251	17	278	31	56	61	148	20	72	13	105	1369
05:15 PM	167	565	24	756	7	264	20	291	27	68	84	179	19	76	18	113	1339
05:30 PM	190	581	36	807	11	280	23	314	22	56	71	149	37	52	12	101	1371
05:45 PM	193	568	35	796	19	287	24	330	21	61	70	152	14	72	18	104	1382
Total	765	2310	122	3197	47	1082	84	1213	101	241	286	628	90	272	61	423	5461
Grand Total	1895	6082	437	8414	131	5971	284	6386	235	826	1270	2331	309	980	179	1468	18599
Apprch %	22.5	72.3	5.2		2.1	93.5	4.4		10.1	35.4	54.5		21	66.8	12.2		
Total %	10.2	32.7	2.3	45.2	0.7	32.1	1.5	34.3	1.3	4.4	6.8	12.5	1.7	5.3	1	7.9	
Cars,Buses	1844	5918	409	8171	121	5819	264	6204	219	754	1235	2208	292	905	167	1364	17947
% Cars,Buses	97.3	97.3	93.6	97.1	92.4	97.5	93	97.2	93.2	91.3	97.2	94.7	94.5	92.3	93.3	92.9	96.5
Trucks	51	164	28	243	10	152	20	182	16	72	35	123	17	75	12	104	652
% Trucks	2.7	2.7	6.4	2.9	7.6	2.5	7	2.8	6.8	8.7	2.8	5.3	5.5	7.7	6.7	7.1	3.5

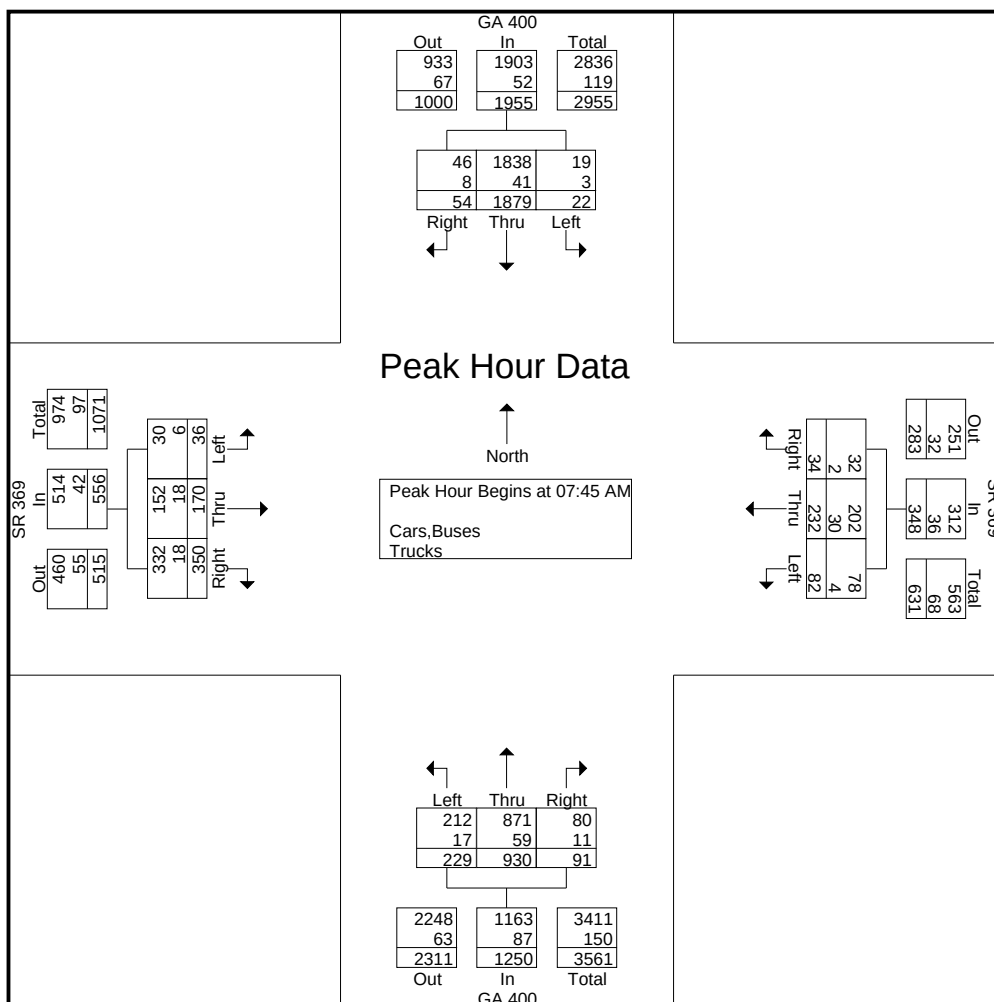
A & R Engineering, Inc.

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

TMC DATA
SR 369 @ GA 400
7-9 am | 4-6 pm

File Name : 20220319
Site Code : 20220319
Start Date : 7/21/2022
Page No : 2

	GA 400 Northbound				GA 400 Southbound				SR 369 Eastbound				SR 369 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	63	224	19	306	7	550	8	565	6	38	124	168	17	56	8	81	1120
08:00 AM	70	212	25	307	3	323	8	334	10	42	96	148	20	57	12	89	878
08:15 AM	38	245	20	303	4	536	11	551	8	40	74	122	23	69	6	98	1074
08:30 AM	58	249	27	334	8	470	27	505	12	50	56	118	22	50	8	80	1037
Total Volume	229	930	91	1250	22	1879	54	1955	36	170	350	556	82	232	34	348	4109
% App. Total	18.3	74.4	7.3		1.1	96.1	2.8		6.5	30.6	62.9		23.6	66.7	9.8		
PHF	.818	.934	.843	.936	.688	.854	.500	.865	.750	.850	.706	.827	.891	.841	.708	.888	.917
Cars,Buses	212	871	80	1163	19	1838	46	1903	30	152	332	514	78	202	32	312	3892
% Cars,Buses	92.6	93.7	87.9	93.0	86.4	97.8	85.2	97.3	83.3	89.4	94.9	92.4	95.1	87.1	94.1	89.7	94.7
Trucks	17	59	11	87	3	41	8	52	6	18	18	42	4	30	2	36	217
% Trucks	7.4	6.3	12.1	7.0	13.6	2.2	14.8	2.7	16.7	10.6	5.1	7.6	4.9	12.9	5.9	10.3	5.3



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TMC DATA
SR 369 @ GA 400
7-9 am | 4-6 pm

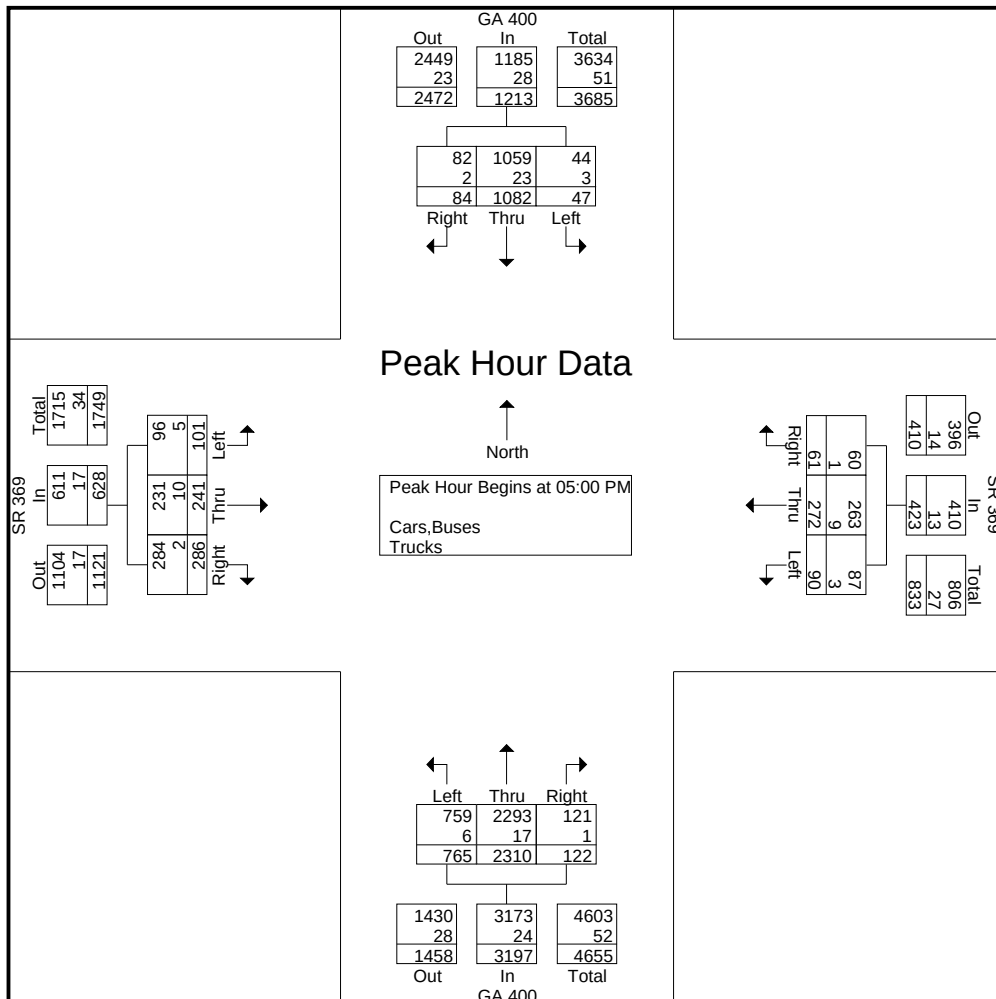
File Name : 20220319
Site Code : 20220319
Start Date : 7/21/2022
Page No : 3

	GA 400 Northbound				GA 400 Southbound				SR 369 Eastbound				SR 369 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	215	596	27	838	10	251	17	278	31	56	61	148	20	72	13	105	1369
05:15 PM	167	565	24	756	7	264	20	291	27	68	84	179	19	76	18	113	1339
05:30 PM	190	581	36	807	11	280	23	314	22	56	71	149	37	52	12	101	1371
05:45 PM	193	568	35	796	19	287	24	330	21	61	70	152	14	72	18	104	1382
Total Volume	765	2310	122	3197	47	1082	84	1213	101	241	286	628	90	272	61	423	5461
% App. Total	23.9	72.3	3.8		3.9	89.2	6.9		16.1	38.4	45.5		21.3	64.3	14.4		
PHF	.890	.969	.847	.954	.618	.943	.875	.919	.815	.886	.851	.877	.608	.895	.847	.936	.988
Cars,Buses	759	2293	121	3173	44	1059	82	1185	96	231	284	611	87	263	60	410	5379
% Cars,Buses	99.2	99.3	99.2	99.2	93.6	97.9	97.6	97.7	95.0	95.9	99.3	97.3	96.7	96.7	98.4	96.9	98.5
Trucks	6	17	1	24	3	23	2	28	5	10	2	17	3	9	1	13	82
% Trucks	0.8	0.7	0.8	0.8	6.4	2.1	2.4	2.3	5.0	4.1	0.7	2.7	3.3	3.3	1.6	3.1	1.5



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TMC DATA
Settingdown Rd @ Dennis C. Martin
Memorial Way
7-9 am | 4-6 pm

File Name : 20220329
Site Code : 20220329
Start Date : 07-26-2022
Page No : 1

Groups Printed- Cars,Buses& Trucks

	Dennis C Martin Memorial Way Northbound				Southbound				Settingdown Rd Eastbound				Settingdown 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	2	0	2	4	0	0	0	0	0	22	5	27	3	15	0	18	49
07:15 AM	5	0	2	7	0	0	0	0	0	27	6	33	4	41	0	45	85
07:30 AM	6	0	1	7	0	0	0	0	0	29	7	36	5	58	0	63	106
07:45 AM	4	0	2	6	0	0	0	0	0	17	5	22	3	40	0	43	71
Total	17	0	7	24	0	0	0	0	0	95	23	118	15	154	0	169	311
08:00 AM	5	0	3	8	0	0	0	0	0	25	6	31	2	27	0	29	68
08:15 AM	4	0	5	9	0	0	0	0	0	21	8	29	2	21	0	23	61
08:30 AM	6	0	2	8	0	0	0	0	0	14	5	19	1	32	0	33	60
08:45 AM	5	0	3	8	0	0	0	0	0	23	9	32	2	30	0	32	72
Total	20	0	13	33	0	0	0	0	0	83	28	111	7	110	0	117	261
*** BREAK ***																	
04:00 PM	3	0	3	6	0	0	0	0	0	43	5	48	1	16	0	17	71
04:15 PM	5	0	4	9	0	0	0	0	0	43	6	49	2	22	0	24	82
04:30 PM	4	0	4	8	0	0	0	0	0	37	5	42	4	24	0	28	78
04:45 PM	2	0	3	5	0	0	0	0	0	40	7	47	2	19	0	21	73
Total	14	0	14	28	0	0	0	0	0	163	23	186	9	81	0	90	304
05:00 PM	3	0	5	8	0	0	0	0	0	47	4	51	3	17	0	20	79
05:15 PM	5	0	4	9	0	0	0	0	0	37	5	42	1	21	0	22	73
05:30 PM	4	0	6	10	0	0	0	0	0	48	6	54	2	13	0	15	79
05:45 PM	6	0	4	10	0	0	0	0	0	50	4	54	2	27	0	29	93
Total	18	0	19	37	0	0	0	0	0	182	19	201	8	78	0	86	324
Grand Total	69	0	53	122	0	0	0	0	0	523	93	616	39	423	0	462	1200
Apprch %	56.6	0	43.4		0	0	0		0	84.9	15.1		8.4	91.6	0		
Total %	5.8	0	4.4	10.2	0	0	0	0	0	43.6	7.8	51.3	3.2	35.2	0	38.5	

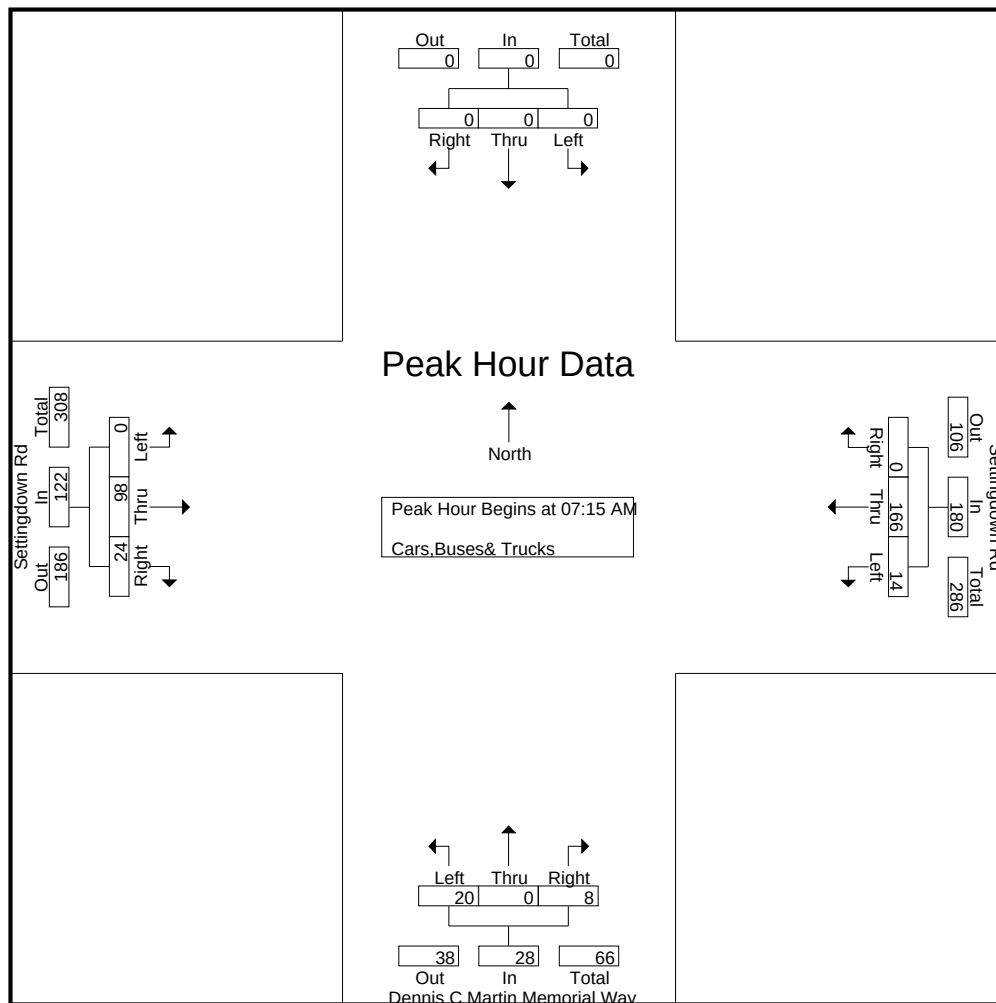
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TMC DATA
Settingdown Rd @ Dennis C. Martin
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7-9 am | 4-6 pm

File Name : 20220329
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Page No : 2

	Dennis C Martin Memorial Way Northbound				Southbound				Settingdown Rd Eastbound				Settingdown 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	5	0	2	7	0	0	0	0	0	27	6	33	4	41	0	45	85
07:30 AM	6	0	1	7	0	0	0	0	0	29	7	36	5	58	0	63	106
07:45 AM	4	0	2	6	0	0	0	0	0	17	5	22	3	40	0	43	71
08:00 AM	5	0	3	8	0	0	0	0	0	25	6	31	2	27	0	29	68
Total Volume	20	0	8	28	0	0	0	0	0	98	24	122	14	166	0	180	330
% App. Total	71.4	0	28.6		0	0	0		0	80.3	19.7		7.8	92.2	0		
PHF	.833	.000	.667	.875	.000	.000	.000	.000	.000	.845	.857	.847	.700	.716	.000	.714	.778



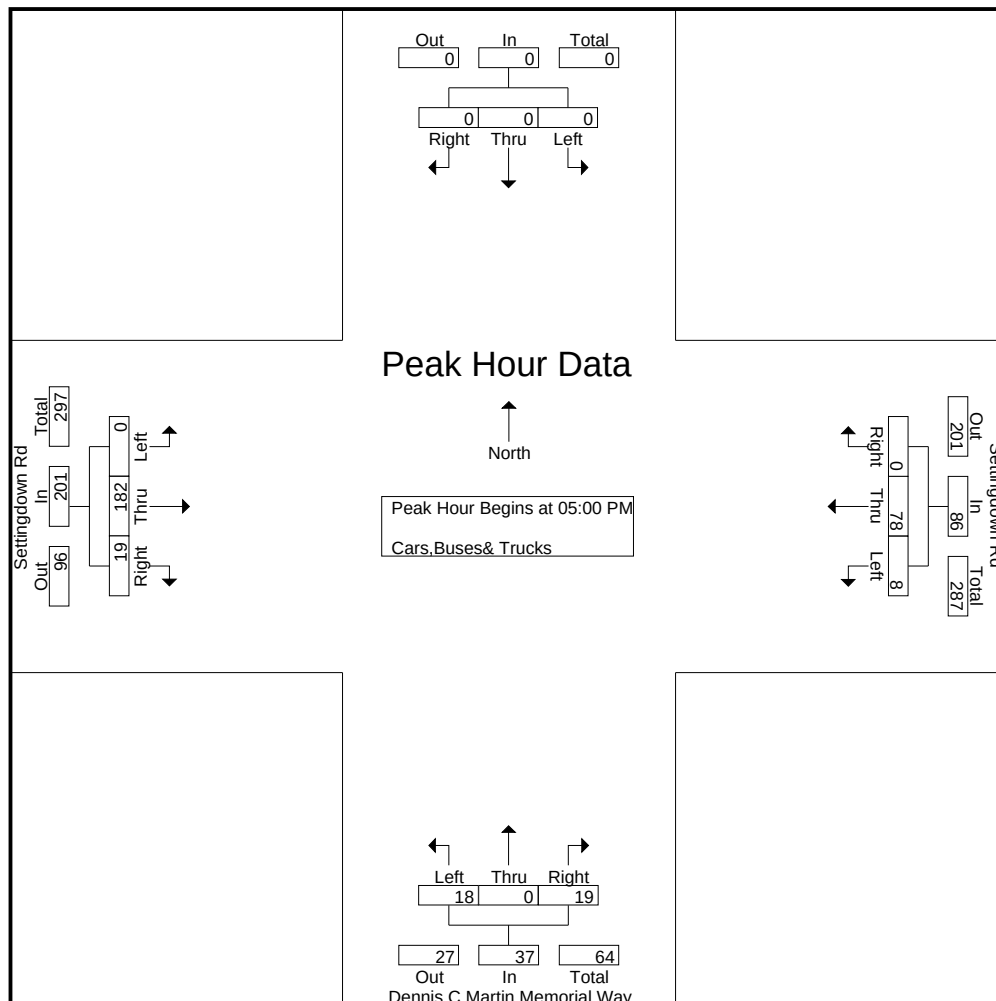
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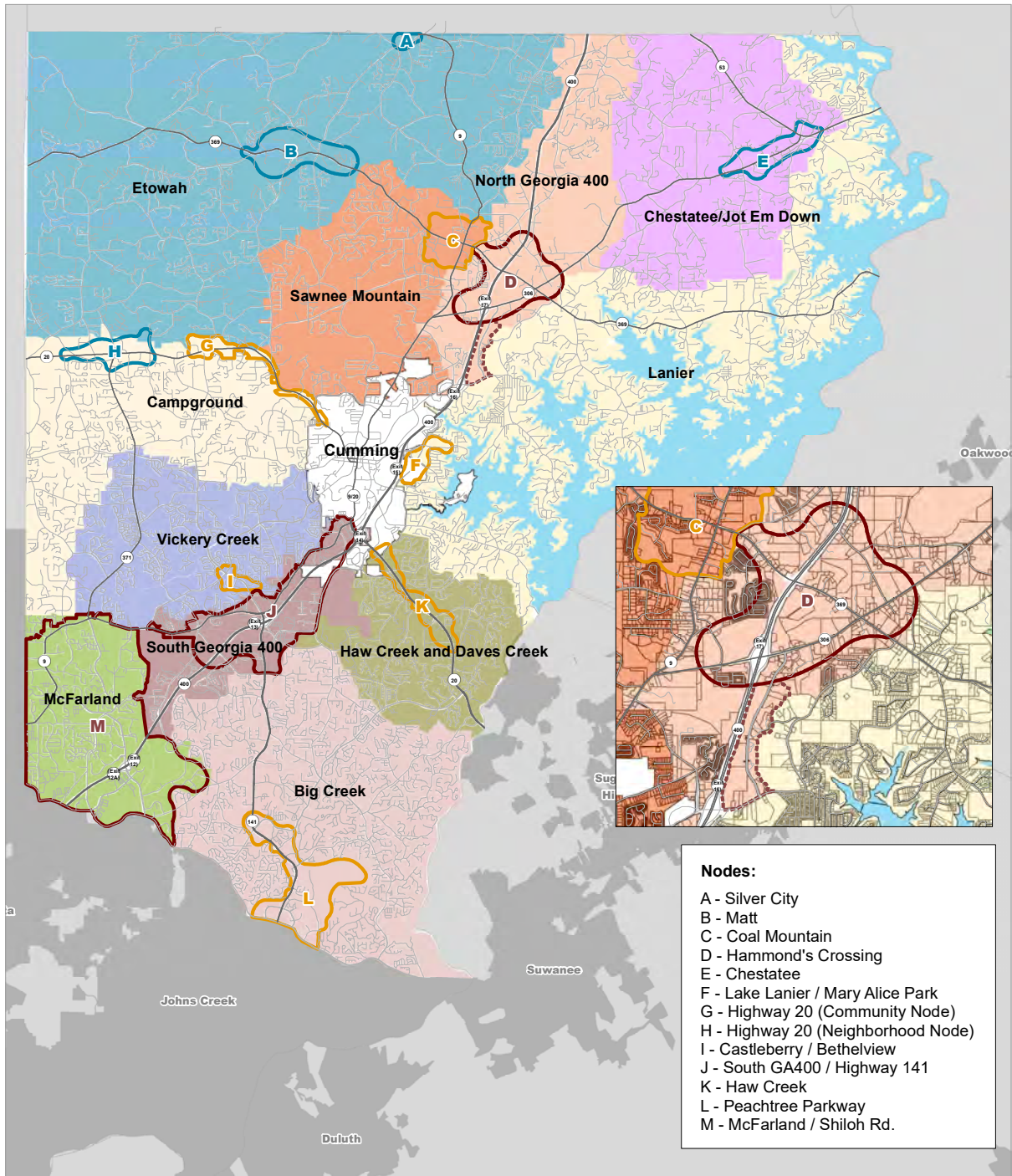
TMC DATA
Settingdown Rd @ Dennis C. Martin
Memorial Way
7-9 am | 4-6 pm

File Name : 20220329
Site Code : 20220329
Start Date : 07-26-2022
Page No : 3

	Dennis C Martin Memorial Way Northbound				Southbound				Settingdown Rd Eastbound				Settingdown 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	3	0	5	8	0	0	0	0	0	47	4	51	3	17	0	20	79
05:15 PM	5	0	4	9	0	0	0	0	0	37	5	42	1	21	0	22	73
05:30 PM	4	0	6	10	0	0	0	0	0	48	6	54	2	13	0	15	79
05:45 PM	6	0	4	10	0	0	0	0	0	50	4	54	2	27	0	29	93
Total Volume	18	0	19	37	0	0	0	0	0	182	19	201	8	78	0	86	324
% App. Total	48.6	0	51.4		0	0	0		0	90.5	9.5		9.3	90.7	0		
PHF	.750	.000	.792	.925	.000	.000	.000	.000	.000	.910	.792	.931	.667	.722	.000	.741	.871



Character Areas



Character Areas

- Lanier
- Big Creek
- Haw Creek and Daves Creek
- Vickery Creek
- South Georgia 400

- Sawnee Mountain
- Etowah
- Campground
- North Georgia 400
- Chestatee/Jot Em Down
- McFarland

Nodes

- Community
- Neighborhood
- Regional

Proposed Hammond's Crossing Node Expansion
North Georgia 400 Character Area expanded to same area, Lanier Character Area reduced (proposed)

11

SAWNEE MOUNTAIN

LOCATION:

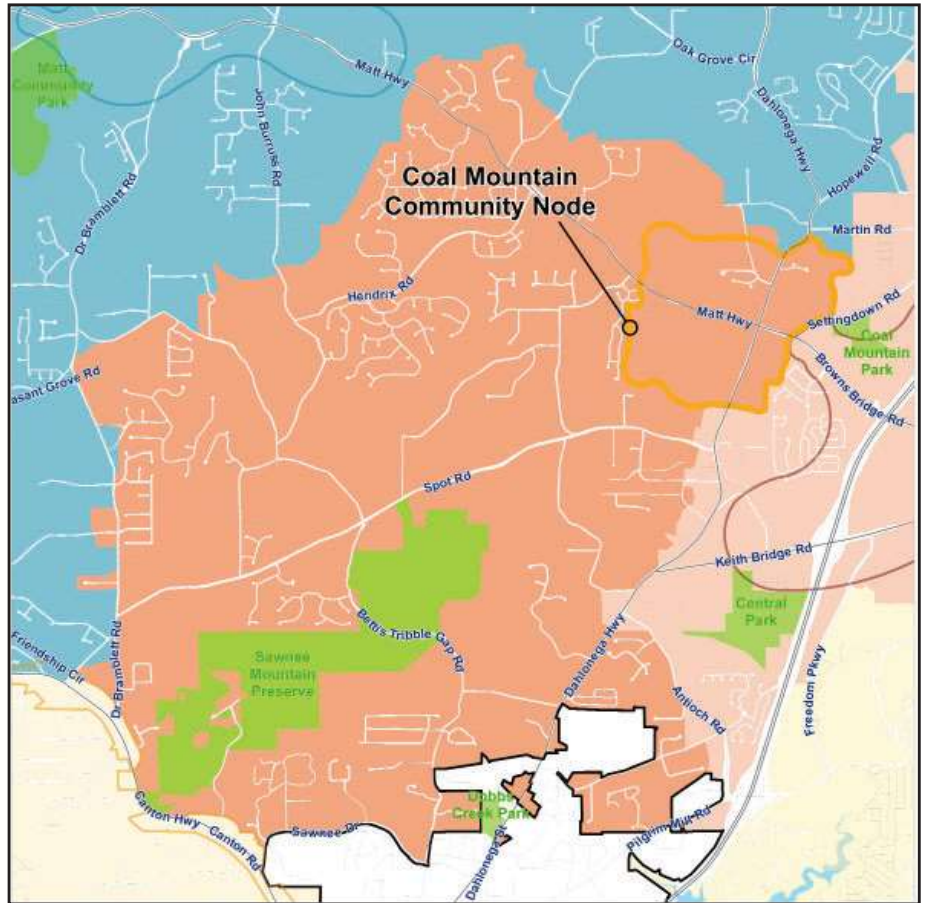
The Sawnee Mountain character area includes Sawnee Mountain and the area westward to Dr. Bramblett Road and eastward to Dahlonega Highway.

CHARACTER TODAY:

The Sawnee Mountain character area is mostly park and agricultural land. The developed land in this character area includes mostly detached, single-family properties on large-sized lots.

CHARACTER AREA GOALS:

- Preserve the natural features around Sawnee Mountain.
- Create a community node along Highway 369.
- Encourage low-intensity residential development outside of the node north of Sawnee Mountain.



FUTURE CHARACTER:

The Sawnee Mountain character area is an important natural and cultural node for Forsyth County. The area should be preserved while encouraging commercial development in a village-scale town center. Residential developments without a commercial component should be less intense and use high-quality design and preservation strategies.

APPROPRIATE ZONING CLASSIFICATIONS:

		Sawnee Mountain	
		Ch. Area	Co. Node
Residential	RES1	✓	
	RES2	✓	
	RES3		✓
	RES4		
	RES6		
	MHP		
Commercial	NS		
	UV		
	CBD	✓	✓
	HB	✓	
Office	HC	✓	✓
	BP		
	O&I		✓
	OR	✓	✓
Industrial	OCMS		
	M1	✓	✓
	M2	✓	
Agricultural	MINE	✓	
	A1	✓	✓
Mixed-use	AgRES	✓	✓
	MPD		✓
	MU-C		✓
	MU-R		

M2 and MINE are identified in areas where those uses currently exist. Designation of those classifications within the table is not a recommendation for additional rezonings to those categories.

NON-RESIDENTIAL DESIGN GUIDELINES AND STRATEGIES:

- Future commercial development should primarily be located within identified development nodes or within the Coal Mountain Overlay. Outside of these areas, commercial uses should be limited to designated commercial corridors. Commercial uses along commercial corridors should be located at or adjacent to major intersections or adjacent to other commercial uses and where infrastructure is in place to accommodate higher intensity uses.
- Non-Residential development outside of the Coal Mountain Community Node should be lower in scale and intensity and reflect the architectural quality of the Sawnee Mountain area.

Coal Mountain Community Node

- Architectural design should mimic contemporary mountain village character with the usage of high quality building materials.
- Buildings should be oriented close to the roadway with streetscape amenities for promotion of a high quality, live-play-work experience that has a defined sense of place.
- Encourage retrofitting existing commercial and retail strip development where appropriate in areas that are likely to undergo renovation or potential demolition in the long-range planning period.

NON-RESIDENTIAL INTENSITY SCALES AND VISUAL CHARACTER

Commercial and Town Center



Office and Industry



RESIDENTIAL DESIGN GUIDELINES AND STRATEGIES:

- New residential development should use a variety of techniques to avoid the monotonous appearance of identical homes. In addition, building materials shall be of high quality such as brick, stone, wood or cementitious siding.
- Retain low intensity residential community character.
- Support existing and proposed agricultural activities such as equestrian-related commercial usage, farm wineries and landscape nurseries. This includes appropriate accessory uses such as barns, corrals, grazing areas, stables, wine tasting halls, landscape production facilities and similar structures.

Coal Mountain Community Node

- Multi-family residential units are only permitted in mixed-use developments.
- All ground floor residential units and detached or attached single-family residential units must have a stoop or porch with direct sidewalk access and visible frontage to the primary street.

RESIDENTIAL INTENSITY SCALES AND VISUAL CHARACTER

Residential



4.4 SUMMARY ZONING MATRIX

OVERVIEW

A summary table of appropriate zoning districts by character area and development nodes is provided on the following pages. This is the same content provided for within each character area narrative. The summary table is intended to ease day-to-day use of the *Comprehensive Plan* in rezoning decisions.

ZONING MATRIX METHODOLOGY

During the Design Workshops community members provided feedback on multiple exercises regarding the development intensity they felt was appropriate for each of the 11 character areas. That data was directly utilized to create an initial pass at character area intensities. These intensities were cross referenced with existing zoning classifications and with the communities vision to develop the zoning matrix. Development nodes were seen as the center for each character area. Zoning Classifications were crafted for these nodes to help foster appropriate future development within them. Recommendations for additional residential and mixed-use zoning classifications were presented to the Foster Forsyth Steering Committee. Industrial zoning (M1, M2, MINE), Agricultural zoning (A1, Ag RES) and Manufactured Home Park Zoning (MHP) were reviewed and placed in districts where they are permitted today.

RECOMMENDED MIXED-USE DISTRICTS

Two Mixed-Use categories (MU-R: Mixed-Use Regional node and MU-C: Mixed-Use Community node) are recommended as a part of the *Foster Forsyth Comprehensive Plan Update*. These mixed-use categories are intended to encourage both vertical mixed-use and horizontal mixed-use developments within Regional and Community nodes. The details, requirements, and allowable densities will be determined by the County as the MU districts are further defined and developed. Generally Regional nodes should accommodate the most intense uses and Community nodes should be more modest in scale.

MASTER PLANNED DISTRICT (MPD)

Foster Forsyth generally aligns the MPD land use category to development nodes in most character areas. The Planning Team recommends MPD be modified to a residential-only category that includes a mix of lot sizes and product types.

COMMERCIAL CORRIDORS

Future commercial development should primarily be located within identified development nodes. Outside of these nodes, commercial uses should be limited to designated commercial corridors. Commercial uses along commercial corridors should be located at or adjacent to major intersections or adjacent to other commercial uses and where infrastructure is in place to accommodate higher intensity uses. Additional standards or requirements may be applied through overlays. Corridors that are currently designated as commercial corridors include Highway 9, McFarland Parkway, Union Hill Road, Shiloh Road (partial), McGinnis Ferry Road, Mullinax Road (partial), Bethelview Road, Post Road, Ronald Reagan Boulevard, and Peachtree Parkway.

MHP, M2, MINE

In the zoning classification tables within each character area MHP, M2, and MINE are identified in areas where those uses currently exist. Designation of those classifications within the table is not a recommendation for additional rezonings to those categories.

RES3 AND RES4

The Planning Team recommends enhancing the architectural design and site design standards for both RES3 and RES4 zoning classifications. Tree preservation strategies and limits to mass grading should also be reinforced as part of the increased design standards. The County should update the RES3 and RES4 classifications or incorporate these standards prior to new development approvals.



Figure 4.1: Summary Zoning Matrix

		McFarland		South Georgia 400		Big Creek		Haw Creek/Dave's Creek	
		Ch. Area	Reg. Node	Ch. Area	Reg. Node	Ch. Area	Co. Node	Ch. Area	Co. Node
Residential	RES1	✓		✓		✓		✓	
	RES2	✓		✓		✓		✓	
	RES3	✓	✓	✓		✓		✓	
	RES4	✓		✓					
	RES6			✓					
	MHP								
Commercial	NS	✓	✓	✓	✓	✓	✓	✓	✓
	UV	✓		✓		✓	✓	✓	✓
	CBD	✓	✓	✓	✓	✓	✓	✓	✓
	HB	✓				✓		✓	✓
	HC	✓	✓	✓	✓				
Office	BP	✓	✓	✓	✓		✓	✓	✓
	O&I	✓	✓	✓	✓	✓	✓	✓	✓
	OR	✓	✓	✓	✓	✓	✓	✓	✓
	OCMS		✓	✓	✓				
Industrial	M1	✓	✓	✓	✓	✓	✓	✓	✓
	M2	✓	✓			✓		✓	
	MINE					✓			
Agricultural	A1	✓		✓		✓		✓	
	AgRES	✓		✓		✓	✓	✓	✓
Mixed-use	MPD		✓		✓		✓		✓
	MU-C						✓		✓
	MU-R		✓		✓				

ZONING CATEGORIES			
Residential	Res1, Single Family	Office	BP, Business Park
	Res2, Single Family		O&I, Office and Institutional District
	Res3, Single Family		OR, Office Residential District
	Res4, Single Family		OCMS, Office Commercial Multiple Story District
	Res6, Multi-Family	Industrial	M1, Restricted Industrial District
	MHP, Manufactured Home Park		M2, Heavy Industrial District
			MINE, Mining Operations District
Commercial	NS, Neighborhood Shopping District	Agricultural	A1, Agricultural District
	UV, Urban Village District		AgRES, Agricultural Residential District
	CBD, Commercial Business District	Mixed-use	MPD, Master Planned District
	HB, Highway Business District		MU-C Mixed-use Commercial Node
	HC, Heavy Commercial District		MU-R Mixed-use Regional Node

NODE CATEGORIES

Regional Node
 Community Node
 Neighborhood Node

		Lanier		Vickery Creek		Campground	
		Ch. Area	Co. Node	Ch. Area	Co. Node	Ch. Area	Co. Node
Residential	RES1	✓		✓		✓	
	RES2	✓		✓	✓	✓	✓
	RES3			✓	✓		✓
	RES4		✓		✓		
	RES6		✓		✓		
	MHP						
Commercial	NS	✓	✓	✓	✓		✓
	UV		✓		✓		
	CBD	✓	✓	✓	✓	✓	✓
	HB	✓				✓	✓
	HC	✓	✓		✓	✓	✓
Office	BP		✓		✓		
	O&I		✓	✓	✓	✓	✓
	OR	✓	✓	✓	✓	✓	✓
	OCMS		✓	✓			
Industrial	M1	✓	✓	✓	✓	✓	✓
	M2						
	MINE						
Agricultural	A1	✓		✓		✓	✓
	AgRES	✓	✓	✓	✓	✓	✓
Mixed-use	MPD		✓		✓		✓
	MUC		✓		✓		✓
	MUR						

ZONING CATEGORIES			
Residential	Res1, Single Family	Office	BP, Business Park
	Res2, Single Family		O&I, Office and Institutional District
	Res3, Single Family		OR, Office Residential District
	Res4, Single Family		OCMS, Office Commercial Multiple Story District
	Res6, Multi-Family	Industrial	M1, Restricted Industrial District
	MHP, Manufactured Home Park		M2, Heavy Industrial District
Commercial			MINE, Mining Operations District
	NS, Neighborhood Shopping District	Agricultural	A1, Agricultural District
	UV, Urban Village District		AgRES, Agricultural Residential District
	CBD, Commercial Business District	Mixed-use	MPD, Master Planned District
	HB, Highway Business District		MU-C Mixed-use Commercial Node
	HC, Heavy Commercial District		MU-R Mixed-use Regional Node

NODE CATEGORIES

Regional Node
 Community Node
 Neighborhood Node



		North Georgia 400		Chestatee/J.E.D		Etowah		Sawnee Mountain	
		Ch. Area	Reg. Node	Ch. Area	Nb. Node	Ch. Area	Nb. Node	Ch. Area	Co. Node
Residential	RES1	✓		✓		✓		✓	
	RES2	✓		✓	✓	✓	✓	✓	
	RES3	✓	✓		✓		✓		✓
	RES4		✓						
	RES6		✓						
	MHP			✓		✓			
Commercial	NS	✓	✓				✓		
	UV	✓	✓						
	CBD	✓	✓	✓	✓	✓	✓	✓	✓
	HB			✓	✓	✓	✓	✓	
	HC	✓	✓	✓	✓	✓	✓	✓	✓
Office	BP	✓	✓						
	O&I	✓	✓		✓		✓		✓
	OR	✓	✓	✓	✓	✓	✓	✓	✓
	OCMS		✓						
Industrial	M1	✓	✓		✓	✓	✓	✓	✓
	M2	✓	✓			✓		✓	
	MINE					✓		✓	
Agricultural	A1	✓		✓	✓	✓	✓	✓	✓
	AgRES	✓	✓	✓	✓	✓	✓	✓	✓
Mixed-use	MPD		✓		✓		✓		✓
	MU-C								✓
	MU-R		✓						

ZONING CATEGORIES			
Residential	Res1, Single Family	Office	BP, Business Park
	Res2, Single Family		O&I, Office and Institutional District
	Res3, Single Family		OR, Office Residential District
	Res4, Single Family		OCMS, Office Commercial Multiple Story District
	Res6, Multi-Family	Industrial	M1, Restricted Industrial District
	MHP, Manufactured Home Park		M2, Heavy Industrial District
Commercial			MINE, Mining Operations District
	NS, Neighborhood Shopping District	Agricultural	A1, Agricultural District
	UV, Urban Village District		AgRES, Agricultural Residential District
	CBD, Commercial Business District	Mixed-use	MPD, Master Planned District
	HB, Highway Business District		MU-C Mixed-use Commercial Node
	HC, Heavy Commercial District		MU-R Mixed-use Regional Node

NODE CATEGORIES

Regional Node
 Community Node
 Neighborhood Node

GRTA Letter of Understanding



LETTER OF UNDERSTANDING

July 12, 2022

J.R. Crowe
Toll Brothers
2400 Lakeview Parkway, Suite 650
Alpharetta, GA 30009

RE: **Coal Mountain Town Center, Mixed-Use Development (DRI#: 3718)**

Dear J.R. Crowe:

The purpose of this Letter of Understanding is to document the discussions during the Methodology Meeting held virtually on June 13, 2022 regarding **Coal Mountain Town Center, Mixed-Use Development**, 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 the northeast of SR 9 (Dahlonega Highway) and SR 369 (Browns Bridge Road). In general, it will be located to the west of GA 400.
- The proposed development includes 278 units of single-family detached housing, 111 units of single-family attached housing, 52 senior adult housing units for memory care, 23 senior adult housing units for assisted living, 300 multifamily housing units, 22,000 square feet of office space, and 82, 500 square feet of retail space .
- The projected build-out is one phase to be completed by 2028.
- The proposed development includes (8) site accesses along SR 9, Coal Mountain Drive, SR 369 and Settingdown Road.
- The DRI trigger for this development is a rezoning.
- The vehicular trip generation is estimated to be 8,217 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. SR 9 (Dahlonega Highway) @ Martin Road
2. SR 9 (Dahlonega Highway) @ Coal Mountain Drive / Coal Mountain Connector
3. SR 9 (Dahlonega Highway) @ SR 369 (Matt Highway/Browns Bridge Road)
4. SR 9 (Dahlonega Highway) @ Spot Road
5. SR 369 (Browns Bridge Road) @ Settingdown Road
6. SR 369 (Browns Bridge Road) @ Bridgetowne Drive / Coal Mountain Connector
7. SR 369 (Browns Bridge Road) @ GA 400 southbound ramps
8. SR 369 (Browns Bridge Road) @ GA 400 northbound ramps
9. Settingdown Road @ Coal Mountain Connector
10. Settingdown Road @ Dennis C Martin Memorial Way
11. SR 369 (Matt Highway) @ Coal Mountain Drive
12. SR 369 (Matt Highway) @ Sierra Lake Drive
13. SR 369 (Matt Highway) @ N. Transportation Center Driveway

- 14. SR 369 (Matt Highway) @ Gravitt Road
- 15. Smith Lane @ Coal Mountain Drive

METHODOLOGY MEETING PACKET INPUTS & PARAMETERS

- The Site Plan shall meet all the applicable requirements in Section 7.1 of the *GRTA DRI Review Procedures*.
- All Study Network intersections shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future “no-build” conditions, and (3) future “build” conditions as specified in the *GRTA DRI Review Procedures*.
- This DRI shall be modeled and reviewed in one phase to be completed by 2028.
- The Level of Service (LOS) standard for all analysis shall be LOS D unless specified otherwise in Section 3.2.2.1. For example, a LOS E standard is allowed if the existing LOS for the intersection or approach is a LOS F.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account as required in Section 3.2.2.
- The trip generation calculations in the revised Methodology Meeting Packet shall be used in the Transportation Study. Alternative mode, mixed-use and pass-by 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 5% 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).
- COVID-19: The transportation analysis shall utilize existing turning movement count data when available during COVID. All counts older than a year shall be grown by the Background Growth Rate unless approved otherwise. If new counts are required, a control count location where existing count data is available shall be used for developing traffic growth extrapolation rates. The traffic engineer shall submit the proposed growth rates to GRTA, GDOT and local government stakeholders for input and GRTA approval before submitting the Transportation Study.
- If the *GRTA DRI Review Procedures* requires an Enhanced Focus Area for Heavy Vehicles or an Enhanced Focus Area for Dense Urban Environments, the Transportation Study shall incorporate the inputs and parameters agreed to at the Methodology Meeting and documented in the revised Methodology Meeting Packet. These inputs may include a Heavy Vehicle modeling percentages, a Heavy Vehicle route map, a pedestrian crosswalk delay adjustment and a bus blockage adjustment factor.

ADDITIONAL REQUIREMENTS

All applicable requirements of the *GRTA DRI Review Procedures* must be met for the Transportation Study to be considered complete. The *GRTA DRI Review Procedures* are located on GRTA’s DRI website:

<https://www.srta.ga.gov/programs-projects/dev-of-regional-impact/> Contact GRTA staff if you have any questions on these requirements.

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

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

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

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

DRI REVIEW PACKAGE SUBMITTAL

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

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

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

Sincerely,

Elizabeth Davis
GRTA Senior Transit and Transportation Planner

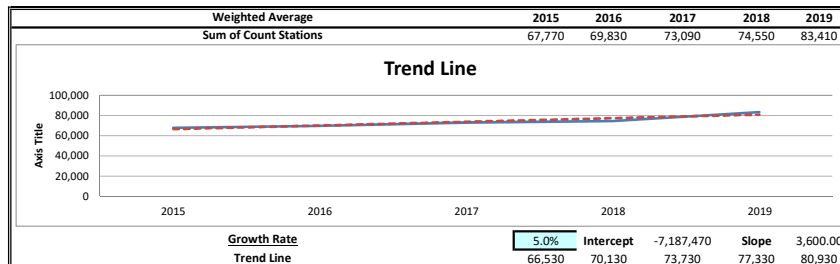
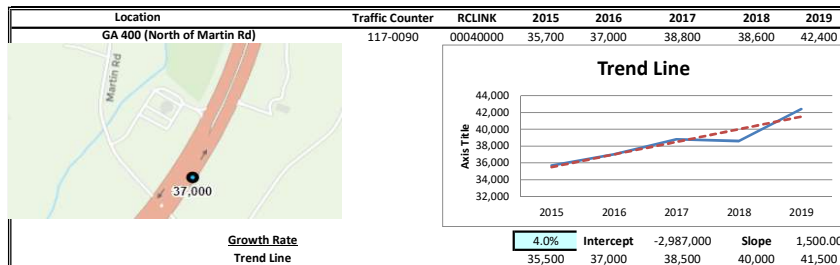
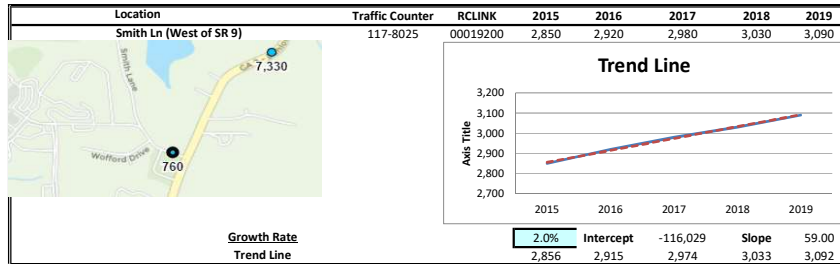
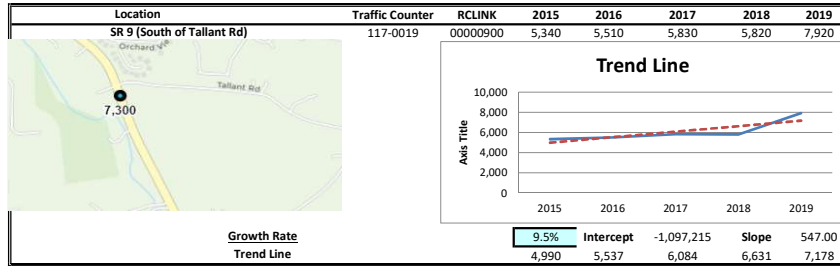
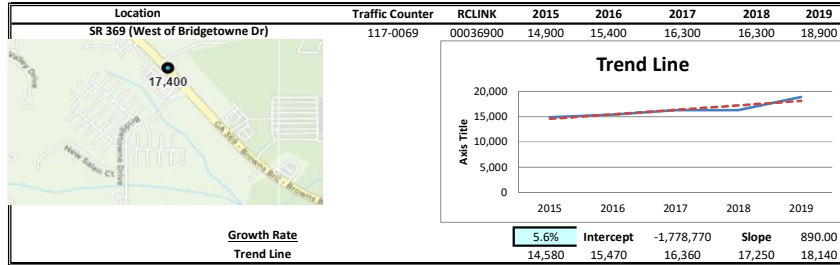
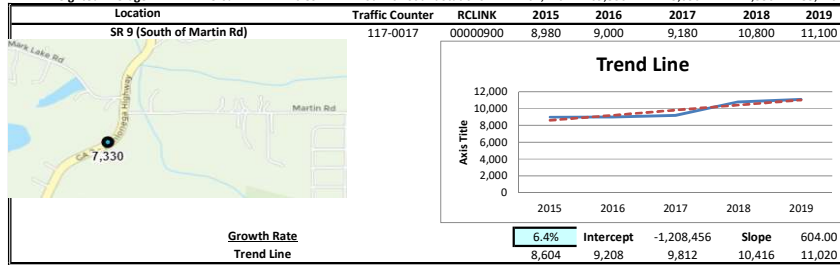
Cc:

Donald Shockey, ARC
Andrew Smith, ARC
Aries Little, ARC
Leslie D. Silas, Forsyth County
Tim L. Allen, Forsyth County
December Weir, GRTA/ATL

Christopher Light, Lipscomb & Johnson,LLP
Michael Crawford, Columbia Engineering
Chris Gallien, Columbia Engineering
Matthew Zieg, CSC
Ryan McCaffrey, Tamarack Investments

Linear Regression of Daily Traffic

Location	Growth Rate	R Squared	Station ID	Route	2015	2016	2017	2018	2019
SR 9 (South of Martin Rd)	6.4%	0.83	117-0017	00000900	8,980	9,000	9,180	10,800	11,100
SR 369 (West of Bridgetowne Dr)	5.6%	0.83	117-0069	00036900	14,900	15,400	16,300	16,300	18,900
SR 9 (South of Tallant Rd)	9.5%	0.68	117-0019	00000900	5,340	5,510	5,830	5,820	7,920
Smith Ln (West of SR 9)	2.0%	1.00	117-8025	00019200	2,850	2,920	2,980	3,030	3,090
GA 400 (North of Martin Rd)	4.0%	0.89	117-0090	00040000	35,700	37,000	38,800	38,600	42,400
Weighted Average	5.0%	0.89	Sum of Count Stations =		67,770	69,830	73,090	74,550	83,410



**Fact Sheets for Planned and Programmed
Improvements**

Short Title

SPOT ROAD CONNECTOR (NEW ALIGNMENT) FROM
INTERSECTION OF SR 306 AND SR 9 TO
INTERSECTION OF SPOT ROAD AND MCCOY CIRCLE

GDOT Project No.

N/A

Federal ID No.

N/A

Status

Long Range

Service Type

Roadway / General Purpose Capacity

Sponsor

Forsyth County

Jurisdiction

Forsyth County

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

0

LCI

☐

Planned Thru Lane

4

Flex

☐

Network Year

2040

Corridor Length

2 miles



Detailed Description and Justification

This project would connect Spot Road and SR 9 by way of a new 4 lane road extending from the intersection of Spot Road and McCoy Circle to the intersection of SR 306 and SR 9.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
ALL	Local Jurisdiction/Municipality Funds		LR 2031-2040	\$1,056,700	\$0,000	\$0,000	\$0,000	\$1,056,700
				\$1,056,700	\$0,000	\$0,000	\$0,000	\$1,056,700

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



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



Short Title

COAL MOUNTAIN CONNECTOR - NEW ALIGNMENT FROM BRIDGETOWNE DRIVE TO COAL MOUNTAIN DRIVE

GDOT Project No.

N/A

Federal ID No.

N/A

Status

Programmed

Service Type

Roadway / General Purpose Capacity

Sponsor

Forsyth County

Jurisdiction

Forsyth County

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

0

LCI

☐

Planned Thru Lane

2

Flex

☐

Network Year

2030

Corridor Length

1 miles



Detailed Description and Justification

This project will extend Coal Mountain Drive southeastward to Browns Bridge Road.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2019	\$500,000	\$0,000	\$0,000	\$0,000	\$500,000
ROW	Local Jurisdiction/Municipality Funds	AUTH	2020	\$2,000,000	\$0,000	\$0,000	\$0,000	\$2,000,000
CST	Local Jurisdiction/Municipality Funds		2021	\$6,500,000	\$0,000	\$0,000	\$0,000	\$6,500,000
				\$9,000,000	\$0,000	\$0,000	\$0,000	\$9,000,000

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



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



Existing Intersection Analysis

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	87	133	21	228	545
Future Vol, veh/h	26	87	133	21	228	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	150	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	3
Mvmt Flow	28	95	145	23	248	592
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1233	145	0	0	145	0
Stage 1	145	-	-	-	-	-
Stage 2	1088	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	197	908	-	-	1450	-
Stage 1	887	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	163	908	-	-	1450	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	887	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	14.5	0	2.4			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 163 908 1450	-	-		
HCM Lane V/C Ratio	-	- 0.173 0.104 0.171	-	-		
HCM Control Delay (s)	-	- 31.7 9.4 8	-	-		
HCM Lane LOS	-	- D A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.6 0.3 0.6	-	-		

Timings
2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr

1a. Existing 2022 AM
08/24/2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	32	42	114	540	31
Future Volume (vph)	40	32	42	114	540	31
Lane Group Flow (vph)	44	35	46	125	593	34
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases		4	6			2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	15.0	21.5	36.5	36.5
Total Split (s)	26.0	26.0	15.0	74.0	59.0	59.0
Total Split (%)	26.0%	26.0%	15.0%	74.0%	59.0%	59.0%
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	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.31	0.22	0.07	0.08	0.42	0.03
Control Delay	48.2	17.5	2.3	2.2	7.3	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	17.5	2.3	2.2	7.3	2.1
Queue Length 50th (ft)	27	0	4	12	152	0
Queue Length 95th (ft)	60	29	12	26	251	10
Internal Link Dist (ft)	652			677	500	
Turn Bay Length (ft)		445	285			190
Base Capacity (vph)	370	358	682	1541	1417	1248
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	0.12	0.10	0.07	0.08	0.42	0.03

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr

1a. Existing 2022 AM
08/24/2022



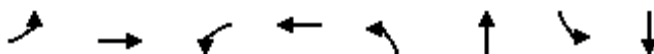
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	32	42	114	540	31
Future Volume (veh/h)	40	32	42	114	540	31
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1841	1856	1900
Adj Flow Rate, veh/h	44	35	46	125	593	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	4	3	0
Cap, veh/h	96	86	645	1540	1384	1201
Arrive On Green	0.05	0.05	0.04	0.84	0.75	0.75
Sat Flow, veh/h	1810	1610	1810	1841	1856	1610
Grp Volume(v), veh/h	44	35	46	125	593	34
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1841	1856	1610
Q Serve(g_s), s	2.4	2.1	0.5	1.2	11.9	0.5
Cycle Q Clear(g_c), s	2.4	2.1	0.5	1.2	11.9	0.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	96	86	645	1540	1384	1201
V/C Ratio(X)	0.46	0.41	0.07	0.08	0.43	0.03
Avail Cap(c_a), veh/h	371	330	752	1540	1384	1201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	45.8	3.0	1.4	4.8	3.3
Incr Delay (d2), s/veh	3.3	3.1	0.0	0.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.9	0.1	0.1	3.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.3	48.9	3.1	1.5	5.7	3.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	79			171	627	
Approach Delay, s/veh	49.1			2.0	5.6	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.1	80.1		10.8		89.2
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	53.5		20.5		68.5
Max Q Clear Time (g_c+I1), s	2.5	13.9		4.4		3.2
Green Ext Time (p_c), s	0.0	8.5		0.2		1.4
Intersection Summary						
HCM 6th Ctrl Delay			8.8			
HCM 6th LOS			A			

Timings

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

1a. Existing 2022 AM

08/24/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	388	227	382	48	270	133	498
Future Volume (vph)	20	388	227	382	48	270	133	498
Lane Group Flow (vph)	20	517	229	425	48	376	134	526
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	15.0	5.0	15.0	5.0	6.0	5.0	6.0
Minimum Split (s)	15.0	28.5	15.0	21.5	15.0	24.5	15.0	28.5
Total Split (s)	15.0	46.0	17.0	48.0	15.0	42.0	15.0	42.0
Total Split (%)	12.5%	38.3%	14.2%	40.0%	12.5%	35.0%	12.5%	35.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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	C-Min	None	None	None	None
v/c Ratio	0.07	0.81	0.79	0.55	0.31	0.77	0.50	0.93
Control Delay	17.6	46.1	39.8	29.0	25.8	48.5	29.1	64.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	46.1	39.8	29.0	25.8	48.5	29.1	64.4
Queue Length 50th (ft)	8	366	104	221	22	247	63	387
Queue Length 95th (ft)	22	#567	#212	394	46	362	106	#619
Internal Link Dist (ft)		1161		1078		3242		599
Turn Bay Length (ft)	150		160		80		90	
Base Capacity (vph)	340	639	291	775	182	535	271	571
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.81	0.79	0.55	0.26	0.70	0.49	0.92

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

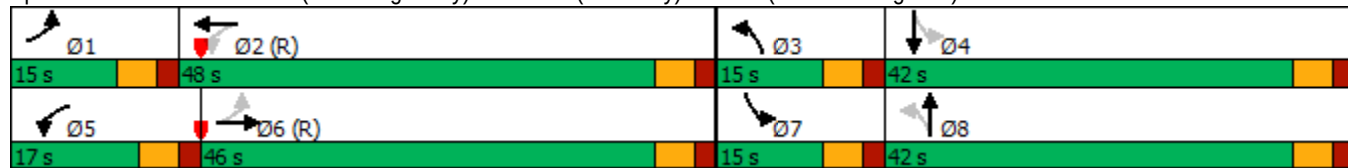
Natural Cycle: 100

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

1a. Existing 2022 AM

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

08/24/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	388	124	227	382	39	48	270	102	133	498	23
Future Volume (veh/h)	20	388	124	227	382	39	48	270	102	133	498	23
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	1470	1781	1870	1841	1722	1633	1722	1841	1752	1826	1856	1604
Adj Flow Rate, veh/h	20	392	125	229	386	39	48	273	103	134	503	23
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, %	29	8	2	4	12	18	12	4	10	5	3	20
Cap, veh/h	303	508	162	333	714	72	130	333	126	243	527	24
Arrive On Green	0.02	0.39	0.39	0.09	0.46	0.46	0.03	0.26	0.26	0.07	0.30	0.30
Sat Flow, veh/h	1400	1294	413	1753	1539	155	1640	1274	481	1739	1761	81
Grp Volume(v), veh/h	20	0	517	229	0	425	48	0	376	134	0	526
Grp Sat Flow(s),veh/h/ln	1400	0	1707	1753	0	1694	1640	0	1754	1739	0	1841
Q Serve(g_s), s	1.0	0.0	31.7	9.0	0.0	21.5	2.6	0.0	24.2	6.6	0.0	33.6
Cycle Q Clear(g_c), s	1.0	0.0	31.7	9.0	0.0	21.5	2.6	0.0	24.2	6.6	0.0	33.6
Prop In Lane	1.00		0.24	1.00		0.09	1.00		0.27	1.00		0.04
Lane Grp Cap(c), veh/h	303	0	670	333	0	786	130	0	459	243	0	551
V/C Ratio(X)	0.07	0.00	0.77	0.69	0.00	0.54	0.37	0.00	0.82	0.55	0.00	0.95
Avail Cap(c_a), veh/h	386	0	670	340	0	786	205	0	534	257	0	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	31.8	23.6	0.0	23.0	34.5	0.0	41.7	31.3	0.0	41.2
Incr Delay (d2), s/veh	0.1	0.0	8.4	5.6	0.0	2.7	1.7	0.0	8.7	2.3	0.0	26.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	14.3	4.1	0.0	9.0	1.0	0.0	11.1	2.8	0.0	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	40.2	29.2	0.0	25.7	36.2	0.0	50.3	33.6	0.0	68.1
LnGrp LOS	C	A	D	C	A	C	D	A	D	C	A	E
Approach Vol, veh/h	537				654				424			
Approach Delay, s/veh	39.5				26.9				48.7			
Approach LOS	D				C				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	61.2	9.5	41.4	16.5	52.6	14.0	36.9				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	42.5	9.5	36.5	11.5	40.5	9.5	36.5				
Max Q Clear Time (g_c+I1), s	3.0	23.5	4.6	35.6	11.0	33.7	8.6	26.2				
Green Ext Time (p_c), s	0.0	4.5	0.0	0.3	0.0	2.9	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay	43.9											
HCM 6th LOS	D											

Timings
4: SR 9 (Dahlonega Hwy) & Spot Rd

1a. Existing 2022 AM
08/24/2022



Lane Group	EBL	EBT	NBL	NBT	SBL	SBT	SBR	Ø8
Lane Configurations								
Traffic Volume (vph)	97	2	113	324	1	732	109	
Future Volume (vph)	97	2	113	324	1	732	109	
Lane Group Flow (vph)	100	258	116	334	1	755	112	
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4	1	6		2		8
Permitted Phases	4		6		2		2	
Detector Phase	4	4	1	6	2	2	2	
Switch Phase								
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0	15.0	6.0
Minimum Split (s)	27.5	27.5	15.0	28.5	27.5	27.5	27.5	29.5
Total Split (s)	29.5	29.5	15.0	70.5	55.5	55.5	55.5	29.5
Total Split (%)	29.5%	29.5%	15.0%	70.5%	55.5%	55.5%	55.5%	30%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag			Lead		Lag	Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio	0.59	0.61	0.27	0.24	0.00	0.64	0.11	
Control Delay	54.1	11.6	5.3	4.4	9.0	16.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.1	11.6	5.3	4.4	9.0	16.0	3.4	
Queue Length 50th (ft)	61	1	15	51	0	276	6	
Queue Length 95th (ft)	108	68	37	101	3	487	31	
Internal Link Dist (ft)		691		1006		547		
Turn Bay Length (ft)	250		130		150		130	
Base Capacity (vph)	319	571	445	1392	667	1171	999	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.31	0.45	0.26	0.24	0.00	0.64	0.11	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



HCM 6th Signalized Intersection Summary 4: SR 9 (Dahlonega Hwy) & Spot Rd

1a. Existing 2022 AM
08/24/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	2	248	0	0	0	113	324	0	1	732	109
Future Volume (veh/h)	97	2	248	0	0	0	113	324	0	1	732	109
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	1781	1900	1856	1900	1900	1900	1841	1841	1900	1900	1870	1826
Adj Flow Rate, veh/h	100	2	256	0	0	0	116	334	0	1	755	112
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	0	3	0	0	0	4	4	0	0	2	5
Cap, veh/h	385	2	295	0	350	0	366	1299	0	712	1127	932
Arrive On Green	0.18	0.18	0.18	0.00	0.00	0.00	0.05	0.71	0.00	0.60	0.60	0.60
Sat Flow, veh/h	1697	12	1600	0	1900	0	1753	1841	0	1063	1870	1547
Grp Volume(v), veh/h	100	0	258	0	0	0	116	334	0	1	755	112
Grp Sat Flow(s),veh/h/ln	1697	0	1612	0	1900	0	1753	1841	0	1063	1870	1547
Q Serve(g_s), s	5.1	0.0	15.5	0.0	0.0	0.0	2.3	6.5	0.0	0.0	26.9	3.1
Cycle Q Clear(g_c), s	5.1	0.0	15.5	0.0	0.0	0.0	2.3	6.5	0.0	0.0	26.9	3.1
Prop In Lane	1.00		0.99	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	385	0	297	0	350	0	366	1299	0	712	1127	932
V/C Ratio(X)	0.26	0.00	0.87	0.00	0.00	0.00	0.32	0.26	0.00	0.00	0.67	0.12
Avail Cap(c_a), veh/h	479	0	387	0	456	0	448	1299	0	712	1127	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	39.6	0.0	0.0	0.0	10.9	5.3	0.0	7.9	13.2	8.5
Incr Delay (d2), s/veh	0.4	0.0	15.1	0.0	0.0	0.0	0.5	0.5	0.0	0.0	3.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	7.0	0.0	0.0	0.0	0.7	1.9	0.0	0.0	9.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	0.0	54.7	0.0	0.0	0.0	11.4	5.8	0.0	7.9	16.4	8.8
LnGrp LOS	D	A	D	A	A	A	B	A	A	A	B	A
Approach Vol, veh/h	358			0			450			868		
Approach Delay, s/veh	49.4			0.0			7.2			15.4		
Approach LOS	D						A			B		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	10.3	65.8	23.9		76.1		23.9					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	9.5	50.0	24.0		65.0		24.0					
Max Q Clear Time (g_c+I1), s	4.3	28.9	17.5		8.5		0.0					
Green Ext Time (p_c), s	0.1	9.6	0.9		4.0		0.0					
Intersection Summary												
HCM 6th Ctrl Delay				20.5								
HCM 6th LOS				C								

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	253	606	482	220	53	95
Future Vol, veh/h	253	606	482	220	53	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	105	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	7	16	0	0	0
Mvmt Flow	258	618	492	224	54	97

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	492	0	0 1626 492
Stage 1	-	-	- 492 -
Stage 2	-	-	- 1134 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1082	-	- 114 581
Stage 1	-	-	- 619 -
Stage 2	-	-	- 310 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1082	-	- 87 581
Mov Cap-2 Maneuver	-	-	- 87 -
Stage 1	-	-	- 472 -
Stage 2	-	-	- 310 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	43.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1082	-	-	-	87	581
HCM Lane V/C Ratio	0.239	-	-	-	0.622	0.167
HCM Control Delay (s)	9.4	-	-	-	98.4	12.4
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.9	-	-	-	2.9	0.6

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	638	1	6	385	1	23
Future Vol, veh/h	638	1	6	385	1	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	200	200	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	0	0	15	0	5
Mvmt Flow	709	1	7	428	1	26
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	709	0	1151	709
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	442	-
Critical Hdwy	-	-	4.1	-	6.4	6.25
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.345
Pot Cap-1 Maneuver	-	-	899	-	221	429
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	899	-	219	429
Mov Cap-2 Maneuver	-	-	-	-	219	-
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	647	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.1		14.2	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	219	429	-	-	899	-
HCM Lane V/C Ratio	0.005	0.06	-	-	0.007	-
HCM Control Delay (s)	21.5	13.9	-	-	9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	163	611	393	51	3	92
Future Vol, veh/h	163	611	393	51	3	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	7	16	14	0	0
Mvmt Flow	177	664	427	55	3	100
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	427	0	-	0	1445	427
Stage 1	-	-	-	-	427	-
Stage 2	-	-	-	-	1018	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1143	-	-	-	147	632
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	352	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1143	-	-	-	124	632
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	352	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.8	0		12.5		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1143	-	-	-	124	632
HCM Lane V/C Ratio	0.155	-	-	-	0.026	0.158
HCM Control Delay (s)	8.7	-	-	-	34.8	11.8
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile O(veh)	0.5	-	-	-	0.1	0.6

Intersection							
Int Delay, s/veh	1.2						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Vol, veh/h	605	207	30	388	21	47	
Future Vol, veh/h	605	207	30	388	21	47	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	220	-	150	0	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	91	91	91	91	91	91	
Heavy Vehicles, %	7	0	0	17	0	0	
Mvmt Flow	665	227	33	426	23	52	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	892	0	1271	779	
Stage 1	-	-	-	-	779	-	
Stage 2	-	-	-	-	492	-	
Critical Hdwy	-	-	4.1	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	5.4	-	
Follow-up Hdwy	-	-	2.2	-	3.5	3.3	
Pot Cap-1 Maneuver	-	-	769	-	187	399	
Stage 1	-	-	-	-	456	-	
Stage 2	-	-	-	-	619	-	
Platoon blocked, %	-	-		-			
Mov Cap-1 Maneuver	-	-	769	-	179	399	
Mov Cap-2 Maneuver	-	-	-	-	179	-	
Stage 1	-	-	-	-	456	-	
Stage 2	-	-	-	-	592	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.7		19.3		
HCM LOS	C						
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	179		399	-	-	769	-
HCM Lane V/C Ratio	0.129		0.129	-	-	0.043	-
HCM Control Delay (s)	28.1		15.4	-	-	9.9	-
HCM Lane LOS	D		C	-	-	A	-
HCM 95th %tile O(veh)	0.4		0.4	-	-	0.1	-

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	447	421	35	36	138
Future Vol, veh/h	92	447	421	35	36	138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	8	11	11	3	6
Mvmt Flow	99	481	453	38	39	148
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	491	0	-	0	1151	472
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	4.15	-	-	-	6.43	6.26
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.245	-	-	-	3.527	3.354
Pot Cap-1 Maneuver	1057	-	-	-	218	584
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1057	-	-	-	198	584
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	502	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.5	0		20.5		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1057	-	-	-	416	
HCM Lane V/C Ratio	0.094	-	-	-	0.45	
HCM Control Delay (s)	8.8	-	-	-	20.5	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile O(veh)	0.3	-	-	-	2.3	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	474	12	36	421	32	154
Future Vol, veh/h	474	12	36	421	32	154
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	185	235	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	0	3	12	0	0
Mvmt Flow	499	13	38	443	34	162
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	499	0	1018	499
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1060	-	265	576
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	601	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1060	-	255	576
Mov Cap-2 Maneuver	-	-	-	-	255	-
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	579	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.7		15	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	255	576	-	-	1060	-
HCM Lane V/C Ratio	0.132	0.281	-	-	0.036	-
HCM Control Delay (s)	21.3	13.7	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile O(veh)	0.4	1.1	-	-	0.1	-

Timings
11: GA 400/US 19 & SR 369 (Browns Bridge Rd)

1a. Existing 2022 AM
08/24/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	36	170	82	232	229	930	91	22	1879	54
Future Volume (vph)	36	170	82	232	229	930	91	22	1879	54
Lane Group Flow (vph)	39	565	89	289	249	1011	99	24	2042	59
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases							6			2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	21.5	15.0	21.5	15.0	21.5	21.5	15.0	21.5	21.5
Total Split (s)	15.0	27.2	15.0	27.2	17.0	92.8	92.8	15.0	90.8	90.8
Total Split (%)	10.0%	18.1%	10.0%	18.1%	11.3%	61.9%	61.9%	10.0%	60.5%	60.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.46	1.17dr	0.82	0.54	1.00	0.47	0.11	0.30	1.01	0.07
Control Delay	85.7	97.2	117.6	60.7	123.7	16.7	2.6	77.6	55.9	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	97.2	117.6	60.7	123.7	16.7	2.6	77.6	55.9	0.6
Queue Length 50th (ft)	38	~257	88	137	127	288	0	23	~1105	0
Queue Length 95th (ft)	79	#382	#192	190	#222	355	26	55	#1236	5
Internal Link Dist (ft)		2038		863		1371			1562	
Turn Bay Length (ft)	255		175		150		410	1000		500
Base Capacity (vph)	97	543	108	536	250	2129	938	100	2012	840
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	1.04	0.82	0.54	1.00	0.47	0.11	0.24	1.01	0.07

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 150

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

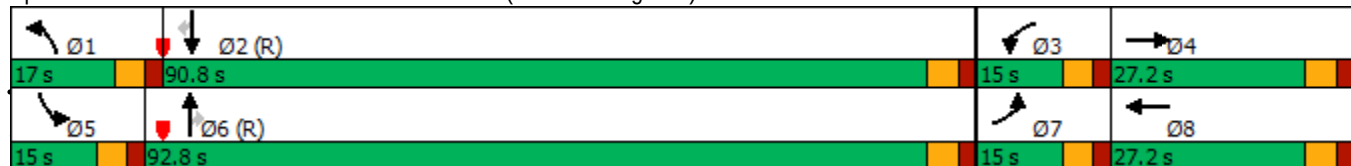
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 11: GA 400/US 19 & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary
11: GA 400/US 19 & SR 369 (Browns Bridge Rd)

1a. Existing 2022 AM
08/24/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	170	350	82	232	34	229	930	91	22	1879	54
Future Volume (veh/h)	36	170	350	82	232	34	229	930	91	22	1879	54
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	1648	1737	1826	1826	1707	1811	1796	1811	1722	1693	1870	1678
Adj Flow Rate, veh/h	39	185	0	89	252	0	249	1011	0	24	2042	59
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, %	17	11	5	5	13	6	7	6	12	14	2	15
Cap, veh/h	48	242		108	341		254	2397		34	2278	911
Arrive On Green	0.03	0.07	0.00	0.06	0.11	0.00	0.08	0.70	0.00	0.02	0.64	0.64
Sat Flow, veh/h	1570	3387	0	1739	3329	0	3319	3441	1459	1612	3554	1422
Grp Volume(v), veh/h	39	185	0	89	252	0	249	1011	0	24	2042	59
Grp Sat Flow(s),veh/h/ln	1570	1650	0	1739	1622	0	1659	1721	1459	1612	1777	1422
Q Serve(g_s), s	3.7	8.3	0.0	7.6	11.3	0.0	11.2	18.9	0.0	2.2	72.7	2.3
Cycle Q Clear(g_c), s	3.7	8.3	0.0	7.6	11.3	0.0	11.2	18.9	0.0	2.2	72.7	2.3
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	242		108	341		254	2397		34	2278	911
V/C Ratio(X)	0.81	0.76		0.82	0.74		0.98	0.42		0.71	0.90	0.06
Avail Cap(c_a), veh/h	99	477		110	469		254	2397		102	2278	911
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	1.00
Uniform Delay (d), s/veh	72.3	68.2	0.0	69.5	65.1	0.0	69.1	9.8	0.0	73.0	22.7	10.1
Incr Delay (d2), s/veh	26.5	5.0	0.0	36.6	4.0	0.0	50.3	0.5	0.0	23.4	6.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.6	0.0	4.5	4.9	0.0	6.4	6.4	0.0	1.1	28.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.8	73.2	0.0	106.1	69.1	0.0	119.4	10.3	0.0	96.4	28.8	10.2
LnGrp LOS	F	E		F	E		F	B		F	C	B
Approach Vol, veh/h	224				341				1260			
Approach Delay, s/veh	77.7				78.8				31.9			
Approach LOS	E				E				C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	101.7	14.9	16.5	8.7	110.0	10.1	21.3				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	11.5	85.3	9.5	21.7	9.5	87.3	9.5	21.7				
Max Q Clear Time (g_c+I1), s	13.2	74.7	9.6	10.3	4.2	20.9	5.7	13.3				
Green Ext Time (p_c), s	0.0	10.0	0.0	0.7	0.0	17.8	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay 37.0
HCM 6th LOS D

Notes

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

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	98	24	14	166	20	8
Future Vol, veh/h	98	24	14	166	20	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	126	31	18	213	26	10
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	375	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	249	-
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	-	-	1460	-	626	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1460	-	618	924
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	782	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		10.5	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	618	924	-	-	1460	-
HCM Lane V/C Ratio	0.041	0.011	-	-	0.012	-
HCM Control Delay (s)	11.1	8.9	-	-	7.5	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile O(veh)	0.1	0	-	-	0	-

Intersection						
Int Delay, s/veh	5.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	230	553	36	104	316
Future Vol, veh/h	54	230	553	36	104	316
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	150	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	58	247	595	39	112	340
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1159	595	0	0	595	0
Stage 1	595	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	218	508	-	-	991	-
Stage 1	555	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	193	508	-	-	991	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	21.1	0	2.3			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 193 508	991	-		
HCM Lane V/C Ratio	-	- 0.301 0.487	0.113	-		
HCM Control Delay (s)	-	- 31.5 18.6	9.1	-		
HCM Lane LOS	-	- D C	A	-		
HCM 95th %tile Q(veh)	-	- 1.2 2.6	0.4	-		

Timings
2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr

1b. Existing 2022 PM
08/24/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	66	38	14	537	284	76
Future Volume (vph)	66	38	14	537	284	76
Lane Group Flow (vph)	69	40	15	565	299	80
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases		4	6			2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	15.0	21.5	36.5	36.5
Total Split (s)	30.0	30.0	18.0	70.0	52.0	52.0
Total Split (%)	30.0%	30.0%	18.0%	70.0%	52.0%	52.0%
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	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.41	0.22	0.02	0.36	0.21	0.06
Control Delay	49.5	15.7	2.6	3.7	5.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	15.7	2.6	3.7	5.2	1.6
Queue Length 50th (ft)	42	0	2	80	35	0
Queue Length 95th (ft)	83	30	6	143	114	15
Internal Link Dist (ft)	652			677	500	
Turn Bay Length (ft)		445	285			190
Base Capacity (vph)	442	425	935	1564	1445	1282
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	0.16	0.09	0.02	0.36	0.21	0.06

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr

1b. Existing 2022 PM

08/24/2022



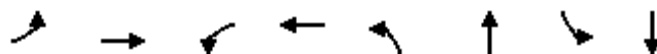
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	66	38	14	537	284	76
Future Volume (veh/h)	66	38	14	537	284	76
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1885	1856	1900
Adj Flow Rate, veh/h	69	40	15	565	299	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	1	3	0
Cap, veh/h	103	92	832	1570	1412	1225
Arrive On Green	0.06	0.06	0.02	0.83	0.76	0.76
Sat Flow, veh/h	1810	1610	1810	1885	1856	1610
Grp Volume(v), veh/h	69	40	15	565	299	80
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1885	1856	1610
Q Serve(g_s), s	3.7	2.4	0.2	7.2	4.6	1.3
Cycle Q Clear(g_c), s	3.7	2.4	0.2	7.2	4.6	1.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	103	92	832	1570	1412	1225
V/C Ratio(X)	0.67	0.44	0.02	0.36	0.21	0.07
Avail Cap(c_a), veh/h	443	394	1027	1570	1412	1225
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	45.6	2.3	2.0	3.4	3.0
Incr Delay (d2), s/veh	7.2	3.2	0.0	0.6	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.0	0.0	1.0	1.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.4	48.8	2.3	2.6	3.8	3.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	109			580	379	
Approach Delay, s/veh	51.7			2.6	3.6	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.2	81.6		11.2		88.8
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	12.5	46.5		24.5		64.5
Max Q Clear Time (g_c+I1), s	2.2	6.6		5.7		9.2
Green Ext Time (p_c), s	0.0	4.1		0.3		8.1
Intersection Summary						
HCM 6th Ctrl Delay			8.0			
HCM 6th LOS			A			

Timings

1b. Existing 2022 PM

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

08/24/2022



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	34	525	183	637	76	530	111	311
Future Volume (vph)	34	525	183	637	76	530	111	311
Lane Group Flow (vph)	35	651	191	682	79	622	116	343
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	15.0	5.0	15.0	5.0	6.0	5.0	6.0
Minimum Split (s)	15.0	28.5	15.0	21.5	15.0	24.5	15.0	28.5
Total Split (s)	15.0	47.4	15.0	47.4	15.0	42.6	15.0	42.6
Total Split (%)	12.5%	39.5%	12.5%	39.5%	12.5%	35.5%	12.5%	35.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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	C-Min	None	None	None	None
v/c Ratio	0.23	1.02	0.96	0.89	0.24	1.07	0.59	0.56
Control Delay	21.1	79.4	83.7	50.2	22.3	98.5	35.5	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	79.4	83.7	50.2	22.3	98.5	35.5	37.8
Queue Length 50th (ft)	14	~530	99	518	36	~537	53	222
Queue Length 95th (ft)	33	#763	#254	#796	67	#767	102	327
Internal Link Dist (ft)		1161		1078		3242		599
Turn Bay Length (ft)	150		160		80		90	
Base Capacity (vph)	184	638	199	763	349	579	201	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	1.02	0.96	0.89	0.23	1.07	0.58	0.56

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 150

Control Type: Actuated-Coordinated

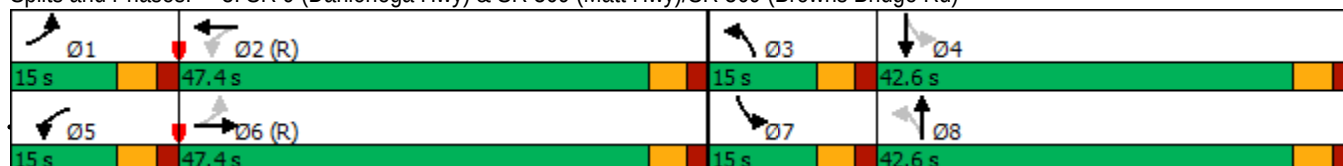
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

1b. Existing 2022 PM

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

08/24/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	525	100	183	637	17	76	530	67	111	311	18
Future Volume (veh/h)	34	525	100	183	637	17	76	530	67	111	311	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1707	1870	1841	1856	1885	1707	1781	1885	1856	1885	1856	1292
Adj Flow Rate, veh/h	35	547	104	191	664	18	79	552	70	116	324	19
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, %	13	2	4	3	1	13	8	1	3	1	3	41
Cap, veh/h	167	564	107	213	766	21	303	507	64	167	561	33
Arrive On Green	0.03	0.37	0.37	0.08	0.42	0.42	0.05	0.31	0.31	0.06	0.32	0.32
Sat Flow, veh/h	1626	1528	290	1767	1827	50	1697	1640	208	1795	1735	102
Grp Volume(v), veh/h	35	0	651	191	0	682	79	0	622	116	0	343
Grp Sat Flow(s),veh/h/ln	1626	0	1818	1767	0	1876	1697	0	1848	1795	0	1837
Q Serve(g_s), s	1.6	0.0	42.2	7.8	0.0	39.8	3.8	0.0	37.1	5.2	0.0	18.6
Cycle Q Clear(g_c), s	1.6	0.0	42.2	7.8	0.0	39.8	3.8	0.0	37.1	5.2	0.0	18.6
Prop In Lane	1.00		0.16	1.00		0.03	1.00		0.11	1.00		0.06
Lane Grp Cap(c), veh/h	167	0	671	213	0	787	303	0	571	167	0	594
V/C Ratio(X)	0.21	0.00	0.97	0.90	0.00	0.87	0.26	0.00	1.09	0.70	0.00	0.58
Avail Cap(c_a), veh/h	250	0	671	213	0	787	361	0	571	202	0	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	37.2	28.3	0.0	31.8	27.5	0.0	41.5	31.3	0.0	33.8
Incr Delay (d2), s/veh	0.6	0.0	28.3	35.1	0.0	12.3	0.5	0.0	64.1	7.8	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	23.5	5.2	0.0	20.1	1.5	0.0	26.1	2.5	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	65.5	63.4	0.0	44.1	28.0	0.0	105.5	39.1	0.0	35.1
LnGrp LOS	C	A	E	E	A	D	C	A	F	D	A	D
Approach Vol, veh/h	686			873			701			459		
Approach Delay, s/veh	63.6			48.3			96.8			36.1		
Approach LOS	E			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	55.8	10.9	44.3	15.0	49.8	12.6	42.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	41.9	9.5	37.1	9.5	41.9	9.5	37.1				
Max Q Clear Time (g_c+I1), s	3.6	41.8	5.8	20.6	9.8	44.2	7.2	39.1				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.6	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	62.6											
HCM 6th LOS	E											

Timings
4: SR 9 (Dahlonega Hwy) & Spot Rd

1b. Existing 2022 PM
08/24/2022



Lane Group	EBL	EBT	WBT	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	93	1	1	309	472	491	134
Future Volume (vph)	93	1	1	309	472	491	134
Lane Group Flow (vph)	98	155	1	325	497	517	141
Turn Type	Perm	NA	NA	pm+pt	NA	NA	Perm
Protected Phases		4	8	1	6	2	
Permitted Phases	4			6			2
Detector Phase	4	4	8	1	6	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	27.5	27.5	29.5	15.0	28.5	27.5	27.5
Total Split (s)	29.5	29.5	29.5	23.0	70.5	47.5	47.5
Total Split (%)	29.5%	29.5%	29.5%	23.0%	70.5%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.57	0.47	0.00	0.50	0.35	0.49	0.15
Control Delay	53.5	11.1	35.0	6.7	5.0	16.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	11.1	35.0	6.7	5.0	16.0	4.5
Queue Length 50th (ft)	60	1	1	48	82	185	10
Queue Length 95th (ft)	107	54	5	97	157	324	43
Internal Link Dist (ft)		691	125		1006	547	
Turn Bay Length (ft)	250			130			130
Base Capacity (vph)	331	501	456	687	1427	1056	950
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.31	0.00	0.47	0.35	0.49	0.15

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



HCM 6th Signalized Intersection Summary
4: SR 9 (Dahlonega Hwy) & Spot Rd

1b. Existing 2022 PM

08/24/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	1	146	0	1	0	309	472	0	0	491	134
Future Volume (veh/h)	93	1	146	0	1	0	309	472	0	0	491	134
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	1841	1900	1885	1900	1900	1900	1870	1870	1900	1900	1856	1870
Adj Flow Rate, veh/h	98	1	154	0	1	0	325	497	0	0	517	141
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, %	4	0	1	0	0	0	2	2	0	0	3	2
Cap, veh/h	241	1	195	0	231	0	600	1437	0	72	1164	995
Arrive On Green	0.12	0.12	0.12	0.00	0.12	0.00	0.09	0.77	0.00	0.00	0.63	0.63
Sat Flow, veh/h	1394	10	1601	0	1900	0	1781	1870	0	915	1856	1585
Grp Volume(v), veh/h	98	0	155	0	1	0	325	497	0	0	517	141
Grp Sat Flow(s),veh/h/ln	1394	0	1612	0	1900	0	1781	1870	0	915	1856	1585
Q Serve(g_s), s	6.6	0.0	9.3	0.0	0.0	0.0	5.9	8.4	0.0	0.0	14.4	3.6
Cycle Q Clear(g_c), s	6.7	0.0	9.3	0.0	0.0	0.0	5.9	8.4	0.0	0.0	14.4	3.6
Prop In Lane	1.00		0.99	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	0	196	0	231	0	600	1437	0	72	1164	995
V/C Ratio(X)	0.41	0.00	0.79	0.00	0.00	0.00	0.54	0.35	0.00	0.00	0.44	0.14
Avail Cap(c_a), veh/h	406	0	387	0	456	0	759	1437	0	72	1164	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	0.0	42.7	0.0	38.6	0.0	6.7	3.7	0.0	0.0	9.6	7.6
Incr Delay (d2), s/veh	1.1	0.0	7.0	0.0	0.0	0.0	0.8	0.7	0.0	0.0	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	3.9	0.0	0.0	0.0	1.5	1.9	0.0	0.0	4.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.0	49.7	0.0	38.6	0.0	7.4	4.3	0.0	0.0	10.8	7.9
LnGrp LOS	D	A	D	A	D	A	A	A	A	A	B	A
Approach Vol, veh/h	253			1			822			658		
Approach Delay, s/veh	46.9			38.6			5.5			10.2		
Approach LOS	D			D			A			B		
Timer - Assigned Phs	1	2	4			6		8				
Phs Duration (G+Y+Rc), s	14.1	68.2	17.7			82.3		17.7				
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5		5.5				
Max Green Setting (Gmax), s	17.5	42.0	24.0			65.0		24.0				
Max Q Clear Time (g_c+I1), s	7.9	16.4	11.3			10.4		2.0				
Green Ext Time (p_c), s	0.6	7.0	0.8			6.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	13.4											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	779	746	32	17	58
Future Vol, veh/h	106	779	746	32	17	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	105	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	4	0	0	0
Mvmt Flow	112	820	785	34	18	61
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	785	0	-	0	1829	785
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	1044	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	843	-	-	-	85	396
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	342	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	843	-	-	-	74	396
Mov Cap-2 Maneuver	-	-	-	-	74	-
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	342	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		27.7		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	843	-	-	-	74	396
HCM Lane V/C Ratio	0.132	-	-	-	0.242	0.154
HCM Control Delay (s)	9.9	-	-	-	68.5	15.7
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile O(veh)	0.5	-	-	-	0.9	0.5

Intersection							
Int Delay, s/veh	0.2						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑	↗	↖	↑	↖	↗	
Traffic Vol, veh/h	657	5	8	639	0	15	
Future Vol, veh/h	657	5	8	639	0	15	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	Yield	-	None	-	Yield	
Storage Length	-	200	200	-	0	100	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	0	0	2	0	0	
Mvmt Flow	699	5	9	680	0	16	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	699	0	1397	699	
Stage 1	-	-	-	-	699	-	
Stage 2	-	-	-	-	698	-	
Critical Hdwy	-	-	4.1	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	5.4	-	
Follow-up Hdwy	-	-	2.2	-	3.5	3.3	
Pot Cap-1 Maneuver	-	-	907	-	157	443	
Stage 1	-	-	-	-	497	-	
Stage 2	-	-	-	-	497	-	
Platoon blocked, %	-	-		-			
Mov Cap-1 Maneuver	-	-	907	-	155	443	
Mov Cap-2 Maneuver	-	-	-	-	155	-	
Stage 1	-	-	-	-	497	-	
Stage 2	-	-	-	-	492	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.1		13.4		
HCM LOS	B						
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-		443	-	-	907	-
HCM Lane V/C Ratio	-		0.036	-	-	0.009	-
HCM Control Delay (s)	0		13.4	-	-	9	-
HCM Lane LOS	A		B	-	-	A	-
HCM 95th %tile O(veh)	-		0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	725	700	12	2	64
Future Vol, veh/h	35	725	700	12	2	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	36	747	722	12	2	66
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	722	0	-	0	1541	722
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	819	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	889	-	-	-	128	430
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	437	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	889	-	-	-	123	430
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	437	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.4	0		15.5		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	889	-	-	-	123	430
HCM Lane V/C Ratio	0.041	-	-	-	0.017	0.153
HCM Control Delay (s)	9.2	-	-	-	34.8	14.9
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile O(veh)	0.1	-	-	-	0.1	0.5

Intersection						
Int Delay, s/veh	9.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	589	53	27	621	139	81
Future Vol, veh/h	589	53	27	621	139	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	220	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	0	0	2	0	0
Mvmt Flow	607	55	28	640	143	84
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	662	0	1331	635
Stage 1	-	-	-	-	635	-
Stage 2	-	-	-	-	696	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	936	-	172	482
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	498	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	936	-	167	482
Mov Cap-2 Maneuver	-	-	-	-	167	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	483	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.4		62.8	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	167	482	-	-	936	-
HCM Lane V/C Ratio	0.858	0.173	-	-	0.03	-
HCM Control Delay (s)	91.3	14	-	-	9	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile O(veh)	6	0.6	-	-	0.1	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	102	565	711	101	13	84
Future Vol, veh/h	102	565	711	101	13	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	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	0	0	1
Mvmt Flow	111	614	773	110	14	91
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	883	0	-	0	1664	828
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	836	-
Critical Hdwy	4.12	-	-	-	6.4	6.21
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.309
Pot Cap-1 Maneuver	766	-	-	-	108	373
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	429	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	766	-	-	-	92	373
Mov Cap-2 Maneuver	-	-	-	-	92	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	429	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.6	0		27.3		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	766	-	-	-	265	
HCM Lane V/C Ratio	0.145	-	-	-	0.398	
HCM Control Delay (s)	10.5	-	-	-	27.3	
HCM Lane LOS	B	-	-	-	D	
HCM 95th %tile O(veh)	0.5	-	-	-	1.8	

Intersection

Int Delay, s/veh 4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	535	46	217	776	34	131
Future Vol, veh/h	535	46	217	776	34	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	185	235	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	569	49	231	826	36	139

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	569
Stage 1	-	-	569
Stage 2	-	-	1288
Critical Hdwy	-	4.1	6.2
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.3
Pot Cap-1 Maneuver	-	1013	82
Stage 1	-	-	570
Stage 2	-	-	261
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1013	63
Mov Cap-2 Maneuver	-	-	63
Stage 1	-	-	570
Stage 2	-	-	201

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	36.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	63	525	-	-	1013	-
HCM Lane V/C Ratio	0.574	0.265	-	-	0.228	-
HCM Control Delay (s)	121.1	14.3	-	-	9.6	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	2.4	1.1	-	-	0.9	-

Timings
11: GA 400/US 19 & SR 369 (Browns Bridge Rd)

1b. Existing 2022 PM

08/24/2022

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	101	241	90	272	765	2310	122	47	1082	84
Future Volume (vph)	101	241	90	272	765	2310	122	47	1082	84
Lane Group Flow (vph)	102	532	91	337	773	2333	123	47	1093	85
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases							6			2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	15.0	21.5	15.0	21.5	15.0	21.5	21.5	15.0	21.5	21.5
Total Split (s)	15.0	22.2	15.0	22.2	43.0	97.8	97.8	15.0	69.8	69.8
Total Split (%)	10.0%	14.8%	10.0%	14.8%	28.7%	65.2%	65.2%	10.0%	46.5%	46.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.94	1.05	0.83	0.86	0.93	1.02	0.12	0.49	0.71	0.11
Control Delay	140.8	97.5	117.1	83.2	73.1	52.9	2.9	85.8	37.7	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	140.8	97.5	117.1	83.2	73.1	52.9	2.9	85.8	37.7	0.6
Queue Length 50th (ft)	101	~218	90	165	379	~1316	5	45	460	0
Queue Length 95th (ft)	#224	#342	#194	#250	#484	#1441	31	91	544	3
Internal Link Dist (ft)		2038		863		1371			1562	
Turn Bay Length (ft)	255		175		150		410	1000		500
Base Capacity (vph)	108	505	110	393	866	2277	1058	107	1549	770
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.05	0.83	0.86	0.89	1.02	0.12	0.44	0.71	0.11

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

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

Natural Cycle: 150

Control Type: Actuated-Coordinated

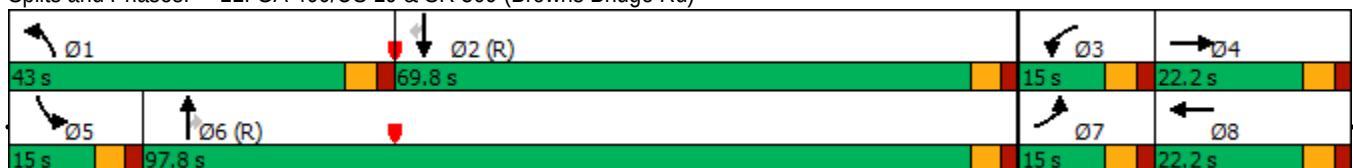
~ Volume exceeds capacity, queue is theoretically infinite.

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: 11: GA 400/US 19 & SR 369 (Browns Bridge Rd)



Coal Mountain Town Center (DRI #3718)

HCM 6th Signalized Intersection Summary
11: GA 400/US 19 & SR 369 (Browns Bridge Rd)

1b. Existing 2022 PM
08/24/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	241	286	90	272	61	765	2310	122	47	1082	84
Future Volume (veh/h)	101	241	286	90	272	61	765	2310	122	47	1082	84
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	1826	1841	1885	1856	1856	1870	1885	1885	1885	1811	1870	1870
Adj Flow Rate, veh/h	102	243	0	91	275	0	773	2333	0	47	1093	85
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, %	5	4	1	3	3	2	1	1	1	6	2	2
Cap, veh/h	110	328		111	328		826	2371		60	1634	729
Arrive On Green	0.06	0.09	0.00	0.06	0.09	0.00	0.24	0.66	0.00	0.03	0.46	0.46
Sat Flow, veh/h	1739	3589	0	1767	3618	0	3483	3582	1598	1725	3554	1585
Grp Volume(v), veh/h	102	243	0	91	275	0	773	2333	0	47	1093	85
Grp Sat Flow(s),veh/h/ln	1739	1749	0	1767	1763	0	1742	1791	1598	1725	1777	1585
Q Serve(g_s), s	8.8	10.2	0.0	7.6	11.5	0.0	32.6	94.7	0.0	4.1	36.0	4.6
Cycle Q Clear(g_c), s	8.8	10.2	0.0	7.6	11.5	0.0	32.6	94.7	0.0	4.1	36.0	4.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	110	328		111	328		826	2371		60	1634	729
V/C Ratio(X)	0.93	0.74		0.82	0.84		0.94	0.98		0.78	0.67	0.12
Avail Cap(c_a), veh/h	110	389		112	393		871	2371		109	1634	729
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	1.00
Uniform Delay (d), s/veh	69.9	66.2	0.0	69.5	66.9	0.0	56.1	24.6	0.0	71.8	31.6	23.1
Incr Delay (d2), s/veh	62.7	6.1	0.0	36.2	12.7	0.0	16.7	15.0	0.0	19.6	2.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	4.8	0.0	4.6	5.8	0.0	15.7	38.7	0.0	2.1	15.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.6	72.3	0.0	105.7	79.6	0.0	72.8	39.6	0.0	91.4	33.8	23.5
LnGrp LOS	F	E		F	E		E	D		F	C	C
Approach Vol, veh/h	345			366			3106			1225		
Approach Delay, s/veh	90.2			86.1			47.9			35.3		
Approach LOS	F			F			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	41.1	74.5	14.9	19.6	10.7	104.8	15.0	19.5				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	37.5	64.3	9.5	16.7	9.5	92.3	9.5	16.7				
Max Q Clear Time (g_c+I1), s	34.6	38.0	9.6	12.2	6.1	96.7	10.8	13.5				
Green Ext Time (p_c), s	0.9	14.5	0.0	0.5	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

Notes

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

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	182	19	8	78	18	19
Future Vol, veh/h	182	19	8	78	18	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	209	22	9	90	21	22
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	209	0	317	209
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	108	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1362	-	676	831
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1362	-	671	831
Mov Cap-2 Maneuver	-	-	-	-	671	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	910	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.7		9.9	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	671	831	-	-	1362	-
HCM Lane V/C Ratio	0.031	0.026	-	-	0.007	-
HCM Control Delay (s)	10.5	9.4	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile O(veh)	0.1	0.1	-	-	0	-

Timings
2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr

1c. Existing 2022 Dismissal

08/24/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	83	45	32	341	295	119
Future Volume (vph)	83	45	32	341	295	119
Lane Group Flow (vph)	100	54	39	411	355	143
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases		4	6			2
Detector Phase	4	4	1	6	2	2
Switch Phase						
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	15.0	21.5	36.5	36.5
Total Split (s)	35.0	35.0	19.0	85.0	66.0	66.0
Total Split (%)	29.2%	29.2%	15.8%	70.8%	55.0%	55.0%
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	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.56	0.26	0.05	0.27	0.26	0.12
Control Delay	62.8	15.5	2.9	3.7	6.8	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.8	15.5	2.9	3.7	6.8	1.4
Queue Length 50th (ft)	75	0	5	63	90	0
Queue Length 95th (ft)	117	32	12	102	142	17
Internal Link Dist (ft)	652			677	500	
Turn Bay Length (ft)		445	285			190
Base Capacity (vph)	435	429	845	1504	1380	1210
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	0.23	0.13	0.05	0.27	0.26	0.12

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr

1c. Existing 2022 Dismissal

08/24/2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	45	32	341	295	119
Future Volume (veh/h)	83	45	32	341	295	119
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	54	39	411	355	143
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	133	118	744	1559	1417	1201
Arrive On Green	0.07	0.07	0.03	0.83	0.76	0.76
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	100	54	39	411	355	143
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	6.6	3.9	0.5	5.6	6.8	2.9
Cycle Q Clear(g_c), s	6.6	3.9	0.5	5.6	6.8	2.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	133	118	744	1559	1417	1201
V/C Ratio(X)	0.75	0.46	0.05	0.26	0.25	0.12
Avail Cap(c_a), veh/h	438	390	891	1559	1417	1201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	53.2	2.7	2.1	4.4	3.9
Incr Delay (d2), s/veh	8.3	2.7	0.0	0.4	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	1.7	0.1	1.1	2.0	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.7	55.9	2.7	2.5	4.8	4.1
LnGrp LOS	E	E	A	A	A	A
Approach Vol, veh/h	154			450	498	
Approach Delay, s/veh	60.3			2.6	4.6	
Approach LOS	E			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.1	96.4		14.5		105.5
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	13.5	60.5		29.5		79.5
Max Q Clear Time (g_c+I1), s	2.5	8.8		8.6		7.6
Green Ext Time (p_c), s	0.0	5.7		0.4		5.3
Intersection Summary						
HCM 6th Ctrl Delay			11.5			
HCM 6th LOS			B			

Intersection						
Int Delay, s/veh	41					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	189	546	595	200	151	190
Future Vol, veh/h	189	546	595	200	151	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	105	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	201	581	633	213	161	202
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	633	0	-	0	1616	633
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	983	-
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	950	-	-	- ~	114	480
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	362	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	950	-	-	- ~	90	480
Mov Cap-2 Maneuver	-	-	-	- ~	90	-
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	362	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.5	0		219.5		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	950	-	-	-	90	480
HCM Lane V/C Ratio	0.212	-	-	-	1.785	0.421
HCM Control Delay (s)	9.8	-	-	-	\$ 473.2	17.8
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	0.8	-	-	-	13.3	2.1
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Future “No-Build” Intersection Analysis

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	113	173	27	296	709
Future Vol, veh/h	34	113	173	27	296	709
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	150	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	3
Mvmt Flow	37	123	188	29	322	771
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1603	188	0	0	188	0
Stage 1	188	-	-	-	-	-
Stage 2	1415	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	117	859	-	-	1398	-
Stage 1	849	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	90	859	-	-	1398	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	23.9	0	2.5			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 90 859 1398	-	-		
HCM Lane V/C Ratio	-	- 0.411 0.143 0.23	-	-		
HCM Control Delay (s)	-	- 70.4 9.9 8.3	-	-		
HCM Lane LOS	-	- F A A	-	-		
HCM 95th %tile Q(veh)	-	- 1.7 0.5 0.9	-	-		

Timings

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

2a. No-Build 2028 AM

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	52	4	38	72	18	13	37	135	39	663	40
Future Volume (vph)	52	4	38	72	18	13	37	135	39	663	40
Lane Group Flow (vph)	57	4	42	79	20	14	41	148	43	729	44
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases		4			8		1	6		2	
Permitted Phases	4		4	8		8	6		2		2
Detector Phase	4	4	4	8	8	8	1	6	2	2	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	36.5	36.5	36.5
Total Split (s)	25.5	25.5	25.5	25.5	25.5	25.5	15.0	74.5	59.5	59.5	59.5
Total Split (%)	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	15.0%	74.5%	59.5%	59.5%	59.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.38	0.02	0.17	0.51	0.10	0.06	0.08	0.10	0.05	0.53	0.04
Control Delay	47.2	37.2	2.3	52.7	39.2	0.4	3.4	3.1	6.8	10.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	37.2	2.3	52.7	39.2	0.4	3.4	3.1	6.8	10.4	0.3
Queue Length 50th (ft)	34	2	0	48	12	0	5	18	9	232	0
Queue Length 95th (ft)	71	12	4	91	33	0	14	40	24	397	3
Internal Link Dist (ft)		652			669			575		500	
Turn Bay Length (ft)	200		385	150		160	310		310		265
Base Capacity (vph)	282	380	392	286	380	392	553	1491	936	1371	1223
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.01	0.11	0.28	0.05	0.04	0.07	0.10	0.05	0.53	0.04

Intersection Summary

Cycle Length: 100

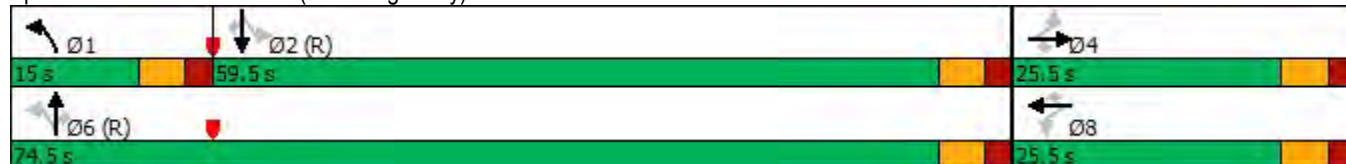
Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary
2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

2a. No-Build 2028 AM
09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	4	38	72	18	13	37	135	0	39	663	40
Future Volume (veh/h)	52	4	38	72	18	13	37	135	0	39	663	40
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	1900	1900	1900	1900	1900	1900	1900	1841	1900	1900	1856	1900
Adj Flow Rate, veh/h	57	4	42	79	20	0	41	148	0	43	729	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	4	0	0	3	0
Cap, veh/h	171	151	128	179	151		517	1492	1305	981	1339	1162
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.00	0.03	0.81	0.00	0.72	0.72	0.72
Sat Flow, veh/h	1414	1900	1610	1381	1900	1610	1810	1841	1610	1259	1856	1610
Grp Volume(v), veh/h	57	4	42	79	20	0	41	148	0	43	729	44
Grp Sat Flow(s),veh/h/ln	1414	1900	1610	1381	1900	1610	1810	1841	1610	1259	1856	1610
Q Serve(g_s), s	3.9	0.2	2.5	5.6	1.0	0.0	0.5	1.7	0.0	1.0	18.0	0.8
Cycle Q Clear(g_c), s	4.9	0.2	2.5	5.8	1.0	0.0	0.5	1.7	0.0	1.0	18.0	0.8
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	151	128	179	151		517	1492	1305	981	1339	1162
V/C Ratio(X)	0.33	0.03	0.33	0.44	0.13		0.08	0.10	0.00	0.04	0.54	0.04
Avail Cap(c_a), veh/h	341	380	322	346	380		627	1492	1305	981	1339	1162
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	42.5	43.5	45.1	42.8	0.0	4.7	2.0	0.0	4.0	6.4	4.0
Incr Delay (d2), s/veh	1.1	0.1	1.5	1.7	0.4	0.0	0.1	0.1	0.0	0.1	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.1	1.0	2.0	0.5	0.0	0.1	0.3	0.0	0.2	5.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	42.5	45.0	46.8	43.2	0.0	4.8	2.1	0.0	4.1	8.0	4.0
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	103			99			189			816		
Approach Delay, s/veh	45.6			46.1			2.7			7.6		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	77.7		13.4		86.6		13.4				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	9.5	54.0		20.0		69.0		20.0				
Max Q Clear Time (g_c+I1), s	2.5	20.0		6.9		3.7		7.8				
Green Ext Time (p_c), s	0.0	11.5		0.2		1.6		0.2				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

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

Timings

2a. No-Build 2028 AM

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗	↘	↰	↗	↘	↰	↗	↘	↰	↗	↘
Traffic Volume (vph)	26	504	161	232	488	20	62	351	133	130	710	39
Future Volume (vph)	26	504	161	232	488	20	62	351	133	130	710	39
Lane Group Flow (vph)	26	509	163	234	493	20	63	355	134	131	717	39
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	15.0	31.0	31.0	15.0	31.0	31.0	15.0	59.0	59.0	15.0	59.0	59.0
Total Split (%)	12.5%	25.8%	25.8%	12.5%	25.8%	25.8%	12.5%	49.2%	49.2%	12.5%	49.2%	49.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.11	0.62	0.32	0.77	0.47	0.04	0.40	0.50	0.20	0.31	0.92	0.06
Control Delay	27.8	45.7	7.8	49.5	37.7	0.1	20.4	29.0	4.0	16.0	50.7	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	27.8	45.7	7.8	49.5	37.7	0.1	20.4	29.0	4.0	16.0	50.7	0.2
Queue Length 50th (ft)	13	194	0	134	178	0	22	192	0	47	495	0
Queue Length 95th (ft)	35	256	57	#271	248	0	42	268	36	76	#726	0
Internal Link Dist (ft)		658			1068			3242			701	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	275	818	510	303	1056	531	183	814	728	422	825	670
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	0.09	0.62	0.32	0.77	0.47	0.04	0.34	0.44	0.18	0.31	0.87	0.06

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

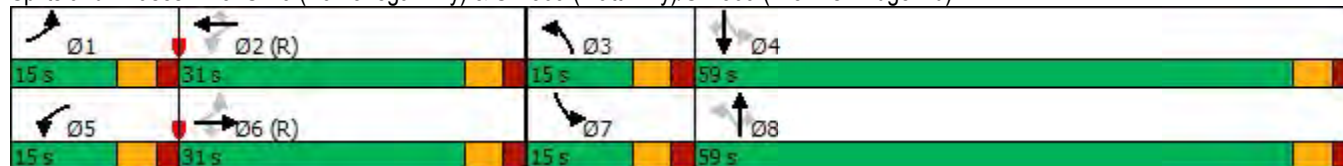
Natural Cycle: 100

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2a. No-Build 2028 AM

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	504	161	232	488	20	62	351	133	130	710	39
Future Volume (veh/h)	26	504	161	232	488	20	62	351	133	130	710	39
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	1470	1781	1870	1841	1722	1633	1722	1841	1752	1826	1856	1604
Adj Flow Rate, veh/h	26	509	0	234	493	0	63	355	0	131	717	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, %	29	8	2	4	12	18	12	4	10	5	3	20
Cap, veh/h	258	988		345	1135		145	707		404	759	
Arrive On Green	0.02	0.29	0.00	0.08	0.35	0.00	0.04	0.38	0.00	0.06	0.41	0.00
Sat Flow, veh/h	1400	3385	1585	1753	3272	1384	1640	1841	1485	1739	1856	1359
Grp Volume(v), veh/h	26	509	0	234	493	0	63	355	0	131	717	0
Grp Sat Flow(s),veh/h/ln	1400	1692	1585	1753	1636	1384	1640	1841	1485	1739	1856	1359
Q Serve(g_s), s	1.6	15.0	0.0	9.5	13.9	0.0	2.8	17.7	0.0	5.4	44.7	0.0
Cycle Q Clear(g_c), s	1.6	15.0	0.0	9.5	13.9	0.0	2.8	17.7	0.0	5.4	44.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	988		345	1135		145	707		404	759	
V/C Ratio(X)	0.10	0.52		0.68	0.43		0.43	0.50		0.32	0.94	
Avail Cap(c_a), veh/h	335	988		345	1135		215	821		435	827	
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	28.8	35.4	0.0	30.0	30.1	0.0	28.9	28.2	0.0	21.4	34.1	0.0
Incr Delay (d2), s/veh	0.2	1.9	0.0	5.3	1.2	0.0	2.0	0.6	0.0	0.5	18.4	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	0.5	6.3	0.0	5.0	5.5	0.0	1.1	7.5	0.0	2.1	22.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	37.3	0.0	35.3	31.3	0.0	31.0	28.8	0.0	21.9	52.6	0.0
LnGrp LOS	C	D		D	C		C	C		C	D	
Approach Vol, veh/h	535			727			418			848		
Approach Delay, s/veh	36.9			32.6			29.1			47.8		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	47.1	9.9	54.6	15.0	40.5	12.9	51.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	25.5	9.5	53.5	9.5	25.5	9.5	53.5				
Max Q Clear Time (g_c+I1), s	3.6	15.9	4.8	46.7	11.5	17.0	7.4	19.7				
Green Ext Time (p_c), s	0.0	3.4	0.0	2.4	0.0	3.2	0.1	1.9				

Intersection Summary

HCM 6th Ctrl Delay 38.0

HCM 6th LOS D

Notes

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

Timings 4: SR 9 (Dahlonega Hwy) & Spot Rd

2a. No-Build 2028 AM
09/06/2022



Lane Group	EBL	EBT	NBL	NBT	SBL	SBT	SBR	Ø8
Lane Configurations								
Traffic Volume (vph)	126	3	147	421	1	952	142	
Future Volume (vph)	126	3	147	421	1	952	142	
Lane Group Flow (vph)	130	335	152	434	1	981	146	
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4	1	6		2		8
Permitted Phases	4		6		2		2	
Detector Phase	4	4	1	6	2	2	2	
Switch Phase								
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0	15.0	6.0
Minimum Split (s)	27.5	27.5	15.0	28.5	27.5	27.5	27.5	29.5
Total Split (s)	29.5	29.5	15.0	70.5	55.5	55.5	55.5	29.5
Total Split (%)	29.5%	29.5%	15.0%	70.5%	55.5%	55.5%	55.5%	30%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag			Lead		Lag	Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio	0.63	0.75	0.63	0.32	0.00	0.89	0.15	
Control Delay	52.4	22.6	25.2	6.1	12.0	31.5	5.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	22.6	25.2	6.1	12.0	31.5	5.6	
Queue Length 50th (ft)	79	55	30	79	0	498	15	
Queue Length 95th (ft)	128	141	106	167	3	#927	52	
Internal Link Dist (ft)		691		1006		547		
Turn Bay Length (ft)	250		130		150		130	
Base Capacity (vph)	319	559	261	1344	574	1104	947	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	0.60	0.58	0.32	0.00	0.89	0.15	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

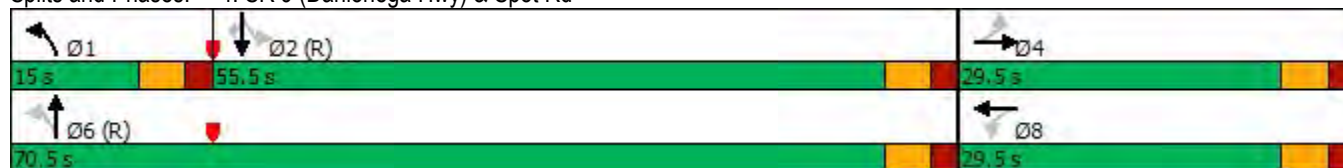
Natural Cycle: 100

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



HCM 6th Signalized Intersection Summary
4: SR 9 (Dahlonega Hwy) & Spot Rd

2a. No-Build 2028 AM
09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	3	322	0	0	0	147	421	0	1	952	142
Future Volume (veh/h)	126	3	322	0	0	0	147	421	0	1	952	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1900	1856	1900	1900	1900	1841	1841	1900	1900	1870	1826
Adj Flow Rate, veh/h	130	3	332	0	0	0	152	434	0	1	981	146
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	0	3	0	0	0	4	4	0	0	2	5
Cap, veh/h	457	3	363	0	431	0	198	1220	0	607	1033	855
Arrive On Green	0.23	0.23	0.23	0.00	0.00	0.00	0.06	0.66	0.00	0.55	0.55	0.55
Sat Flow, veh/h	1697	14	1598	0	1900	0	1753	1841	0	970	1870	1547
Grp Volume(v), veh/h	130	0	335	0	0	0	152	434	0	1	981	146
Grp Sat Flow(s),veh/h/ln	1697	0	1612	0	1900	0	1753	1841	0	970	1870	1547
Q Serve(g_s), s	6.4	0.0	20.3	0.0	0.0	0.0	3.5	10.4	0.0	0.0	49.4	4.7
Cycle Q Clear(g_c), s	6.4	0.0	20.3	0.0	0.0	0.0	3.5	10.4	0.0	0.0	49.4	4.7
Prop In Lane	1.00		0.99	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	0	366	0	431	0	198	1220	0	607	1033	855
V/C Ratio(X)	0.28	0.00	0.92	0.00	0.00	0.00	0.77	0.36	0.00	0.00	0.95	0.17
Avail Cap(c_a), veh/h	479	0	387	0	456	0	267	1220	0	607	1033	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	37.7	0.0	0.0	0.0	23.4	7.4	0.0	10.0	21.1	11.1
Incr Delay (d2), s/veh	0.3	0.0	25.2	0.0	0.0	0.0	8.9	0.8	0.0	0.0	18.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	10.1	0.0	0.0	0.0	2.3	3.3	0.0	0.0	22.6	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	0.0	63.0	0.0	0.0	0.0	32.3	8.2	0.0	10.0	39.3	11.5
LnGrp LOS	C	A	E	A	A	A	C	A	A	B	D	B
Approach Vol, veh/h	465			0			586			1128		
Approach Delay, s/veh	54.5			0.0			14.5			35.7		
Approach LOS	D						B			D		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	11.1	60.7	28.2		71.8		28.2					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	9.5	50.0	24.0		65.0		24.0					
Max Q Clear Time (g_c+I1), s	5.5	51.4	22.3		12.4		0.0					
Green Ext Time (p_c), s	0.1	0.0	0.4		5.5		0.0					
Intersection Summary												
HCM 6th Ctrl Delay				34.0								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	23.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	329	788	627	286	69	124
Future Vol, veh/h	329	788	627	286	69	124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	7	16	0	0	0
Mvmt Flow	336	804	640	292	70	127

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	640	0	0 2116 640
Stage 1	-	-	- 640 -
Stage 2	-	-	- 1476 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	954	-	- ~ 56 479
Stage 1	-	-	- 529 -
Stage 2	-	-	- 212 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	954	-	- ~ 36 479
Mov Cap-2 Maneuver	-	-	- ~ 36 -
Stage 1	-	-	- 343 -
Stage 2	-	-	- 212 -

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	255.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	954	-	-	-	36	479
HCM Lane V/C Ratio	0.352	-	-	-	1.956	0.264
HCM Control Delay (s)	10.8	-	-	-	\$ 686.5	15.2
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	1.6	-	-	-	7.7	1.1

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

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	829	1	8	501	1	30
Future Vol, veh/h	829	1	8	501	1	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	200	200	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	0	0	15	0	5
Mvmt Flow	921	1	9	557	1	33

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	921
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	750
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	750
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	135	324	-	-	750	-
HCM Lane V/C Ratio	0.008	0.103	-	-	0.012	-
HCM Control Delay (s)	31.9	17.4	-	-	9.9	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	0	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	212	794	511	66	4	120
Future Vol, veh/h	212	794	511	66	4	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	7	16	14	0	0
Mvmt Flow	230	863	555	72	4	130
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	555	0	-	0	1878	555
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	1323	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1026	-	-	-	79	535
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	251	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1026	-	-	-	61	535
Mov Cap-2 Maneuver	-	-	-	-	61	-
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	251	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		15.7		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1026	-	-	-	61	535
HCM Lane V/C Ratio	0.225	-	-	-	0.071	0.244
HCM Control Delay (s)	9.5	-	-	-	68.5	13.9
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.2	0.9

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	787	269	39	504	27	61
Future Vol, veh/h	787	269	39	504	27	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	220	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	7	0	0	17	0	0
Mvmt Flow	865	296	43	554	30	67
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1161	0	1653	1013
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	640	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	609	-	109	293
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	609	-	101	293
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	491	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		31.3	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	101	293	-	-	609	-
HCM Lane V/C Ratio	0.294	0.229	-	-	0.07	-
HCM Control Delay (s)	54.8	20.9	-	-	11.4	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	1.1	0.9	-	-	0.2	-

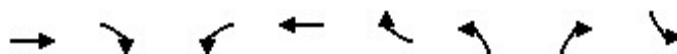
Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	538	534	49	42	89
Future Vol, veh/h	120	538	534	49	42	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	250	-	-	225	0	130
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	8	11	11	3	6
Mvmt Flow	129	578	574	53	45	96
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	574	0	-	0	1121	287
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	547	-
Critical Hdwy	4.2	-	-	-	6.86	7.02
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.25	-	-	-	3.53	3.36
Pot Cap-1 Maneuver	975	-	-	-	199	698
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	541	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	975	-	-	-	173	698
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	541	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.7	0		18.1		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	975	-	-	-	173	698
HCM Lane V/C Ratio	0.132	-	-	-	0.261	0.137
HCM Control Delay (s)	9.3	-	-	-	33	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1	0.5

Timings

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

2a. No-Build 2028 AM

09/06/2022



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑	↑	↑
Traffic Volume (vph)	568	16	47	537	10	42	200	48
Future Volume (vph)	568	16	47	537	10	42	200	48
Lane Group Flow (vph)	598	17	49	565	11	44	211	51
Turn Type	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm
Protected Phases	6			2				
Permitted Phases		6	2		2	8	8	4
Detector Phase	6	6	2	2	2	8	8	4
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	57.0	57.0	57.0	57.0	57.0	43.0	43.0	43.0
Total Split (%)	57.0%	57.0%	57.0%	57.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None
v/c Ratio	0.22	0.01	0.08	0.22	0.01	0.34	0.58	0.39
Control Delay	2.9	0.7	2.5	2.5	0.2	48.6	10.4	50.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	0.7	2.5	2.5	0.2	48.6	10.4	50.6
Queue Length 50th (ft)	36	0	5	31	0	27	0	31
Queue Length 95th (ft)	63	3	12	48	1	59	47	67
Internal Link Dist (ft)	808			737				
Turn Bay Length (ft)		165	255		315	300		265
Base Capacity (vph)	2670	1295	627	2574	1295	539	755	539
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.01	0.08	0.22	0.01	0.08	0.28	0.09

Intersection Summary

Cycle Length: 100

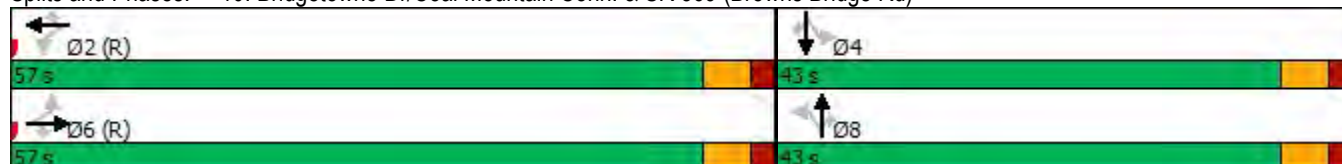
Actuated Cycle Length: 100

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

Natural Cycle: 45

Control Type: Actuated-Coordinated

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2a. No-Build 2028 AM

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	568	16	47	537	10	42	0	200	48	0	0
Future Volume (veh/h)	0	568	16	47	537	10	42	0	200	48	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	1900	1781	1900	1856	1722	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	598	0	49	565	0	44	0	0	51	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	8	0	3	12	0	0	0	0	0	0	0
Cap, veh/h	72	2824		722	2730		152	106		152	106	
Arrive On Green	0.00	0.83	0.00	0.83	0.83	0.00	0.06	0.00	0.00	0.06	0.00	0.00
Sat Flow, veh/h	859	3385	1610	814	3272	1610	1440	1900	1610	1440	1900	1610
Grp Volume(v), veh/h	0	598	0	49	565	0	44	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	859	1692	1610	814	1636	1610	1440	1900	1610	1440	1900	1610
Q Serve(g_s), s	0.0	3.6	0.0	1.3	3.5	0.0	3.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.6	0.0	4.8	3.5	0.0	3.0	0.0	0.0	3.5	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	72	2824		722	2730		152	106		152	106	
V/C Ratio(X)	0.00	0.21		0.07	0.21		0.29	0.00		0.34	0.00	
Avail Cap(c_a), veh/h	72	2824		722	2730		612	713		612	713	
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	1.7	0.0	2.2	1.7	0.0	46.0	0.0	0.0	46.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.2	0.0	1.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.0	0.1	0.4	0.0	1.1	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.8	0.0	2.3	1.8	0.0	47.0	0.0	0.0	47.5	0.0	0.0
LnGrp LOS	A	A		A	A		D	A		D	A	
Approach Vol, veh/h	598			614			44			51		
Approach Delay, s/veh	1.8			1.9			47.0			47.5		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	88.9			11.1			88.9			11.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	51.5			37.5			51.5			37.5		
Max Q Clear Time (g_c+I1), s	6.8			5.5			5.6			5.0		
Green Ext Time (p_c), s	8.7			0.1			8.5			0.1		

Intersection Summary

HCM 6th Ctrl Delay 5.2

HCM 6th LOS A

Notes

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

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	127	31	18	216	26	10
Future Vol, veh/h	127	31	18	216	26	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	40	23	277	33	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	163	0	486	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	323	-
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	-	-	1416	-	540	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	531	882
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	722	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		11.3	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	531	882	-	-	1416	-
HCM Lane V/C Ratio	0.063	0.015	-	-	0.016	-
HCM Control Delay (s)	12.2	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-

Intersection				
Intersection Delay, s/veh	4.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	182	245	11	47
Demand Flow Rate, veh/h	186	250	11	48
Vehicles Circulating, veh/h	53	14	186	150
Vehicles Exiting, veh/h	145	183	53	114
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	4.2	3.3	3.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	186	250	11	48
Cap Entry Lane, veh/h	1307	1360	1141	1184
Entry HV Adj Factor	0.981	0.981	0.980	0.980
Flow Entry, veh/h	182	245	11	47
Cap Entry, veh/h	1282	1334	1119	1161
V/C Ratio	0.142	0.184	0.010	0.041
Control Delay, s/veh	4.0	4.2	3.3	3.4
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

2a. No-Build 2028 AM

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	5	420	480	191	649	71	5	49	5	5	5
Future Volume (vph)	5	420	480	191	649	71	5	49	5	5	5
Lane Group Flow (vph)	5	457	522	208	710	0	82	53	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	72.0	72.0	72.0	72.0	72.0	28.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	72.0%	72.0%	72.0%	72.0%	72.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.17	0.38	0.28	0.19		0.53	0.24	0.03	0.02	0.02
Control Delay	3.2	2.6	1.2	3.1	1.9		53.3	13.3	37.2	36.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	2.6	1.2	3.1	1.9		53.3	13.3	37.2	36.8	0.2
Queue Length 50th (ft)	1	27	0	14	16		50	0	3	3	0
Queue Length 95th (ft)	m3	50	10	38	37		94	34	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	559	2713	1383	739	3758		308	397	294	419	377
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.01	0.17	0.38	0.28	0.19		0.27	0.13	0.02	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

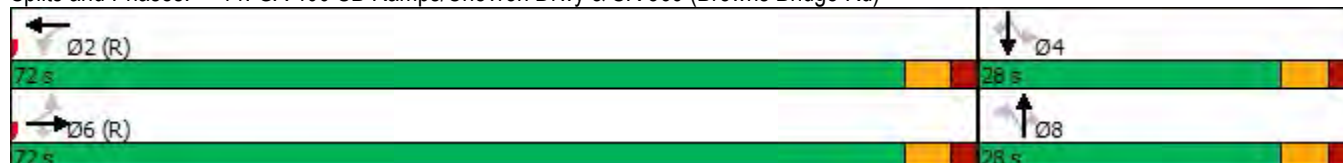
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary
14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

2a. No-Build 2028 AM
09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	420	480	191	649	5	71	5	49	5	5	5
Future Volume (veh/h)	5	420	480	191	649	5	71	5	49	5	5	5
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	457	0	208	705	5	77	5	0	5	5	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	674	2758		806	3925	28	168	6		199	141	
Arrive On Green	0.81	0.81	0.00	1.00	1.00	1.00	0.08	0.08	0.00	0.08	0.08	0.00
Sat Flow, veh/h	739	3385	1585	934	4816	34	1301	84	1585	1411	1870	1585
Grp Volume(v), veh/h	5	457	0	208	459	251	82	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	739	1692	1585	934	1567	1716	1385	0	1585	1411	1870	1585
Q Serve(g_s), s	0.1	2.9	0.0	1.1	0.0	0.0	5.6	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.1	2.9	0.0	4.0	0.0	0.0	5.9	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.94		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	674	2758		806	2554	1398	174	0		199	141	
V/C Ratio(X)	0.01	0.17		0.26	0.18	0.18	0.47	0.00		0.03	0.04	
Avail Cap(c_a), veh/h	674	2758		806	2554	1398	389	0		411	421	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.95	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.7	2.0	0.0	0.1	0.0	0.0	45.6	0.0	0.0	42.9	42.9	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.7	0.1	0.3	2.0	0.0	0.0	0.1	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	0.0	0.5	0.0	0.2	0.1	0.1	2.1	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.7	2.1	0.0	0.8	0.1	0.3	47.6	0.0	0.0	42.9	43.0	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h	462			918			82			10		
Approach Delay, s/veh	2.1			0.3			47.6			43.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	87.0			13.0			87.0			13.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	66.5			22.5			66.5			22.5		
Max Q Clear Time (g_c+I1), s	6.0			2.3			4.9			7.9		
Green Ext Time (p_c), s	14.1			0.0			6.4			0.3		

Intersection Summary

HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

Notes

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

Timings

2a. No-Build 2028 AM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	392	5	5	594	55	5	5	5	114	5	174
Future Volume (vph)	76	392	5	5	594	55	5	5	5	114	5	174
Lane Group Flow (vph)	83	426	5	5	646	60	4	6	5	64	65	189
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	22.0	22.0	22.0	29.0	29.0	29.0
Total Split (%)	49.0%	49.0%	49.0%	49.0%	49.0%	49.0%	22.0%	22.0%	22.0%	29.0%	29.0%	29.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.15	0.17	0.00	0.01	0.27	0.05	0.04	0.06	0.03	0.40	0.41	0.59
Control Delay	5.5	4.4	0.0	6.0	5.4	0.9	44.8	45.2	0.2	49.1	49.1	14.1
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	5.5	4.4	0.0	6.0	5.4	0.9	44.8	45.2	0.2	49.1	49.1	14.1
Queue Length 50th (ft)	9	24	0	1	42	0	2	4	0	41	42	0
Queue Length 95th (ft)	35	64	0	5	122	8	14	17	0	82	83	62
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	556	2497	1204	701	2407	1204	277	289	333	395	397	516
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	0.15	0.17	0.00	0.01	0.27	0.05	0.01	0.02	0.02	0.16	0.16	0.37

Intersection Summary

Cycle Length: 100

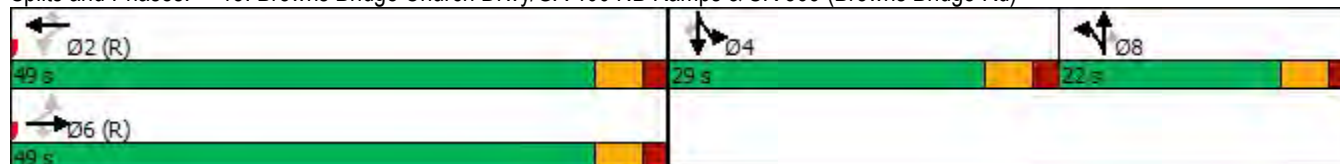
Actuated Cycle Length: 100

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2a. No-Build 2028 AM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	392	5	5	594	55	5	5	5	114	5	174
Future Volume (veh/h)	76	392	5	5	594	55	5	5	5	114	5	174
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	426	5	5	646	0	5	5	5	128	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	618	2560	1199	762	2475		36	38	32	208	0	
Arrive On Green	0.76	0.76	0.76	0.76	0.76	0.00	0.02	0.02	0.02	0.06	0.00	0.00
Sat Flow, veh/h	785	3385	1585	957	3272	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	83	426	5	5	646	0	5	5	5	128	0	0
Grp Sat Flow(s),veh/h/ln	785	1692	1585	957	1636	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	3.6	3.5	0.1	0.1	6.0	0.0	0.3	0.3	0.3	3.5	0.0	0.0
Cycle Q Clear(g_c), s	9.6	3.5	0.1	3.7	6.0	0.0	0.3	0.3	0.3	3.5	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	618	2560	1199	762	2475		36	38	32	208	0	
V/C Ratio(X)	0.13	0.17	0.00	0.01	0.26		0.14	0.13	0.15	0.62	0.00	
Avail Cap(c_a), veh/h	618	2560	1199	762	2475		294	309	262	837	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	3.4	3.0	3.9	3.7	0.0	48.1	48.1	48.1	46.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.0	0.3	0.0	1.7	1.5	2.2	3.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.8	0.0	0.0	1.4	0.0	0.1	0.1	0.1	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.6	3.5	3.0	3.9	4.0	0.0	49.8	49.6	50.3	49.0	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	514			651			15			128		
Approach Delay, s/veh	3.9			4.0			49.9			49.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.1			11.3			81.1			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	43.5			23.5			43.5			16.5		
Max Q Clear Time (g_c+I1), s	8.0			5.5			11.6			2.3		
Green Ext Time (p_c), s	8.9			0.3			6.5			0.0		

Intersection Summary

HCM 6th Ctrl Delay 8.9

HCM 6th LOS A

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection						
Int Delay, s/veh	11.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	299	719	47	135	411
Future Vol, veh/h	70	299	719	47	135	411
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	150	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	75	322	773	51	145	442
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1505	773	0	0	773	0
Stage 1	773	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	135	402	-	-	851	-
Stage 1	459	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	112	402	-	-	851	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	50	0	2.5			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 112 402	851	-		
HCM Lane V/C Ratio	-	- 0.672 0.8	0.171	-		
HCM Control Delay (s)	-	- 86.5 41.4	10.1	-		
HCM Lane LOS	-	- F E	B	-		
HCM 95th %tile Q(veh)	-	- 3.5 7	0.6	-		

Timings

2: SR 9 (Dahlongega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

2b. No-Build 2028 PM

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	86	4	45	44	11	6	7	692	32	337	99
Future Volume (vph)	86	4	45	44	11	6	7	692	32	337	99
Lane Group Flow (vph)	91	4	47	46	12	6	7	728	34	355	104
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases		4			8		1	6		2	
Permitted Phases	4		4	8		8	6		2		2
Detector Phase	4	4	4	8	8	8	1	6	2	2	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	36.5	36.5	36.5
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	15.0	72.0	57.0	57.0	57.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	15.0%	72.0%	57.0%	57.0%	57.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.55	0.02	0.18	0.28	0.05	0.02	0.01	0.48	0.06	0.25	0.08
Control Delay	53.1	36.2	3.3	42.9	37.2	0.2	3.4	5.7	5.7	5.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	36.2	3.3	42.9	37.2	0.2	3.4	5.7	5.7	5.4	1.5
Queue Length 50th (ft)	56	2	0	27	7	0	1	138	4	51	0
Queue Length 95th (ft)	102	12	9	59	23	0	5	258	22	154	20
Internal Link Dist (ft)		652			669			575		500	
Turn Bay Length (ft)	200		385	150		160	310		310		265
Base Capacity (vph)	320	427	430	322	427	430	838	1520	560	1448	1290
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.01	0.11	0.14	0.03	0.01	0.01	0.48	0.06	0.25	0.08

Intersection Summary

Cycle Length: 100

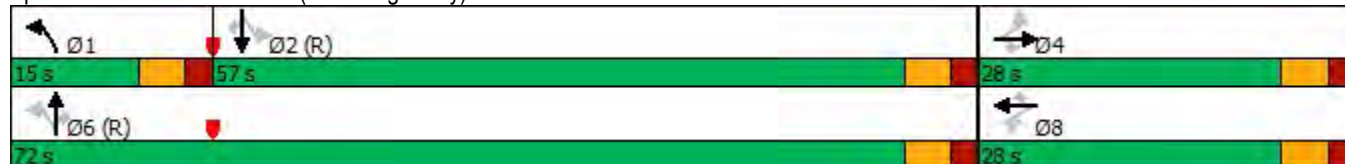
Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlongega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary
2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

2b. No-Build 2028 PM

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	4	45	44	11	6	7	692	0	32	337	99
Future Volume (veh/h)	86	4	45	44	11	6	7	692	0	32	337	99
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	1900	1900	1900	1900	1900	1900	1900	1885	1900	1900	1856	1900
Adj Flow Rate, veh/h	91	4	47	46	12	0	7	728	0	34	355	104
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, %	0	0	0	0	0	0	0	1	0	0	3	0
Cap, veh/h	193	173	146	194	173		725	1507	1287	569	1364	1184
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.00	0.01	0.80	0.00	0.74	0.74	0.74
Sat Flow, veh/h	1424	1900	1610	1375	1900	1610	1810	1885	1610	738	1856	1610
Grp Volume(v), veh/h	91	4	47	46	12	0	7	728	0	34	355	104
Grp Sat Flow(s),veh/h/ln	1424	1900	1610	1375	1900	1610	1810	1885	1610	738	1856	1610
Q Serve(g_s), s	6.2	0.2	2.7	3.2	0.6	0.0	0.1	12.6	0.0	1.6	6.3	1.8
Cycle Q Clear(g_c), s	6.8	0.2	2.7	3.3	0.6	0.0	0.1	12.6	0.0	7.8	6.3	1.8
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	193	173	146	194	173		725	1507	1287	569	1364	1184
V/C Ratio(X)	0.47	0.02	0.32	0.24	0.07		0.01	0.48	0.00	0.06	0.26	0.09
Avail Cap(c_a), veh/h	384	428	362	379	428		881	1507	1287	569	1364	1184
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	41.4	42.6	42.9	41.6	0.0	3.1	3.3	0.0	5.6	4.3	3.7
Incr Delay (d2), s/veh	1.8	0.1	1.3	0.6	0.2	0.0	0.0	1.1	0.0	0.2	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.1	1.1	1.1	0.3	0.0	0.0	2.6	0.0	0.2	1.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	41.5	43.8	43.6	41.8	0.0	3.1	4.4	0.0	5.8	4.8	3.9
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	142			58			735			493		
Approach Delay, s/veh	45.5			43.2			4.4			4.7		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	6.4	79.0	14.6			85.4	14.6					
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5	5.5					
Max Green Setting (Gmax), s	9.5	51.5	22.5			66.5	22.5					
Max Q Clear Time (g_c+I1), s	2.1	9.8	8.8			14.6	5.3					
Green Ext Time (p_c), s	0.0	5.7	0.3			11.9	0.1					

Intersection Summary

HCM 6th Ctrl Delay 10.1

HCM 6th LOS B

Notes

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

Timings

2b. No-Build 2028 PM

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	683	130	199	822	5	99	689	87	108	443	29
Future Volume (vph)	44	683	130	199	822	5	99	689	87	108	443	29
Lane Group Flow (vph)	46	711	135	207	856	5	103	718	91	113	461	30
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	15.0	37.0	37.0	15.0	37.0	37.0	15.0	54.0	54.0	14.0	53.0	53.0
Total Split (%)	12.5%	30.8%	30.8%	12.5%	30.8%	30.8%	12.5%	45.0%	45.0%	11.7%	44.2%	44.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.29	0.76	0.26	0.90	0.78	0.01	0.32	0.96	0.13	0.61	0.64	0.06
Control Delay	28.2	46.7	7.1	67.7	45.3	0.0	17.8	61.1	2.1	33.8	34.2	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	28.2	46.7	7.1	67.7	45.3	0.0	17.8	61.1	2.1	33.8	34.2	0.2
Queue Length 50th (ft)	22	268	0	110	331	0	39	528	0	43	283	0
Queue Length 95th (ft)	48	340	49	#258	#457	0	70	#778	17	95	399	0
Internal Link Dist (ft)		658			1068			3242			701	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	187	939	511	231	1096	523	334	760	707	189	735	530
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	0.25	0.76	0.26	0.90	0.78	0.01	0.31	0.94	0.13	0.60	0.63	0.06

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

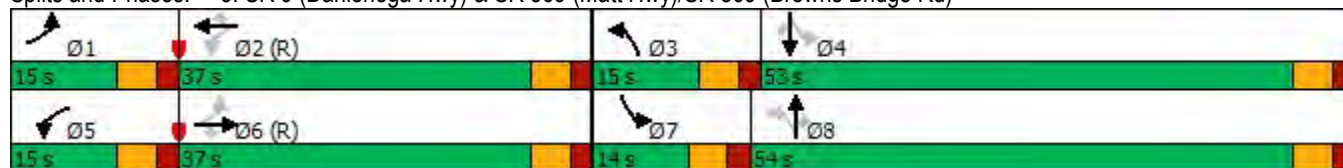
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2b. No-Build 2028 PM

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	683	130	199	822	5	99	689	87	108	443	29
Future Volume (veh/h)	44	683	130	199	822	5	99	689	87	108	443	29
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	1707	1870	1841	1856	1885	1707	1781	1885	1856	1885	1856	1292
Adj Flow Rate, veh/h	46	711	0	207	856	0	103	718	0	112	461	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, %	13	2	4	3	1	13	8	1	3	1	3	41
Cap, veh/h	188	1029		282	1204		322	746		172	736	
Arrive On Green	0.03	0.29	0.00	0.08	0.34	0.00	0.05	0.40	0.00	0.05	0.40	0.00
Sat Flow, veh/h	1626	3554	1560	1767	3582	1447	1697	1885	1572	1795	1856	1095
Grp Volume(v), veh/h	46	711	0	207	856	0	103	718	0	112	461	0
Grp Sat Flow(s),veh/h/ln	1626	1777	1560	1767	1791	1447	1697	1885	1572	1795	1856	1095
Q Serve(g_s), s	2.4	21.3	0.0	9.5	25.0	0.0	4.3	44.6	0.0	4.4	23.9	0.0
Cycle Q Clear(g_c), s	2.4	21.3	0.0	9.5	25.0	0.0	4.3	44.6	0.0	4.4	23.9	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	188	1029		282	1204		322	746		172	736	
V/C Ratio(X)	0.24	0.69		0.73	0.71		0.32	0.96		0.65	0.63	
Avail Cap(c_a), veh/h	264	1029		282	1204		369	762		205	736	
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	30.1	37.9	0.0	29.4	34.8	0.0	22.2	35.4	0.0	28.7	29.1	0.0
Incr Delay (d2), s/veh	0.7	3.8	0.0	9.5	3.6	0.0	0.6	23.6	0.0	5.5	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	0.9	9.5	0.0	4.7	11.0	0.0	1.7	23.9	0.0	2.0	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	41.7	0.0	39.0	38.3	0.0	22.8	59.1	0.0	34.2	30.7	0.0
LnGrp LOS	C	D		D	D		C	E		C	C	
Approach Vol, veh/h	757			1063			821			573		
Approach Delay, s/veh	41.0			38.5			54.5			31.4		
Approach LOS	D			D			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	45.8	11.6	53.1	15.0	40.2	11.8	53.0				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	31.5	9.5	47.5	9.5	31.5	8.5	48.5				
Max Q Clear Time (g_c+I1), s	4.4	27.0	6.3	25.9	11.5	23.3	6.4	46.6				
Green Ext Time (p_c), s	0.0	3.0	0.1	2.4	0.0	4.2	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay 41.9

HCM 6th LOS D

Notes

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

Timings
4: SR 9 (Dahlonega Hwy) & Spot Rd

2b. No-Build 2028 PM

09/06/2022



Lane Group	EBL	EBT	WBT	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	121	1	1	402	614	638	174
Future Volume (vph)	121	1	1	402	614	638	174
Lane Group Flow (vph)	127	201	1	423	646	672	183
Turn Type	Perm	NA	NA	pm+pt	NA	NA	Perm
Protected Phases		4	8	1	6	2	
Permitted Phases	4			6			2
Detector Phase	4	4	8	1	6	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	27.5	27.5	29.5	15.0	28.5	27.5	27.5
Total Split (s)	29.5	29.5	29.5	24.0	70.5	46.5	46.5
Total Split (%)	29.5%	29.5%	29.5%	24.0%	70.5%	46.5%	46.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.64	0.50	0.00	0.74	0.47	0.84	0.25
Control Delay	53.9	9.8	33.0	27.8	6.9	37.5	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	9.8	33.0	27.8	6.9	37.5	9.6
Queue Length 50th (ft)	77	1	1	155	134	389	31
Queue Length 95th (ft)	129	58	5	#346	254	#609	76
Internal Link Dist (ft)		691	125		1006	547	
Turn Bay Length (ft)	250			130			130
Base Capacity (vph)	331	536	456	569	1388	800	744
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.38	0.00	0.74	0.47	0.84	0.25

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

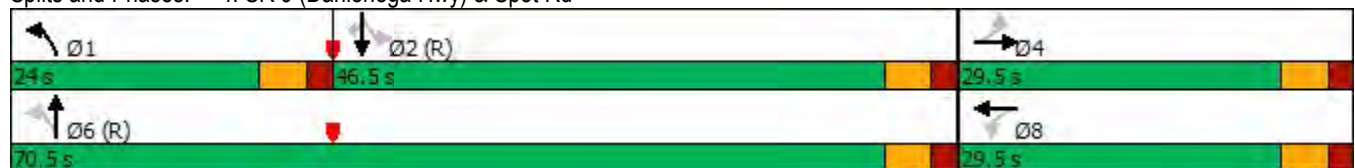
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



HCM 6th Signalized Intersection Summary

4: SR 9 (Dahlonega Hwy) & Spot Rd

2b. No-Build 2028 PM

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1	190	0	1	0	402	614	0	0	638	174
Future Volume (veh/h)	121	1	190	0	1	0	402	614	0	0	638	174
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	1841	1900	1885	1900	1900	1900	1870	1870	1900	1900	1856	1870
Adj Flow Rate, veh/h	127	1	200	0	1	0	423	646	0	0	672	183
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, %	4	0	1	0	0	0	2	2	0	0	3	2
Cap, veh/h	282	1	242	0	287	0	490	1382	0	72	1047	894
Arrive On Green	0.15	0.15	0.15	0.00	0.15	0.00	0.12	0.74	0.00	0.00	0.56	0.56
Sat Flow, veh/h	1394	8	1603	0	1900	0	1781	1870	0	797	1856	1585
Grp Volume(v), veh/h	127	0	201	0	1	0	423	646	0	0	672	183
Grp Sat Flow(s),veh/h/ln	1394	0	1611	0	1900	0	1781	1870	0	797	1856	1585
Q Serve(g_s), s	8.5	0.0	12.1	0.0	0.0	0.0	9.2	13.8	0.0	0.0	24.8	5.7
Cycle Q Clear(g_c), s	8.6	0.0	12.1	0.0	0.0	0.0	9.2	13.8	0.0	0.0	24.8	5.7
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	243	0	287	0	490	1382	0	72	1047	894
V/C Ratio(X)	0.45	0.00	0.83	0.00	0.00	0.00	0.86	0.47	0.00	0.00	0.64	0.20
Avail Cap(c_a), veh/h	406	0	387	0	456	0	606	1382	0	72	1047	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	0.0	36.1	0.0	15.2	5.2	0.0	0.0	14.9	10.7
Incr Delay (d2), s/veh	1.1	0.0	7.9	0.0	0.0	0.0	10.4	1.1	0.0	0.0	3.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.1	0.0	0.0	0.0	5.6	3.6	0.0	0.0	9.4	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	0.0	49.1	0.0	36.1	0.0	25.6	6.3	0.0	0.0	17.9	11.3
LnGrp LOS	D	A	D	A	D	A	C	A	A	A	B	B
Approach Vol, veh/h	328			1			1069			855		
Approach Delay, s/veh	45.9			36.1			14.0			16.5		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	17.5	61.9	20.6		79.4		20.6					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	18.5	41.0	24.0		65.0		24.0					
Max Q Clear Time (g_c+I1), s	11.2	26.8	14.1		15.8		2.0					
Green Ext Time (p_c), s	0.8	7.0	1.0		9.5		0.0					
Intersection Summary												
HCM 6th Ctrl Delay	19.6											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	138	1013	970	42	22	75
Future Vol, veh/h	138	1013	970	42	22	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	4	0	0	0
Mvmt Flow	145	1066	1021	44	23	79
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1021	0	-	0	2377	1021
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1356	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	688	-	-	-	39	289
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	242	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	688	-	-	-	31	289
Mov Cap-2 Maneuver	-	-	-	-	31	-
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	242	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.4	0		78.3		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	688	-	-	-	31	289
HCM Lane V/C Ratio	0.211	-	-	-	0.747	0.273
HCM Control Delay (s)	11.6	-	-	-	269.8	22.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.8	-	-	-	2.5	1.1

Intersection							
Int Delay, s/veh	0.2						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑	↗	↖	↑	↖	↗	
Traffic Vol, veh/h	854	7	10	831	0	20	
Future Vol, veh/h	854	7	10	831	0	20	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	Yield	-	None	-	Yield	
Storage Length	-	200	200	-	0	100	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	0	0	2	0	0	
Mvmt Flow	909	7	11	884	0	21	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	909	0	1815	909	
Stage 1	-	-	-	-	909	-	
Stage 2	-	-	-	-	906	-	
Critical Hdwy	-	-	4.1	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	5.4	-	
Follow-up Hdwy	-	-	2.2	-	3.5	3.3	
Pot Cap-1 Maneuver	-	-	757	-	87	336	
Stage 1	-	-	-	-	396	-	
Stage 2	-	-	-	-	398	-	
Platoon blocked, %	-	-		-			
Mov Cap-1 Maneuver	-	-	757	-	86	336	
Mov Cap-2 Maneuver	-	-	-	-	86	-	
Stage 1	-	-	-	-	396	-	
Stage 2	-	-	-	-	392	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.1		16.4		
HCM LOS	C						
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-		336	-	-	757	-
HCM Lane V/C Ratio	-		0.063	-	-	0.014	-
HCM Control Delay (s)	0		16.4	-	-	9.8	-
HCM Lane LOS	A		C	-	-	A	-
HCM 95th %tile Q(veh)	-		0.2	-	-	0	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	943	910	16	3	83
Future Vol, veh/h	46	943	910	16	3	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	47	972	938	16	3	86
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	938	0	-	0	2004	938
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	1066	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	739	-	-	-	66	323
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	334	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	739	-	-	-	62	323
Mov Cap-2 Maneuver	-	-	-	-	62	-
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	334	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		21.7		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	739	-	-	-	62	323
HCM Lane V/C Ratio	0.064	-	-	-	0.05	0.265
HCM Control Delay (s)	10.2	-	-	-	66.1	20.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	1

Intersection						
Int Delay, s/veh	53.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	766	69	35	807	181	105
Future Vol, veh/h	766	69	35	807	181	105
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	220	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	0	0	2	0	0
Mvmt Flow	790	71	36	832	187	108
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	861	0	1730	826
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	904	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	789	-	~ 98	375
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	398	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	789	-	~ 93	375
Mov Cap-2 Maneuver	-	-	-	-	~ 93	-
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	380	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.4		\$ 363.6	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	93	375	-	-	789	-
HCM Lane V/C Ratio	2.006	0.289	-	-	0.046	-
HCM Control Delay (s)	\$ 563.8	18.4	-	-	9.8	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	16.1	1.2	-	-	0.1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	699	918	132	15	54
Future Vol, veh/h	133	699	918	132	15	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	250	-	-	225	0	130
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	0	0	1
Mvmt Flow	145	760	998	143	16	59
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	998	0	-	0	1668	499
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	670	-
Critical Hdwy	4.14	-	-	-	6.8	6.92
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.22	-	-	-	3.5	3.31
Pot Cap-1 Maneuver	689	-	-	-	89	520
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	476	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	689	-	-	-	70	520
Mov Cap-2 Maneuver	-	-	-	-	70	-
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	476	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.9	0		25.5		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	689	-	-	-	70	520
HCM Lane V/C Ratio	0.21	-	-	-	0.233	0.113
HCM Control Delay (s)	11.6	-	-	-	71.4	12.8
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.8	0.4

Timings

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

2b. No-Build 2028 PM

09/06/2022

	→	↘	↙	←	↗	↖	↘	↙
Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL
Lane Configurations	↑↑	↑	↘	↑↑	↑	↘	↑	↘
Traffic Volume (vph)	658	60	282	1004	5	44	170	38
Future Volume (vph)	658	60	282	1004	5	44	170	38
Lane Group Flow (vph)	700	64	300	1068	5	47	181	40
Turn Type	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm
Protected Phases	6			2				
Permitted Phases		6	2		2	8	8	4
Detector Phase	6	6	2	2	2	8	8	4
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	78.0	78.0	78.0	78.0	78.0	22.0	22.0	22.0
Total Split (%)	78.0%	78.0%	78.0%	78.0%	78.0%	22.0%	22.0%	22.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None
v/c Ratio	0.25	0.05	0.51	0.37	0.00	0.37	0.43	0.32
Control Delay	2.8	0.8	6.3	2.5	0.0	50.5	3.1	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.8	0.8	6.3	2.5	0.0	50.5	3.1	48.5
Queue Length 50th (ft)	43	0	26	44	0	29	0	24
Queue Length 95th (ft)	72	8	51	62	m0	64	0	56
Internal Link Dist (ft)	808			737				
Turn Bay Length (ft)		165	255		315	300		265
Base Capacity (vph)	2838	1308	587	2866	1300	237	526	237
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.05	0.51	0.37	0.00	0.20	0.34	0.17

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

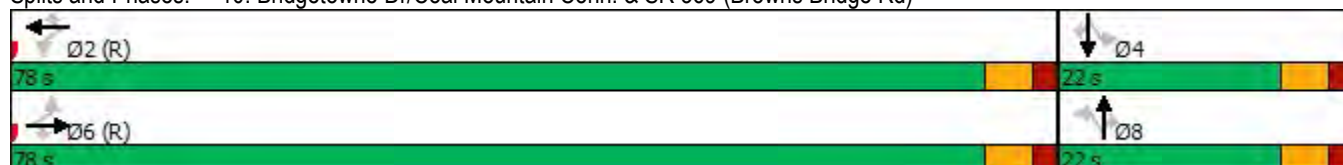
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2b. No-Build 2028 PM

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	658	60	282	1004	5	44	0	170	38	0	0
Future Volume (veh/h)	0	658	60	282	1004	5	44	0	170	38	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	1900	1870	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	700	0	300	1068	0	47	0	0	40	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	72	2969		675	2992		151	104		151	104	
Arrive On Green	0.00	0.84	0.00	0.84	0.84	0.00	0.05	0.00	0.00	0.05	0.00	0.00
Sat Flow, veh/h	537	3554	1610	758	3582	1610	1440	1900	1610	1440	1900	1610
Grp Volume(v), veh/h	0	700	0	300	1068	0	47	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	537	1777	1610	758	1791	1610	1440	1900	1610	1440	1900	1610
Q Serve(g_s), s	0.0	4.0	0.0	13.4	7.0	0.0	3.2	0.0	0.0	2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.0	0.0	17.5	7.0	0.0	3.2	0.0	0.0	2.7	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	72	2969		675	2992		151	104		151	104	
V/C Ratio(X)	0.00	0.24		0.44	0.36		0.31	0.00		0.27	0.00	
Avail Cap(c_a), veh/h	72	2969		675	2992		310	314		310	314	
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	1.7	0.0	3.5	1.9	0.0	46.2	0.0	0.0	46.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.1	0.3	0.0	1.2	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.0	1.5	0.9	0.0	1.2	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.9	0.0	5.6	2.3	0.0	47.4	0.0	0.0	46.9	0.0	0.0
LnGrp LOS	A	A		A	A		D	A		D	A	
Approach Vol, veh/h	700			1368			47			40		
Approach Delay, s/veh	1.9			3.0			47.4			46.9		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	89.0			11.0			89.0			11.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	72.5			16.5			72.5			16.5		
Max Q Clear Time (g_c+I1), s	19.5			4.7			6.0			5.2		
Green Ext Time (p_c), s	27.1			0.0			10.9			0.0		

Intersection Summary

HCM 6th Ctrl Delay 4.4

HCM 6th LOS A

Notes

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

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	237	25	10	101	23	25
Future Vol, veh/h	237	25	10	101	23	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	29	11	116	26	29
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	272	0	410	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1291	-	598	767
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1291	-	593	767
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	881	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.7		10.6	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	767	-	-	1291	-
HCM Lane V/C Ratio	0.045	0.037	-	-	0.009	-
HCM Control Delay (s)	11.4	9.9	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

Intersection				
Intersection Delay, s/veh	4.2			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	288	137	5	39
Demand Flow Rate, veh/h	294	139	5	40
Vehicles Circulating, veh/h	42	6	294	78
Vehicles Exiting, veh/h	76	293	42	67
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	3.5	3.6	3.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	294	139	5	40
Cap Entry Lane, veh/h	1322	1371	1022	1274
Entry HV Adj Factor	0.980	0.982	0.980	0.980
Flow Entry, veh/h	288	137	5	39
Cap Entry, veh/h	1296	1347	1002	1249
V/C Ratio	0.222	0.101	0.005	0.031
Control Delay, s/veh	4.7	3.5	3.6	3.1
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

2b. No-Build 2028 PM

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	5	507	376	147	948	82	5	55	5	5	5
Future Volume (vph)	5	507	376	147	948	82	5	55	5	5	5
Lane Group Flow (vph)	5	551	409	160	1035	0	94	60	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	67.0	67.0	67.0	67.0	67.0	33.0	33.0	33.0	33.0	33.0	33.0
Total Split (%)	67.0%	67.0%	67.0%	67.0%	67.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.19	0.30	0.24	0.25		0.57	0.24	0.03	0.02	0.02
Control Delay	3.8	3.3	1.0	3.9	2.8		53.7	12.4	36.2	35.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	3.3	1.0	3.9	2.8		53.7	12.4	36.2	35.8	0.2
Queue Length 50th (ft)	1	38	0	19	44		57	0	3	3	0
Queue Length 95th (ft)	m3	68	20	46	77		104	34	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	393	2844	1352	668	4083		375	478	356	512	454
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.01	0.19	0.30	0.24	0.25		0.25	0.13	0.01	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

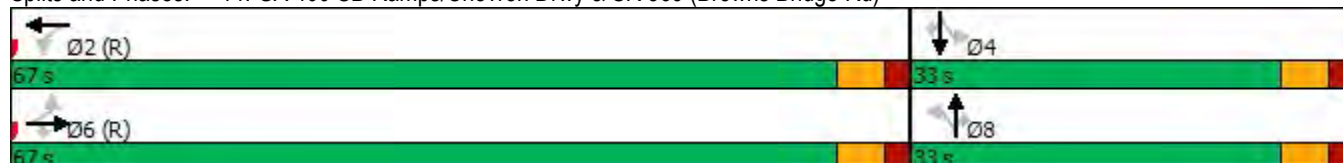
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary
 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

2b. No-Build 2028 PM
 09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	507	376	147	948	5	82	5	55	5	5	5
Future Volume (veh/h)	5	507	376	147	948	5	82	5	55	5	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	551	0	160	1030	5	89	5	0	5	5	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	2	2	2	2	2
Cap, veh/h	510	2858		730	4218	20	183	6		218	160	
Arrive On Green	0.80	0.80	0.00	1.00	1.00	1.00	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	545	3554	1585	857	5244	25	1315	74	1585	1411	1870	1585
Grp Volume(v), veh/h	5	551	0	160	669	366	94	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	545	1777	1585	857	1702	1866	1389	0	1585	1411	1870	1585
Q Serve(g_s), s	0.2	3.6	0.0	1.1	0.0	0.0	6.5	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.2	3.6	0.0	4.7	0.0	0.0	6.7	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.95		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	510	2858		730	2738	1501	189	0		218	160	
V/C Ratio(X)	0.01	0.19		0.22	0.24	0.24	0.50	0.00		0.02	0.03	
Avail Cap(c_a), veh/h	510	2858		730	2738	1501	460	0		485	514	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.85	0.85	0.85	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.9	2.3	0.0	0.1	0.0	0.0	45.0	0.0	0.0	41.9	41.9	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.2	0.3	2.0	0.0	0.0	0.0	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	0.0	0.7	0.0	0.1	0.1	0.1	2.4	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.0	2.4	0.0	0.7	0.2	0.3	47.0	0.0	0.0	42.0	42.0	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h	556			1195			94			10		
Approach Delay, s/veh	2.4			0.3			47.0			42.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	85.9			14.1			85.9			14.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	61.5			27.5			61.5			27.5		
Max Q Clear Time (g_c+I1), s	6.7			2.3			5.6			8.7		
Green Ext Time (p_c), s	20.5			0.0			8.0			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	3.5											
HCM 6th LOS	A											

Timings

2b. No-Build 2028 PM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	491	5	5	545	109	5	5	5	229	5	469
Future Volume (vph)	71	491	5	5	545	109	5	5	5	229	5	469
Lane Group Flow (vph)	77	534	5	5	592	118	4	6	5	127	127	510
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	37.4	37.4	37.4	37.4	37.4	37.4	21.6	21.6	21.6	41.0	41.0	41.0
Total Split (%)	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	21.6%	21.6%	21.6%	41.0%	41.0%	41.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.15	0.23	0.00	0.01	0.25	0.11	0.04	0.06	0.03	0.42	0.41	0.81
Control Delay	13.0	10.5	0.0	12.8	10.1	3.2	44.8	45.2	0.2	37.6	37.5	18.4
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	13.0	10.5	0.0	12.8	10.1	3.2	44.8	45.2	0.2	37.6	37.5	18.4
Queue Length 50th (ft)	15	59	0	1	53	0	2	4	0	78	78	56
Queue Length 95th (ft)	62	153	0	9	174	31	14	17	0	109	109	151
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	507	2335	1073	544	2335	1084	270	282	327	596	599	828
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	0.15	0.23	0.00	0.01	0.25	0.11	0.01	0.02	0.02	0.21	0.21	0.62

Intersection Summary

Cycle Length: 100

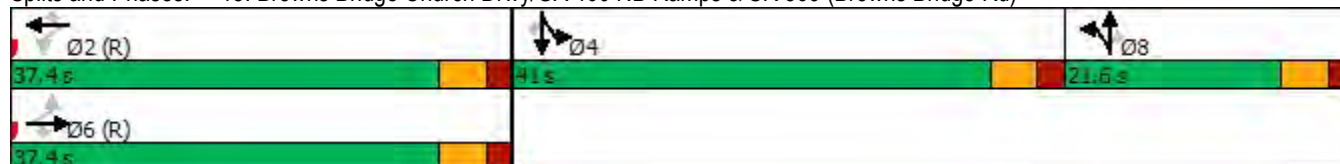
Actuated Cycle Length: 100

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2b. No-Build 2028 PM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	491	5	5	545	109	5	5	5	229	5	469
Future Volume (veh/h)	71	491	5	5	545	109	5	5	5	229	5	469
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	534	5	5	592	0	5	5	5	253	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	2	2	2	2	2
Cap, veh/h	617	2548	1136	650	2548		36	38	32	348	0	
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.00	0.02	0.02	0.02	0.10	0.00	0.00
Sat Flow, veh/h	825	3554	1585	866	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	77	534	5	5	592	0	5	5	5	253	0	0
Grp Sat Flow(s),veh/h/ln	825	1777	1585	866	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	3.5	5.0	0.1	0.2	5.7	0.0	0.3	0.3	0.3	6.9	0.0	0.0
Cycle Q Clear(g_c), s	9.2	5.0	0.1	5.2	5.7	0.0	0.3	0.3	0.3	6.9	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	617	2548	1136	650	2548		36	38	32	348	0	
V/C Ratio(X)	0.12	0.21	0.00	0.01	0.23		0.14	0.13	0.15	0.73	0.00	
Avail Cap(c_a), veh/h	617	2548	1136	650	2548		287	301	255	1265	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	4.7	4.0	5.6	4.8	0.0	48.1	48.1	48.1	43.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.0	0.2	0.0	1.7	1.5	2.2	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.4	0.0	0.0	1.6	0.0	0.1	0.1	0.1	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	4.9	4.0	5.6	5.0	0.0	49.8	49.6	50.3	46.8	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	616			597			15			253		
Approach Delay, s/veh	5.1			5.0			49.9			46.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	77.2			15.3			77.2			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	31.9			35.5			31.9			16.1		
Max Q Clear Time (g_c+I1), s	7.7			8.9			11.2			2.3		
Green Ext Time (p_c), s	7.0			0.9			6.7			0.0		

Intersection Summary

HCM 6th Ctrl Delay 12.6

HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

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

Timings

2c. No-Build 2028 Dismissal

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	108	4	55	44	11	31	31	412	32	352	155
Future Volume (vph)	108	4	55	44	11	31	31	412	32	352	155
Lane Group Flow (vph)	130	5	66	53	13	37	37	496	39	424	187
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases		4			8		1	6		2	
Permitted Phases	4		4	8		8	6		2		2
Detector Phase	4	4	4	8	8	8	1	6	2	2	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	36.5	36.5	36.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	17.0	70.0	53.0	53.0	53.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	17.0%	70.0%	53.0%	53.0%	53.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.64	0.02	0.22	0.26	0.05	0.12	0.06	0.36	0.07	0.34	0.17
Control Delay	53.8	33.5	6.2	39.1	34.2	0.8	4.5	5.9	9.2	10.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	33.5	6.2	39.1	34.2	0.8	4.5	5.9	9.2	10.0	1.9
Queue Length 50th (ft)	79	3	0	30	7	0	5	92	9	121	0
Queue Length 95th (ft)	120	11	18	57	21	0	15	156	25	194	23
Internal Link Dist (ft)		652			669			575		500	
Turn Bay Length (ft)	200		385	150		160	310		310		265
Base Capacity (vph)	341	456	453	344	456	453	713	1386	600	1245	1120
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.01	0.15	0.15	0.03	0.08	0.05	0.36	0.07	0.34	0.17

Intersection Summary

Cycle Length: 100

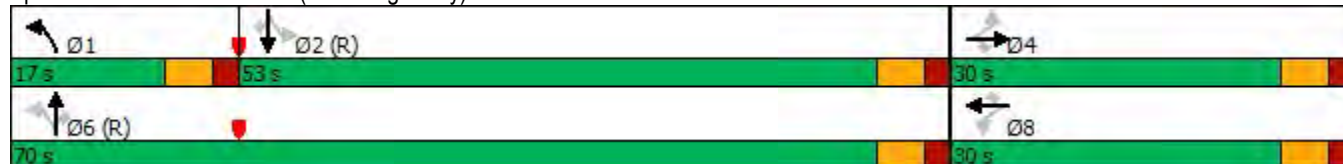
Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

2c. No-Build 2028 Dismissal

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	4	55	44	11	31	31	412	0	32	352	155
Future Volume (veh/h)	108	4	55	44	11	31	31	412	0	32	352	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	5	66	53	13	0	37	496	0	39	424	187
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	227	192	230	227		606	1438	1219	686	1275	1080
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.03	0.77	0.00	0.68	0.68	0.68
Sat Flow, veh/h	1401	1870	1585	1329	1870	1585	1781	1870	1585	901	1870	1585
Grp Volume(v), veh/h	130	5	66	53	13	0	37	496	0	39	424	187
Grp Sat Flow(s),veh/h/ln	1401	1870	1585	1329	1870	1585	1781	1870	1585	901	1870	1585
Q Serve(g_s), s	9.1	0.2	3.8	3.7	0.6	0.0	0.6	8.3	0.0	1.4	9.3	4.3
Cycle Q Clear(g_c), s	9.7	0.2	3.8	3.9	0.6	0.0	0.6	8.3	0.0	1.4	9.3	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	227	192	230	227		606	1438	1219	686	1275	1080
V/C Ratio(X)	0.56	0.02	0.34	0.23	0.06		0.06	0.34	0.00	0.06	0.33	0.17
Avail Cap(c_a), veh/h	407	458	388	395	458		754	1438	1219	686	1275	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	38.7	40.3	40.4	38.9	0.0	4.3	3.6	0.0	5.3	6.6	5.7
Incr Delay (d2), s/veh	2.1	0.0	1.1	0.5	0.1	0.0	0.0	0.7	0.0	0.2	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.1	1.6	1.2	0.3	0.0	0.1	2.0	0.0	0.2	3.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	38.8	41.3	40.9	39.0	0.0	4.3	4.3	0.0	5.5	7.3	6.1
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	201			66			533			650		
Approach Delay, s/veh	43.8			40.6			4.3			6.8		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.7	73.7		17.6		82.4		17.6				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	11.5	47.5		24.5		64.5		24.5				
Max Q Clear Time (g_c+I1), s	2.6	11.3		11.7		10.3		5.9				
Green Ext Time (p_c), s	0.0	7.4		0.5		6.7		0.1				

Intersection Summary

HCM 6th Ctrl Delay 12.6

HCM 6th LOS B

Notes

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

Intersection						
Int Delay, s/veh	184.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	710	774	260	196	247
Future Vol, veh/h	246	710	774	260	196	247
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	262	755	823	277	209	263
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	823	0	-	0	2102	823
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	1279	-
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	807	-	-	-	~ 57	373
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	261	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	~ 38	373
Mov Cap-2 Maneuver	-	-	-	-	~ 38	-
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	261	-
Approach	EB	WB		SB		
HCM Control Delay, s	3	0		\$ 1005.5		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	807	-	-	-	38	373
HCM Lane V/C Ratio	0.324	-	-	-	5.487	0.704
HCM Control Delay (s)	11.6	-	-	-	\$ 2228.8	34.7
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	1.4	-	-	-	24.5	5.2
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Future “No-Build” Intersection Analysis with Improvements

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	113	173	27	296	709
Future Vol, veh/h	34	113	173	27	296	709
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	150	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	3
Mvmt Flow	37	123	188	29	322	771
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1603	188	0	0	188	0
Stage 1	188	-	-	-	-	-
Stage 2	1415	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	117	859	-	-	1398	-
Stage 1	849	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	90	859	-	-	1398	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	23.9	0	2.5			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 90 859	1398	-		
HCM Lane V/C Ratio	-	- 0.411 0.143	0.23	-		
HCM Control Delay (s)	-	- 70.4 9.9	8.3	-		
HCM Lane LOS	-	- F A	A	-		
HCM 95th %tile Q(veh)	-	- 1.7 0.5	0.9	-		

Timings

2d. No-Build 2028 AM - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	52	4	38	72	18	13	37	135	39	663	40
Future Volume (vph)	52	4	38	72	18	13	37	135	39	663	40
Lane Group Flow (vph)	57	4	42	79	20	14	41	148	43	729	44
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases		4			8		1	6		2	
Permitted Phases	4		4	8		8	6		2		2
Detector Phase	4	4	4	8	8	8	1	6	2	2	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	36.5	36.5	36.5
Total Split (s)	25.5	25.5	25.5	25.5	25.5	25.5	15.0	74.5	59.5	59.5	59.5
Total Split (%)	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	15.0%	74.5%	59.5%	59.5%	59.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.38	0.02	0.17	0.51	0.10	0.06	0.08	0.10	0.05	0.53	0.04
Control Delay	47.2	37.2	2.3	52.7	39.2	0.4	3.4	3.1	6.8	10.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	37.2	2.3	52.7	39.2	0.4	3.4	3.1	6.8	10.4	0.3
Queue Length 50th (ft)	34	2	0	48	12	0	5	18	9	232	0
Queue Length 95th (ft)	71	12	4	91	33	0	14	40	24	397	3
Internal Link Dist (ft)		652			669			575		500	
Turn Bay Length (ft)	200		385	150		160	310		310		265
Base Capacity (vph)	282	380	392	286	380	392	553	1491	936	1371	1223
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.01	0.11	0.28	0.05	0.04	0.07	0.10	0.05	0.53	0.04

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

2d. No-Build 2028 AM - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	4	38	72	18	13	37	135	0	39	663	40
Future Volume (veh/h)	52	4	38	72	18	13	37	135	0	39	663	40
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	1900	1900	1900	1900	1900	1900	1900	1841	1900	1900	1856	1900
Adj Flow Rate, veh/h	57	4	42	79	20	0	41	148	0	43	729	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	4	0	0	3	0
Cap, veh/h	171	151	128	179	151		517	1492	1305	981	1339	1162
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.00	0.03	0.81	0.00	0.72	0.72	0.72
Sat Flow, veh/h	1414	1900	1610	1381	1900	1610	1810	1841	1610	1259	1856	1610
Grp Volume(v), veh/h	57	4	42	79	20	0	41	148	0	43	729	44
Grp Sat Flow(s),veh/h/ln	1414	1900	1610	1381	1900	1610	1810	1841	1610	1259	1856	1610
Q Serve(g_s), s	3.9	0.2	2.5	5.6	1.0	0.0	0.5	1.7	0.0	1.0	18.0	0.8
Cycle Q Clear(g_c), s	4.9	0.2	2.5	5.8	1.0	0.0	0.5	1.7	0.0	1.0	18.0	0.8
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	151	128	179	151		517	1492	1305	981	1339	1162
V/C Ratio(X)	0.33	0.03	0.33	0.44	0.13		0.08	0.10	0.00	0.04	0.54	0.04
Avail Cap(c_a), veh/h	341	380	322	346	380		627	1492	1305	981	1339	1162
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	42.5	43.5	45.1	42.8	0.0	4.7	2.0	0.0	4.0	6.4	4.0
Incr Delay (d2), s/veh	1.1	0.1	1.5	1.7	0.4	0.0	0.1	0.1	0.0	0.1	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.1	1.0	2.0	0.5	0.0	0.1	0.3	0.0	0.2	5.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	42.5	45.0	46.8	43.2	0.0	4.8	2.1	0.0	4.1	8.0	4.0
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	103			99			189			816		
Approach Delay, s/veh	45.6			46.1			2.7			7.6		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	77.7		13.4		86.6		13.4				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	9.5	54.0		20.0		69.0		20.0				
Max Q Clear Time (g_c+I1), s	2.5	20.0		6.9		3.7		7.8				
Green Ext Time (p_c), s	0.0	11.5		0.2		1.6		0.2				

Intersection Summary

HCM 6th Ctrl Delay 13.2

HCM 6th LOS B

Notes

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

Timings

2d. No-Build 2028 AM - Improved

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗	↘	↰	↗	↘	↰	↗	↘	↰	↗	↘
Traffic Volume (vph)	26	504	161	232	488	20	62	351	133	130	710	39
Future Volume (vph)	26	504	161	232	488	20	62	351	133	130	710	39
Lane Group Flow (vph)	26	509	163	234	493	20	63	355	134	131	717	39
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	15.0	31.0	31.0	15.0	31.0	31.0	15.0	59.0	59.0	15.0	59.0	59.0
Total Split (%)	12.5%	25.8%	25.8%	12.5%	25.8%	25.8%	12.5%	49.2%	49.2%	12.5%	49.2%	49.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.11	0.62	0.32	0.77	0.47	0.04	0.40	0.50	0.20	0.31	0.92	0.06
Control Delay	27.8	45.7	7.8	49.5	37.7	0.1	20.4	29.0	4.0	16.0	50.7	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	27.8	45.7	7.8	49.5	37.7	0.1	20.4	29.0	4.0	16.0	50.7	0.2
Queue Length 50th (ft)	13	194	0	134	178	0	22	192	0	47	495	0
Queue Length 95th (ft)	35	256	57	#271	248	0	42	268	36	76	#726	0
Internal Link Dist (ft)		658			1068			927			701	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	275	818	510	303	1056	531	183	814	728	422	825	670
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	0.09	0.62	0.32	0.77	0.47	0.04	0.34	0.44	0.18	0.31	0.87	0.06

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

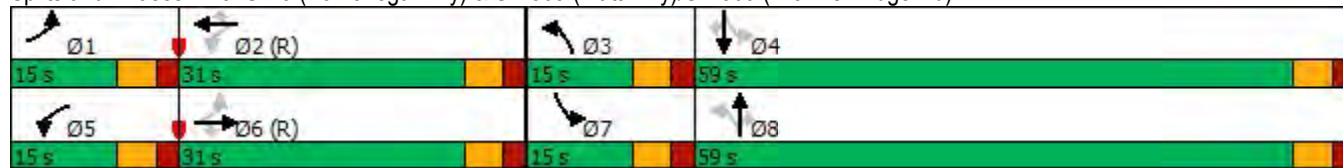
Natural Cycle: 100

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2d. No-Build 2028 AM - Improved

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	504	161	232	488	20	62	351	133	130	710	39
Future Volume (veh/h)	26	504	161	232	488	20	62	351	133	130	710	39
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	1470	1781	1870	1841	1722	1633	1722	1841	1752	1826	1856	1604
Adj Flow Rate, veh/h	26	509	0	234	493	0	63	355	0	131	717	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, %	29	8	2	4	12	18	12	4	10	5	3	20
Cap, veh/h	258	988		345	1135		145	707		404	759	
Arrive On Green	0.02	0.29	0.00	0.08	0.35	0.00	0.04	0.38	0.00	0.06	0.41	0.00
Sat Flow, veh/h	1400	3385	1585	1753	3272	1384	1640	1841	1485	1739	1856	1359
Grp Volume(v), veh/h	26	509	0	234	493	0	63	355	0	131	717	0
Grp Sat Flow(s),veh/h/ln	1400	1692	1585	1753	1636	1384	1640	1841	1485	1739	1856	1359
Q Serve(g_s), s	1.6	15.0	0.0	9.5	13.9	0.0	2.8	17.7	0.0	5.4	44.7	0.0
Cycle Q Clear(g_c), s	1.6	15.0	0.0	9.5	13.9	0.0	2.8	17.7	0.0	5.4	44.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	988		345	1135		145	707		404	759	
V/C Ratio(X)	0.10	0.52		0.68	0.43		0.43	0.50		0.32	0.94	
Avail Cap(c_a), veh/h	335	988		345	1135		215	821		435	827	
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	28.8	35.4	0.0	30.0	30.1	0.0	28.9	28.2	0.0	21.4	34.1	0.0
Incr Delay (d2), s/veh	0.2	1.9	0.0	5.3	1.2	0.0	2.0	0.6	0.0	0.5	18.4	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	0.5	6.3	0.0	5.0	5.5	0.0	1.1	7.5	0.0	2.1	22.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	37.3	0.0	35.3	31.3	0.0	31.0	28.8	0.0	21.9	52.6	0.0
LnGrp LOS	C	D		D	C		C	C		C	D	
Approach Vol, veh/h	535			727			418			848		
Approach Delay, s/veh	36.9			32.6			29.1			47.8		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	47.1	9.9	54.6	15.0	40.5	12.9	51.6				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	25.5	9.5	53.5	9.5	25.5	9.5	53.5				
Max Q Clear Time (g_c+I1), s	3.6	15.9	4.8	46.7	11.5	17.0	7.4	19.7				
Green Ext Time (p_c), s	0.0	3.4	0.0	2.4	0.0	3.2	0.1	1.9				

Intersection Summary

HCM 6th Ctrl Delay 38.0

HCM 6th LOS D

Notes

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

Timings 4: SR 9 (Dahlonega Hwy) & Spot Rd

2d. No-Build 2028 AM - Improved
09/06/2022



Lane Group	EBL	EBT	NBL	NBT	SBL	SBT	SBR	Ø8
Lane Configurations								
Traffic Volume (vph)	126	3	147	421	1	952	142	
Future Volume (vph)	126	3	147	421	1	952	142	
Lane Group Flow (vph)	130	335	152	434	1	981	146	
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4	1	6		2		8
Permitted Phases	4		6		2		2	
Detector Phase	4	4	1	6	2	2	2	
Switch Phase								
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0	15.0	6.0
Minimum Split (s)	27.5	27.5	15.0	28.5	27.5	27.5	27.5	29.5
Total Split (s)	29.5	29.5	15.0	70.5	55.5	55.5	55.5	29.5
Total Split (%)	29.5%	29.5%	15.0%	70.5%	55.5%	55.5%	55.5%	30%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag			Lead		Lag	Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio	0.63	0.75	0.63	0.32	0.00	0.89	0.15	
Control Delay	52.4	22.6	25.2	6.1	12.0	31.5	5.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	22.6	25.2	6.1	12.0	31.5	5.6	
Queue Length 50th (ft)	79	55	30	79	0	498	15	
Queue Length 95th (ft)	128	141	106	167	3	#927	52	
Internal Link Dist (ft)		691		1006		547		
Turn Bay Length (ft)	250		130		150		130	
Base Capacity (vph)	319	559	261	1344	574	1104	947	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	0.60	0.58	0.32	0.00	0.89	0.15	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

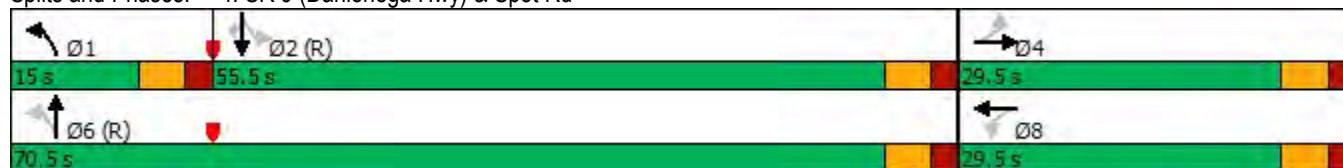
Natural Cycle: 100

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



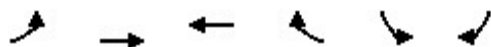
HCM 6th Signalized Intersection Summary 4: SR 9 (Dahlonega Hwy) & Spot Rd

2d. No-Build 2028 AM - Improved
09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	3	322	0	0	0	147	421	0	1	952	142
Future Volume (veh/h)	126	3	322	0	0	0	147	421	0	1	952	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1781	1900	1856	1900	1900	1900	1841	1841	1900	1900	1870	1826
Adj Flow Rate, veh/h	130	3	332	0	0	0	152	434	0	1	981	146
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	0	3	0	0	0	4	4	0	0	2	5
Cap, veh/h	457	3	363	0	431	0	198	1220	0	607	1033	855
Arrive On Green	0.23	0.23	0.23	0.00	0.00	0.00	0.06	0.66	0.00	0.55	0.55	0.55
Sat Flow, veh/h	1697	14	1598	0	1900	0	1753	1841	0	970	1870	1547
Grp Volume(v), veh/h	130	0	335	0	0	0	152	434	0	1	981	146
Grp Sat Flow(s),veh/h/ln	1697	0	1612	0	1900	0	1753	1841	0	970	1870	1547
Q Serve(g_s), s	6.4	0.0	20.3	0.0	0.0	0.0	3.5	10.4	0.0	0.0	49.4	4.7
Cycle Q Clear(g_c), s	6.4	0.0	20.3	0.0	0.0	0.0	3.5	10.4	0.0	0.0	49.4	4.7
Prop In Lane	1.00		0.99	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	0	366	0	431	0	198	1220	0	607	1033	855
V/C Ratio(X)	0.28	0.00	0.92	0.00	0.00	0.00	0.77	0.36	0.00	0.00	0.95	0.17
Avail Cap(c_a), veh/h	479	0	387	0	456	0	267	1220	0	607	1033	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	37.7	0.0	0.0	0.0	23.4	7.4	0.0	10.0	21.1	11.1
Incr Delay (d2), s/veh	0.3	0.0	25.2	0.0	0.0	0.0	8.9	0.8	0.0	0.0	18.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	10.1	0.0	0.0	0.0	2.3	3.3	0.0	0.0	22.6	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	0.0	63.0	0.0	0.0	0.0	32.3	8.2	0.0	10.0	39.3	11.5
LnGrp LOS	C	A	E	A	A	A	C	A	A	B	D	B
Approach Vol, veh/h	465			0			586			1128		
Approach Delay, s/veh	54.5			0.0			14.5			35.7		
Approach LOS	D						B			D		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	11.1	60.7	28.2		71.8		28.2					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	9.5	50.0	24.0		65.0		24.0					
Max Q Clear Time (g_c+I1), s	5.5	51.4	22.3		12.4		0.0					
Green Ext Time (p_c), s	0.1	0.0	0.4		5.5		0.0					
Intersection Summary												
HCM 6th Ctrl Delay				34.0								
HCM 6th LOS				C								

Timings
5: SR 369 (Matt Hwy) & Coal Mountain Dr

2d. No-Build 2028 AM - Improved
09/06/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	329	788	627	286	69	124
Future Volume (vph)	329	788	627	286	69	124
Lane Group Flow (vph)	336	804	640	292	70	127
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases	6			2		7
Detector Phase	1	6	2	2	7	7
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	15.0	28.5	21.5	21.5	15.0	15.0
Total Split (s)	19.0	75.0	56.0	56.0	15.0	15.0
Total Split (%)	21.1%	83.3%	62.2%	62.2%	16.7%	16.7%
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	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.58	0.58	0.66	0.27	0.43	0.48
Control Delay	7.5	8.6	17.0	1.8	46.5	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	8.6	17.0	1.8	46.5	14.0
Queue Length 50th (ft)	55	244	234	0	38	0
Queue Length 95th (ft)	m81	m410	370	33	79	51
Internal Link Dist (ft)		1524	423		639	
Turn Bay Length (ft)	130					
Base Capacity (vph)	604	1397	968	1074	190	284
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	0.56	0.58	0.66	0.27	0.37	0.45

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

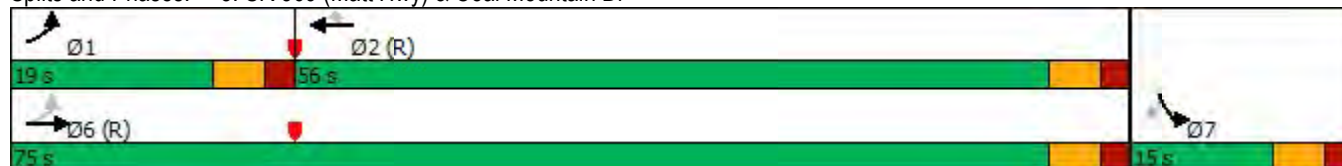
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

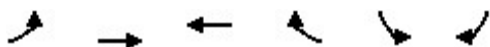
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 369 (Matt Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary 5: SR 369 (Matt Hwy) & Coal Mountain Dr

2d. No-Build 2028 AM - Improved
09/06/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	329	788	627	286	69	124
Future Volume (veh/h)	329	788	627	286	69	124
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	1900	1796	1663	1900	1900	1900
Adj Flow Rate, veh/h	336	804	640	0	70	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	7	16	0	0	0
Cap, veh/h	616	1486	1146		91	
Arrive On Green	0.08	0.83	0.69	0.00	0.05	0.00
Sat Flow, veh/h	1810	1796	1663	1610	1810	1610
Grp Volume(v), veh/h	336	804	640	0	70	0
Grp Sat Flow(s),veh/h/ln	1810	1796	1663	1610	1810	1610
Q Serve(g_s), s	4.3	12.6	17.5	0.0	3.4	0.0
Cycle Q Clear(g_c), s	4.3	12.6	17.5	0.0	3.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	616	1486	1146		91	
V/C Ratio(X)	0.55	0.54	0.56		0.77	
Avail Cap(c_a), veh/h	748	1486	1146		191	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	6.1	2.4	7.1	0.0	42.2	0.0
Incr Delay (d2), s/veh	0.8	1.4	2.0	0.0	12.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.3	5.5	0.0	1.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.9	3.8	9.0	0.0	54.9	0.0
LnGrp LOS	A	A	A		D	
Approach Vol, veh/h		1140	640		70	
Approach Delay, s/veh		4.7	9.0		54.9	
Approach LOS		A	A		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.4	67.5		10.0		80.0
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	13.5	50.5		9.5		69.5
Max Q Clear Time (g_c+I1), s	6.3	19.5		5.4		14.6
Green Ext Time (p_c), s	0.6	9.4		0.0		15.9

Intersection Summary

HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	829	1	8	501	1	30
Future Vol, veh/h	829	1	8	501	1	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	20	200	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	0	0	15	0	5
Mvmt Flow	921	1	9	557	1	33

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	921
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	750
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	750
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	135	324	-	-	750	-
HCM Lane V/C Ratio	0.008	0.103	-	-	0.012	-
HCM Control Delay (s)	31.9	17.4	-	-	9.9	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	0	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	212	794	511	66	4	120
Future Vol, veh/h	212	794	511	66	4	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	7	16	14	0	0
Mvmt Flow	230	863	555	72	4	130
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	555	0	-	0	1878	555
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	1323	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1026	-	-	-	79	535
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	251	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1026	-	-	-	61	535
Mov Cap-2 Maneuver	-	-	-	-	61	-
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	251	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		15.7		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1026	-	-	-	61	535
HCM Lane V/C Ratio	0.225	-	-	-	0.071	0.244
HCM Control Delay (s)	9.5	-	-	-	68.5	13.9
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.2	0.9

Timings
8: Gravitt Rd & SR 369 (Matt Hwy)

2d. No-Build 2028 AM - Improved
09/06/2022

	→	↖	←	↙	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰	↰	↰	↰	↰
Traffic Volume (vph)	787	39	504	27	61
Future Volume (vph)	787	39	504	27	61
Lane Group Flow (vph)	1161	43	554	30	67
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	6	5	2	3	
Permitted Phases		2			8
Detector Phase	6	5	2	3	8
Switch Phase					
Minimum Initial (s)	15.0	5.0	15.0	5.0	6.0
Minimum Split (s)	28.5	15.0	21.5	15.0	24.5
Total Split (s)	50.5	15.0	65.5	24.5	24.5
Total Split (%)	56.1%	16.7%	72.8%	27.2%	27.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Min	None	C-Min	None	None
v/c Ratio	0.87	0.18	0.41	0.21	0.35
Control Delay	22.1	4.0	6.3	41.7	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	4.0	6.3	41.7	15.6
Queue Length 50th (ft)	546	5	187	16	0
Queue Length 95th (ft)	#957	m9	233	42	38
Internal Link Dist (ft)	1034		546	572	
Turn Bay Length (ft)		220		150	
Base Capacity (vph)	1327	301	1357	381	393
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.87	0.14	0.41	0.08	0.17

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 130

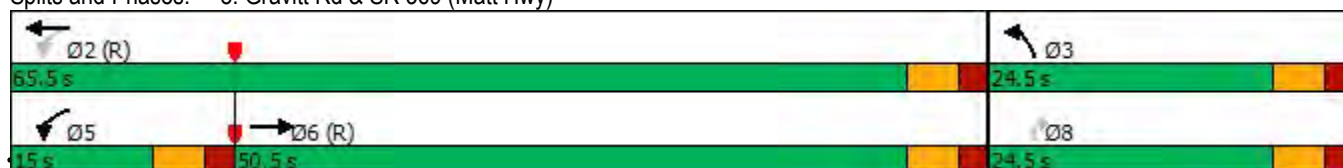
Control Type: Actuated-Coordinated

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: 8: Gravitt Rd & SR 369 (Matt Hwy)



HCM 6th Signalized Intersection Summary 8: Gravitt Rd & SR 369 (Matt Hwy)

2d. No-Build 2028 AM - Improved
09/06/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (veh/h)	787	269	39	504	27	61
Future Volume (veh/h)	787	269	39	504	27	61
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	1796	1900	1900	1648	1900	1900
Adj Flow Rate, veh/h	865	296	43	554	30	67
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	0	0	17	0	0
Cap, veh/h	922	316	214	1349	107	95
Arrive On Green	0.72	0.72	0.04	0.82	0.06	0.06
Sat Flow, veh/h	1280	438	1810	1648	1810	1610
Grp Volume(v), veh/h	0	1161	43	554	30	67
Grp Sat Flow(s),veh/h/ln	0	1717	1810	1648	1810	1610
Q Serve(g_s), s	0.0	52.4	0.5	8.3	1.4	3.7
Cycle Q Clear(g_c), s	0.0	52.4	0.5	8.3	1.4	3.7
Prop In Lane		0.25	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	1238	214	1349	107	95
V/C Ratio(X)	0.00	0.94	0.20	0.41	0.28	0.70
Avail Cap(c_a), veh/h	0	1238	339	1349	382	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	10.8	20.3	2.2	40.5	41.6
Incr Delay (d2), s/veh	0.0	14.5	0.5	0.9	1.4	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.3	0.6	1.2	0.7	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	25.3	20.7	3.2	41.9	50.5
LnGrp LOS	A	C	C	A	D	D
Approach Vol, veh/h	1161			597	97	
Approach Delay, s/veh	25.3			4.4	47.9	
Approach LOS	C			A	D	
Timer - Assigned Phs	2		5		6	8
Phs Duration (G+Y+Rc), s	79.2		8.8		70.4	10.8
Change Period (Y+Rc), s	5.5		5.5		5.5	5.5
Max Green Setting (Gmax), s	60.0		9.5		45.0	19.0
Max Q Clear Time (g_c+I1), s	10.3		2.5		54.4	5.7
Green Ext Time (p_c), s	8.1		0.0		0.0	0.2
Intersection Summary						
HCM 6th Ctrl Delay			19.8			
HCM 6th LOS			B			

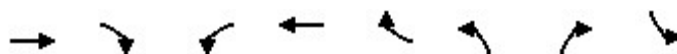
Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	538	534	49	42	89
Future Vol, veh/h	120	538	534	49	42	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	250	-	-	225	0	130
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	5	8	11	11	3	6
Mvmt Flow	129	578	574	53	45	96
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	574	0	-	0	1121	287
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	547	-
Critical Hdwy	4.2	-	-	-	6.86	7.02
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.25	-	-	-	3.53	3.36
Pot Cap-1 Maneuver	975	-	-	-	199	698
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	541	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	975	-	-	-	173	698
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	541	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.7	0		18.1		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	975	-	-	-	173	698
HCM Lane V/C Ratio	0.132	-	-	-	0.261	0.137
HCM Control Delay (s)	9.3	-	-	-	33	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1	0.5

Timings

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

2d. No-Build 2028 AM - Improved

09/06/2022



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑	↑	↑
Traffic Volume (vph)	568	16	47	537	10	42	200	48
Future Volume (vph)	568	16	47	537	10	42	200	48
Lane Group Flow (vph)	598	17	49	565	11	44	211	51
Turn Type	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm
Protected Phases	6			2				
Permitted Phases		6	2		2	8	8	4
Detector Phase	6	6	2	2	2	8	8	4
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	57.0	57.0	57.0	57.0	57.0	43.0	43.0	43.0
Total Split (%)	57.0%	57.0%	57.0%	57.0%	57.0%	43.0%	43.0%	43.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None
v/c Ratio	0.22	0.01	0.08	0.22	0.01	0.34	0.58	0.39
Control Delay	2.9	0.7	2.5	2.5	0.2	48.6	10.4	50.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	0.7	2.5	2.5	0.2	48.6	10.4	50.6
Queue Length 50th (ft)	36	0	5	31	0	27	0	31
Queue Length 95th (ft)	63	3	12	48	1	59	47	67
Internal Link Dist (ft)	808			737				
Turn Bay Length (ft)		165	255		315	300		265
Base Capacity (vph)	2670	1295	627	2574	1295	539	755	539
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.01	0.08	0.22	0.01	0.08	0.28	0.09

Intersection Summary

Cycle Length: 100

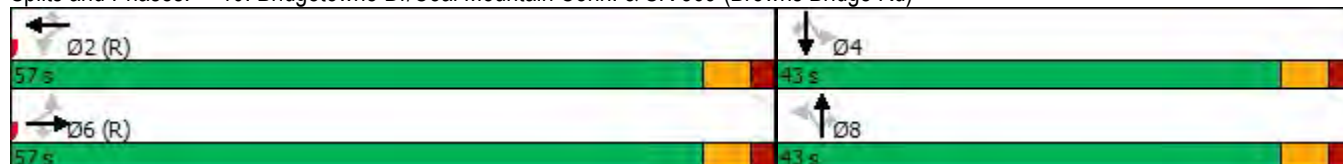
Actuated Cycle Length: 100

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

Natural Cycle: 45

Control Type: Actuated-Coordinated

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2d. No-Build 2028 AM - Improved

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	568	16	47	537	10	42	0	200	48	0	0
Future Volume (veh/h)	0	568	16	47	537	10	42	0	200	48	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	1900	1781	1900	1856	1722	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	598	0	49	565	0	44	0	0	51	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	8	0	3	12	0	0	0	0	0	0	0
Cap, veh/h	72	2824		722	2730		152	106		152	106	
Arrive On Green	0.00	0.83	0.00	0.83	0.83	0.00	0.06	0.00	0.00	0.06	0.00	0.00
Sat Flow, veh/h	859	3385	1610	814	3272	1610	1440	1900	1610	1440	1900	1610
Grp Volume(v), veh/h	0	598	0	49	565	0	44	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	859	1692	1610	814	1636	1610	1440	1900	1610	1440	1900	1610
Q Serve(g_s), s	0.0	3.6	0.0	1.3	3.5	0.0	3.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.6	0.0	4.8	3.5	0.0	3.0	0.0	0.0	3.5	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	72	2824		722	2730		152	106		152	106	
V/C Ratio(X)	0.00	0.21		0.07	0.21		0.29	0.00		0.34	0.00	
Avail Cap(c_a), veh/h	72	2824		722	2730		612	713		612	713	
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	1.7	0.0	2.2	1.7	0.0	46.0	0.0	0.0	46.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.2	0.0	1.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.0	0.1	0.4	0.0	1.1	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.8	0.0	2.3	1.8	0.0	47.0	0.0	0.0	47.5	0.0	0.0
LnGrp LOS	A	A		A	A		D	A		D	A	
Approach Vol, veh/h	598			614			44			51		
Approach Delay, s/veh	1.8			1.9			47.0			47.5		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	88.9			11.1			88.9			11.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	51.5			37.5			51.5			37.5		
Max Q Clear Time (g_c+I1), s	6.8			5.5			5.6			5.0		
Green Ext Time (p_c), s	8.7			0.1			8.5			0.1		

Intersection Summary

HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	127	31	18	216	26	10
Future Vol, veh/h	127	31	18	216	26	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	40	23	277	33	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	163	0	486	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	323	-
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	-	-	1416	-	540	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	531	882
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	722	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		11.3	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	531	882	-	-	1416	-
HCM Lane V/C Ratio	0.063	0.015	-	-	0.016	-
HCM Control Delay (s)	12.2	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-

Intersection				
Intersection Delay, s/veh	4.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	182	245	11	47
Demand Flow Rate, veh/h	186	250	11	48
Vehicles Circulating, veh/h	53	14	186	150
Vehicles Exiting, veh/h	145	183	53	114
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	4.2	3.3	3.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	186	250	11	48
Cap Entry Lane, veh/h	1307	1360	1141	1184
Entry HV Adj Factor	0.981	0.981	0.980	0.980
Flow Entry, veh/h	182	245	11	47
Cap Entry, veh/h	1282	1334	1119	1161
V/C Ratio	0.142	0.184	0.010	0.041
Control Delay, s/veh	4.0	4.2	3.3	3.4
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

2d. No-Build 2028 AM - Improved

09/06/2022

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰↰		↰	↰	↰	↰	↰
Traffic Volume (vph)	5	420	480	191	649	71	5	49	5	5	5
Future Volume (vph)	5	420	480	191	649	71	5	49	5	5	5
Lane Group Flow (vph)	5	457	522	208	710	0	82	53	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	72.0	72.0	72.0	72.0	72.0	28.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	72.0%	72.0%	72.0%	72.0%	72.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.17	0.38	0.28	0.19		0.53	0.24	0.03	0.02	0.02
Control Delay	3.2	2.6	1.2	3.1	1.9		53.3	13.3	37.2	36.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	2.6	1.2	3.1	1.9		53.3	13.3	37.2	36.8	0.2
Queue Length 50th (ft)	1	27	0	14	16		50	0	3	3	0
Queue Length 95th (ft)	m3	50	10	38	37		94	34	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	559	2713	1383	739	3758		308	397	294	419	377
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.01	0.17	0.38	0.28	0.19		0.27	0.13	0.02	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

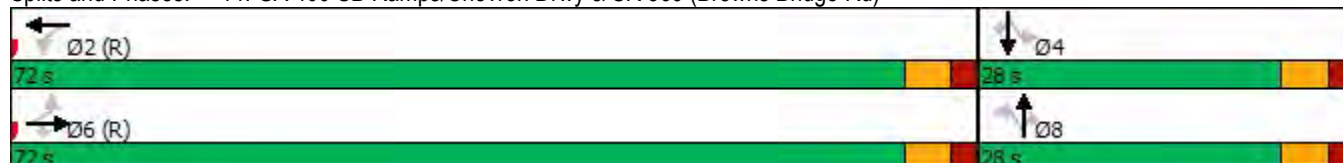
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2d. No-Build 2028 AM - Improved

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	420	480	191	649	5	71	5	49	5	5	5
Future Volume (veh/h)	5	420	480	191	649	5	71	5	49	5	5	5
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	457	0	208	705	5	77	5	0	5	5	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	674	2758		806	3925	28	168	6		199	141	
Arrive On Green	0.81	0.81	0.00	1.00	1.00	1.00	0.08	0.08	0.00	0.08	0.08	0.00
Sat Flow, veh/h	739	3385	1585	934	4816	34	1301	84	1585	1411	1870	1585
Grp Volume(v), veh/h	5	457	0	208	459	251	82	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	739	1692	1585	934	1567	1716	1385	0	1585	1411	1870	1585
Q Serve(g_s), s	0.1	2.9	0.0	1.1	0.0	0.0	5.6	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.1	2.9	0.0	4.0	0.0	0.0	5.9	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.94		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	674	2758		806	2554	1398	174	0		199	141	
V/C Ratio(X)	0.01	0.17		0.26	0.18	0.18	0.47	0.00		0.03	0.04	
Avail Cap(c_a), veh/h	674	2758		806	2554	1398	389	0		411	421	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.95	0.95	0.95	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.7	2.0	0.0	0.1	0.0	0.0	45.6	0.0	0.0	42.9	42.9	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.7	0.1	0.3	2.0	0.0	0.0	0.1	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	0.0	0.5	0.0	0.2	0.1	0.1	2.1	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.7	2.1	0.0	0.8	0.1	0.3	47.6	0.0	0.0	42.9	43.0	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h	462			918			82			10		
Approach Delay, s/veh	2.1			0.3			47.6			43.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	87.0			13.0			87.0			13.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	66.5			22.5			66.5			22.5		
Max Q Clear Time (g_c+I1), s	6.0			2.3			4.9			7.9		
Green Ext Time (p_c), s	14.1			0.0			6.4			0.3		

Intersection Summary

HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

Notes

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

Timings

2d. No-Build 2028 AM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	392	5	5	594	55	5	5	5	114	5	174
Future Volume (vph)	76	392	5	5	594	55	5	5	5	114	5	174
Lane Group Flow (vph)	83	426	5	5	646	60	4	6	5	64	65	189
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	49.0	49.0	49.0	49.0	49.0	49.0	22.0	22.0	22.0	29.0	29.0	29.0
Total Split (%)	49.0%	49.0%	49.0%	49.0%	49.0%	49.0%	22.0%	22.0%	22.0%	29.0%	29.0%	29.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.15	0.17	0.00	0.01	0.27	0.05	0.04	0.06	0.03	0.40	0.41	0.59
Control Delay	5.5	4.4	0.0	6.0	5.4	0.9	44.8	45.2	0.2	49.1	49.1	14.1
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	5.5	4.4	0.0	6.0	5.4	0.9	44.8	45.2	0.2	49.1	49.1	14.1
Queue Length 50th (ft)	9	24	0	1	42	0	2	4	0	41	42	0
Queue Length 95th (ft)	35	64	0	5	122	8	14	17	0	82	83	62
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	556	2497	1204	701	2407	1204	277	289	333	395	397	516
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	0.15	0.17	0.00	0.01	0.27	0.05	0.01	0.02	0.02	0.16	0.16	0.37

Intersection Summary

Cycle Length: 100

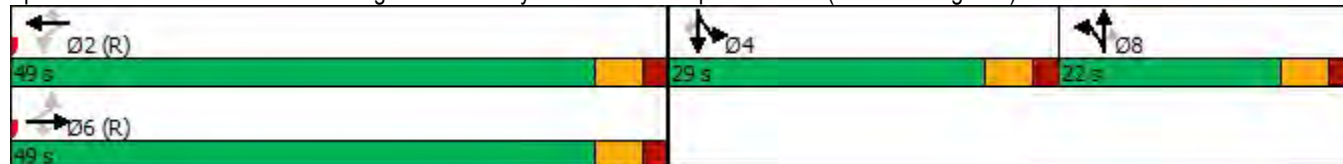
Actuated Cycle Length: 100

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2d. No-Build 2028 AM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	392	5	5	594	55	5	5	5	114	5	174
Future Volume (veh/h)	76	392	5	5	594	55	5	5	5	114	5	174
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	426	5	5	646	0	5	5	5	128	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	618	2560	1199	762	2475		36	38	32	208	0	
Arrive On Green	0.76	0.76	0.76	0.76	0.76	0.00	0.02	0.02	0.02	0.06	0.00	0.00
Sat Flow, veh/h	785	3385	1585	957	3272	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	83	426	5	5	646	0	5	5	5	128	0	0
Grp Sat Flow(s),veh/h/ln	785	1692	1585	957	1636	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	3.6	3.5	0.1	0.1	6.0	0.0	0.3	0.3	0.3	3.5	0.0	0.0
Cycle Q Clear(g_c), s	9.6	3.5	0.1	3.7	6.0	0.0	0.3	0.3	0.3	3.5	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	618	2560	1199	762	2475		36	38	32	208	0	
V/C Ratio(X)	0.13	0.17	0.00	0.01	0.26		0.14	0.13	0.15	0.62	0.00	
Avail Cap(c_a), veh/h	618	2560	1199	762	2475		294	309	262	837	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	3.4	3.0	3.9	3.7	0.0	48.1	48.1	48.1	46.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.0	0.3	0.0	1.7	1.5	2.2	3.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.8	0.0	0.0	1.4	0.0	0.1	0.1	0.1	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.6	3.5	3.0	3.9	4.0	0.0	49.8	49.6	50.3	49.0	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	514			651			15			128		
Approach Delay, s/veh	3.9			4.0			49.9			49.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.1			11.3			81.1			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	43.5			23.5			43.5			16.5		
Max Q Clear Time (g_c+I1), s	8.0			5.5			11.6			2.3		
Green Ext Time (p_c), s	8.9			0.3			6.5			0.0		

Intersection Summary

HCM 6th Ctrl Delay 8.9

HCM 6th LOS A

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection						
Int Delay, s/veh	11.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	299	719	47	135	411
Future Vol, veh/h	70	299	719	47	135	411
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	150	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	75	322	773	51	145	442
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1505	773	0	0	773	0
Stage 1	773	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	135	402	-	-	851	-
Stage 1	459	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	112	402	-	-	851	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	50	0	2.5			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 112 402	851	-		
HCM Lane V/C Ratio	-	- 0.672 0.8	0.171	-		
HCM Control Delay (s)	-	- 86.5 41.4	10.1	-		
HCM Lane LOS	-	- F E	B	-		
HCM 95th %tile Q(veh)	-	- 3.5 7	0.6	-		

Timings

2: SR 9 (Dahlongega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

2e. No-Build 2028 PM - Improved

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	86	4	45	44	11	6	7	692	32	337	99
Future Volume (vph)	86	4	45	44	11	6	7	692	32	337	99
Lane Group Flow (vph)	91	4	47	46	12	6	7	728	34	355	104
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases		4			8		1	6		2	
Permitted Phases	4		4	8		8	6		2		2
Detector Phase	4	4	4	8	8	8	1	6	2	2	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	36.5	36.5	36.5
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	15.0	72.0	57.0	57.0	57.0
Total Split (%)	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	15.0%	72.0%	57.0%	57.0%	57.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.55	0.02	0.18	0.28	0.05	0.02	0.01	0.48	0.06	0.25	0.08
Control Delay	53.1	36.2	3.3	42.9	37.2	0.2	3.4	5.7	5.7	5.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	36.2	3.3	42.9	37.2	0.2	3.4	5.7	5.7	5.4	1.5
Queue Length 50th (ft)	56	2	0	27	7	0	1	138	4	51	0
Queue Length 95th (ft)	102	12	9	59	23	0	5	258	22	154	20
Internal Link Dist (ft)		652			669			575		500	
Turn Bay Length (ft)	200		385	150		160	310		310		265
Base Capacity (vph)	320	427	430	322	427	430	838	1520	560	1448	1290
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.01	0.11	0.14	0.03	0.01	0.01	0.48	0.06	0.25	0.08

Intersection Summary

Cycle Length: 100

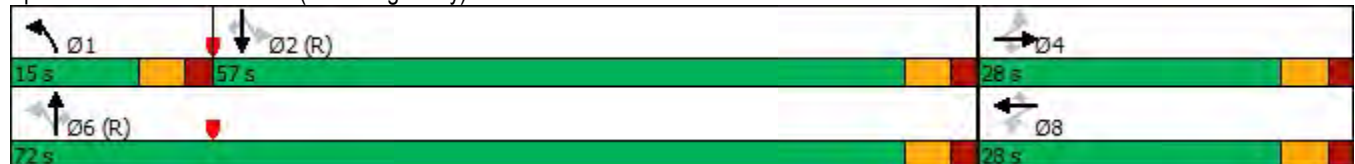
Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlongega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

2e. No-Build 2028 PM - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	4	45	44	11	6	7	692	0	32	337	99
Future Volume (veh/h)	86	4	45	44	11	6	7	692	0	32	337	99
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	1900	1900	1900	1900	1900	1900	1900	1885	1900	1900	1856	1900
Adj Flow Rate, veh/h	91	4	47	46	12	0	7	728	0	34	355	104
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, %	0	0	0	0	0	0	0	1	0	0	3	0
Cap, veh/h	193	173	146	194	173		725	1507	1287	569	1364	1184
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.00	0.01	0.80	0.00	0.74	0.74	0.74
Sat Flow, veh/h	1424	1900	1610	1375	1900	1610	1810	1885	1610	738	1856	1610
Grp Volume(v), veh/h	91	4	47	46	12	0	7	728	0	34	355	104
Grp Sat Flow(s),veh/h/ln	1424	1900	1610	1375	1900	1610	1810	1885	1610	738	1856	1610
Q Serve(g_s), s	6.2	0.2	2.7	3.2	0.6	0.0	0.1	12.6	0.0	1.6	6.3	1.8
Cycle Q Clear(g_c), s	6.8	0.2	2.7	3.3	0.6	0.0	0.1	12.6	0.0	7.8	6.3	1.8
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	193	173	146	194	173		725	1507	1287	569	1364	1184
V/C Ratio(X)	0.47	0.02	0.32	0.24	0.07		0.01	0.48	0.00	0.06	0.26	0.09
Avail Cap(c_a), veh/h	384	428	362	379	428		881	1507	1287	569	1364	1184
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	41.4	42.6	42.9	41.6	0.0	3.1	3.3	0.0	5.6	4.3	3.7
Incr Delay (d2), s/veh	1.8	0.1	1.3	0.6	0.2	0.0	0.0	1.1	0.0	0.2	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.1	1.1	1.1	0.3	0.0	0.0	2.6	0.0	0.2	1.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	41.5	43.8	43.6	41.8	0.0	3.1	4.4	0.0	5.8	4.8	3.9
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	142			58			735			493		
Approach Delay, s/veh	45.5			43.2			4.4			4.7		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	6.4	79.0	14.6		85.4		14.6					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	9.5	51.5	22.5		66.5		22.5					
Max Q Clear Time (g_c+I1), s	2.1	9.8	8.8		14.6		5.3					
Green Ext Time (p_c), s	0.0	5.7	0.3		11.9		0.1					

Intersection Summary

HCM 6th Ctrl Delay 10.1

HCM 6th LOS B

Notes

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

Timings

2e. No-Build 2028 PM - Improved

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	683	130	199	822	5	99	689	87	108	443	29
Future Volume (vph)	44	683	130	199	822	5	99	689	87	108	443	29
Lane Group Flow (vph)	46	711	135	207	856	5	103	718	91	113	461	30
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	15.0	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	15.0	36.0	36.0	15.0	36.0	36.0	16.0	54.0	54.0	15.0	53.0	53.0
Total Split (%)	12.5%	30.0%	30.0%	12.5%	30.0%	30.0%	13.3%	45.0%	45.0%	12.5%	44.2%	44.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.29	0.79	0.27	0.91	0.80	0.01	0.31	0.96	0.13	0.57	0.63	0.06
Control Delay	29.1	49.0	7.3	71.6	46.8	0.0	17.2	60.9	2.1	31.0	33.7	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	29.1	49.0	7.3	71.6	46.8	0.0	17.2	60.9	2.1	31.0	33.7	0.2
Queue Length 50th (ft)	23	271	0	112	336	0	39	528	0	42	278	0
Queue Length 95th (ft)	49	344	50	#273	#470	0	69	#778	17	94	399	0
Internal Link Dist (ft)		658			1068			927			701	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	182	902	496	227	1071	514	351	761	707	204	742	534
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	0.25	0.79	0.27	0.91	0.80	0.01	0.29	0.94	0.13	0.55	0.62	0.06

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

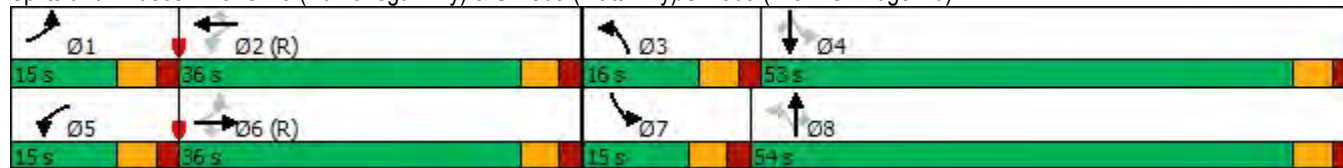
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2e. No-Build 2028 PM - Improved

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	683	130	199	822	5	99	689	87	108	443	29
Future Volume (veh/h)	44	683	130	199	822	5	99	689	87	108	443	29
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	1707	1870	1841	1856	1885	1707	1781	1885	1856	1885	1856	1292
Adj Flow Rate, veh/h	46	711	0	207	856	0	103	718	0	112	461	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, %	13	2	4	3	1	13	8	1	3	1	3	41
Cap, veh/h	188	1029		282	1203		322	746		172	736	
Arrive On Green	0.03	0.29	0.00	0.08	0.34	0.00	0.05	0.40	0.00	0.05	0.40	0.00
Sat Flow, veh/h	1626	3554	1560	1767	3582	1447	1697	1885	1572	1795	1856	1095
Grp Volume(v), veh/h	46	711	0	207	856	0	103	718	0	112	461	0
Grp Sat Flow(s),veh/h/ln	1626	1777	1560	1767	1791	1447	1697	1885	1572	1795	1856	1095
Q Serve(g_s), s	2.4	21.3	0.0	9.5	25.0	0.0	4.3	44.6	0.0	4.4	23.9	0.0
Cycle Q Clear(g_c), s	2.4	21.3	0.0	9.5	25.0	0.0	4.3	44.6	0.0	4.4	23.9	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	188	1029		282	1203		322	746		172	736	
V/C Ratio(X)	0.24	0.69		0.73	0.71		0.32	0.96		0.65	0.63	
Avail Cap(c_a), veh/h	264	1029		282	1203		383	762		220	736	
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	30.1	37.9	0.0	29.4	34.8	0.0	22.2	35.4	0.0	28.7	29.1	0.0
Incr Delay (d2), s/veh	0.7	3.8	0.0	9.6	3.6	0.0	0.6	23.6	0.0	4.4	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	0.9	9.5	0.0	4.7	11.0	0.0	1.7	23.9	0.0	1.9	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	41.7	0.0	39.0	38.4	0.0	22.8	59.1	0.0	33.1	30.7	0.0
LnGrp LOS	C	D		D	D		C	E		C	C	
Approach Vol, veh/h	757			1063			821			573		
Approach Delay, s/veh	41.0			38.5			54.5			31.2		
Approach LOS	D			D			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	45.8	11.7	53.1	15.0	40.2	11.8	53.0				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	30.5	10.5	47.5	9.5	30.5	9.5	48.5				
Max Q Clear Time (g_c+I1), s	4.4	27.0	6.3	25.9	11.5	23.3	6.4	46.6				
Green Ext Time (p_c), s	0.0	2.3	0.1	2.4	0.0	3.8	0.1	0.8				

Intersection Summary

HCM 6th Ctrl Delay 41.9

HCM 6th LOS D

Notes

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

Timings 4: SR 9 (Dahlonega Hwy) & Spot Rd

2e. No-Build 2028 PM - Improved
09/06/2022



Lane Group	EBL	EBT	WBT	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	121	1	1	402	614	638	174
Future Volume (vph)	121	1	1	402	614	638	174
Lane Group Flow (vph)	127	201	1	423	646	672	183
Turn Type	Perm	NA	NA	pm+pt	NA	NA	Perm
Protected Phases		4	8	1	6	2	
Permitted Phases	4			6			2
Detector Phase	4	4	8	1	6	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	27.5	27.5	29.5	15.0	28.5	27.5	27.5
Total Split (s)	29.5	29.5	29.5	24.0	70.5	46.5	46.5
Total Split (%)	29.5%	29.5%	29.5%	24.0%	70.5%	46.5%	46.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.64	0.50	0.00	0.74	0.47	0.84	0.25
Control Delay	53.9	9.8	33.0	27.8	6.9	37.5	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	9.8	33.0	27.8	6.9	37.5	9.6
Queue Length 50th (ft)	77	1	1	155	134	389	31
Queue Length 95th (ft)	129	58	5	#346	254	#609	76
Internal Link Dist (ft)		691	125		1006	547	
Turn Bay Length (ft)	250			130			130
Base Capacity (vph)	331	536	456	569	1388	800	744
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.38	0.00	0.74	0.47	0.84	0.25

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

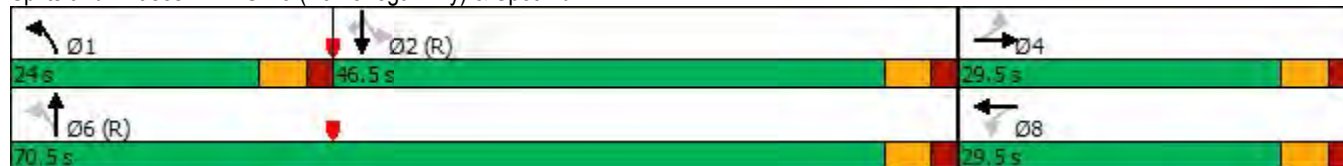
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



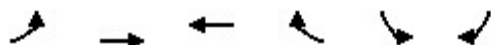
HCM 6th Signalized Intersection Summary 4: SR 9 (Dahlonega Hwy) & Spot Rd

2e. No-Build 2028 PM - Improved
09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1	190	0	1	0	402	614	0	0	638	174
Future Volume (veh/h)	121	1	190	0	1	0	402	614	0	0	638	174
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	1841	1900	1885	1900	1900	1900	1870	1870	1900	1900	1856	1870
Adj Flow Rate, veh/h	127	1	200	0	1	0	423	646	0	0	672	183
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, %	4	0	1	0	0	0	2	2	0	0	3	2
Cap, veh/h	282	1	242	0	287	0	490	1382	0	72	1047	894
Arrive On Green	0.15	0.15	0.15	0.00	0.15	0.00	0.12	0.74	0.00	0.00	0.56	0.56
Sat Flow, veh/h	1394	8	1603	0	1900	0	1781	1870	0	797	1856	1585
Grp Volume(v), veh/h	127	0	201	0	1	0	423	646	0	0	672	183
Grp Sat Flow(s),veh/h/ln	1394	0	1611	0	1900	0	1781	1870	0	797	1856	1585
Q Serve(g_s), s	8.5	0.0	12.1	0.0	0.0	0.0	9.2	13.8	0.0	0.0	24.8	5.7
Cycle Q Clear(g_c), s	8.6	0.0	12.1	0.0	0.0	0.0	9.2	13.8	0.0	0.0	24.8	5.7
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	243	0	287	0	490	1382	0	72	1047	894
V/C Ratio(X)	0.45	0.00	0.83	0.00	0.00	0.00	0.86	0.47	0.00	0.00	0.64	0.20
Avail Cap(c_a), veh/h	406	0	387	0	456	0	606	1382	0	72	1047	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	0.0	36.1	0.0	15.2	5.2	0.0	0.0	14.9	10.7
Incr Delay (d2), s/veh	1.1	0.0	7.9	0.0	0.0	0.0	10.4	1.1	0.0	0.0	3.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.1	0.0	0.0	0.0	5.6	3.6	0.0	0.0	9.4	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	0.0	49.1	0.0	36.1	0.0	25.6	6.3	0.0	0.0	17.9	11.3
LnGrp LOS	D	A	D	A	D	A	C	A	A	A	B	B
Approach Vol, veh/h	328			1			1069			855		
Approach Delay, s/veh	45.9			36.1			14.0			16.5		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	17.5	61.9	20.6		79.4		20.6					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	18.5	41.0	24.0		65.0		24.0					
Max Q Clear Time (g_c+I1), s	11.2	26.8	14.1		15.8		2.0					
Green Ext Time (p_c), s	0.8	7.0	1.0		9.5		0.0					
Intersection Summary												
HCM 6th Ctrl Delay	19.6											
HCM 6th LOS	B											

Timings 5: SR 369 (Matt Hwy) & Coal Mountain Dr

2e. No-Build 2028 PM - Improved
09/06/2022

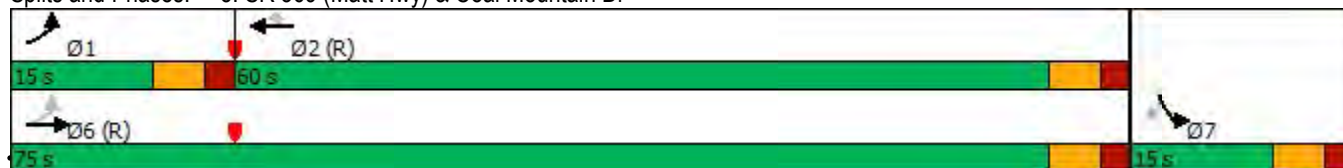


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	138	1013	970	42	22	75
Future Volume (vph)	138	1013	970	42	22	75
Lane Group Flow (vph)	145	1066	1021	44	23	79
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases	6			2		7
Detector Phase	1	6	2	2	7	7
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	15.0	28.5	21.5	21.5	15.0	15.0
Total Split (s)	15.0	75.0	60.0	60.0	15.0	15.0
Total Split (%)	16.7%	83.3%	66.7%	66.7%	16.7%	16.7%
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	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.45	0.71	0.83	0.04	0.17	0.40
Control Delay	8.5	14.0	20.5	2.4	40.7	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	14.0	20.5	2.4	40.7	15.8
Queue Length 50th (ft)	23	504	399	0	13	0
Queue Length 95th (ft)	m38	735	#795	12	35	41
Internal Link Dist (ft)		1524	423		639	
Turn Bay Length (ft)	130					
Base Capacity (vph)	348	1500	1232	1103	190	241
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	0.42	0.71	0.83	0.04	0.12	0.33

Intersection Summary

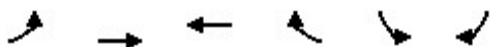
Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 369 (Matt Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary 5: SR 369 (Matt Hwy) & Coal Mountain Dr

2e. No-Build 2028 PM - Improved
09/06/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	138	1013	970	42	22	75
Future Volume (veh/h)	138	1013	970	42	22	75
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	1900	1811	1841	1900	1900	1900
Adj Flow Rate, veh/h	145	1066	1021	0	23	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	6	4	0	0	0
Cap, veh/h	409	1546	1359		44	
Arrive On Green	0.05	0.85	0.74	0.00	0.02	0.00
Sat Flow, veh/h	1810	1811	1841	1610	1810	1610
Grp Volume(v), veh/h	145	1066	1021	0	23	0
Grp Sat Flow(s),veh/h/ln	1810	1811	1841	1610	1810	1610
Q Serve(g_s), s	1.5	18.9	29.3	0.0	1.1	0.0
Cycle Q Clear(g_c), s	1.5	18.9	29.3	0.0	1.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	409	1546	1359		44	
V/C Ratio(X)	0.35	0.69	0.75		0.52	
Avail Cap(c_a), veh/h	502	1546	1359		191	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	9.0	2.3	6.9	0.0	43.4	0.0
Incr Delay (d2), s/veh	0.5	2.5	3.9	0.0	9.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.5	9.3	0.0	0.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	4.9	10.8	0.0	52.7	0.0
LnGrp LOS	A	A	B		D	
Approach Vol, veh/h		1211	1021		23	
Approach Delay, s/veh		5.4	10.8		52.7	
Approach LOS		A	B		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.4	71.9		7.7		82.3
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	54.5		9.5		69.5
Max Q Clear Time (g_c+I1), s	3.5	31.3		3.1		20.9
Green Ext Time (p_c), s	0.2	15.0		0.0		25.6

Intersection Summary

HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Notes

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

Intersection							
Int Delay, s/veh	0.2						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Vol, veh/h	854	7	10	831	0	20	
Future Vol, veh/h	854	7	10	831	0	20	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	Yield	-	None	-	Yield	
Storage Length	-	20	200	-	0	100	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	0	0	2	0	0	
Mvmt Flow	909	7	11	884	0	21	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	909	0	1815	909	
Stage 1	-	-	-	-	909	-	
Stage 2	-	-	-	-	906	-	
Critical Hdwy	-	-	4.1	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	5.4	-	
Follow-up Hdwy	-	-	2.2	-	3.5	3.3	
Pot Cap-1 Maneuver	-	-	757	-	87	336	
Stage 1	-	-	-	-	396	-	
Stage 2	-	-	-	-	398	-	
Platoon blocked, %	-	-		-			
Mov Cap-1 Maneuver	-	-	757	-	86	336	
Mov Cap-2 Maneuver	-	-	-	-	86	-	
Stage 1	-	-	-	-	396	-	
Stage 2	-	-	-	-	392	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.1		16.4		
HCM LOS	C						
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-		336	-	-	757	-
HCM Lane V/C Ratio	-		0.063	-	-	0.014	-
HCM Control Delay (s)	0		16.4	-	-	9.8	-
HCM Lane LOS	A		C	-	-	A	-
HCM 95th %tile Q(veh)	-		0.2	-	-	0	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	943	910	16	3	83
Future Vol, veh/h	46	943	910	16	3	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	47	972	938	16	3	86
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	938	0	-	0	2004	938
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	1066	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	739	-	-	-	66	323
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	334	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	739	-	-	-	62	323
Mov Cap-2 Maneuver	-	-	-	-	62	-
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	334	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		21.7		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	739	-	-	-	62	323
HCM Lane V/C Ratio	0.064	-	-	-	0.05	0.265
HCM Control Delay (s)	10.2	-	-	-	66.1	20.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	1

Timings
8: Gravitt Rd & SR 369 (Matt Hwy)

2e. No-Build 2028 PM - Improved
09/06/2022

	→	↖	←	↙	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰	↰	↰	↰	↰
Traffic Volume (vph)	766	35	807	181	105
Future Volume (vph)	766	35	807	181	105
Lane Group Flow (vph)	861	36	832	187	108
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	6	5	2	3	
Permitted Phases		2			8
Detector Phase	6	5	2	3	8
Switch Phase					
Minimum Initial (s)	15.0	5.0	15.0	5.0	6.0
Minimum Split (s)	28.5	15.0	21.5	15.0	24.5
Total Split (s)	50.4	15.0	65.4	24.6	24.6
Total Split (%)	56.0%	16.7%	72.7%	27.3%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Min	None	C-Min	None	None
v/c Ratio	0.74	0.11	0.62	0.65	0.31
Control Delay	18.9	5.9	16.2	45.8	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	5.9	16.2	45.8	8.9
Queue Length 50th (ft)	348	8	447	101	0
Queue Length 95th (ft)	#675	m11	m604	160	41
Internal Link Dist (ft)	1034		546	572	
Turn Bay Length (ft)		220		150	
Base Capacity (vph)	1171	381	1338	383	427
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	0.09	0.62	0.49	0.25

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 90

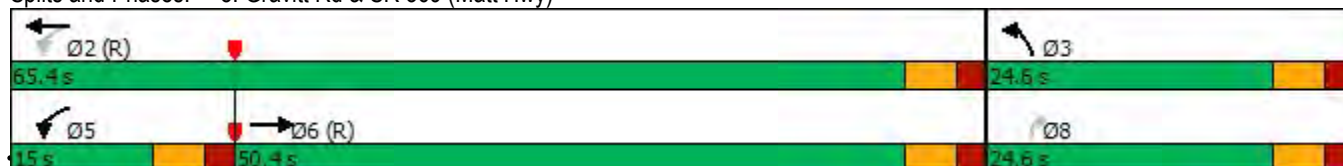
Control Type: Actuated-Coordinated

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: 8: Gravitt Rd & SR 369 (Matt Hwy)



HCM 6th Signalized Intersection Summary 8: Gravitt Rd & SR 369 (Matt Hwy)

2e. No-Build 2028 PM - Improved
09/06/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (veh/h)	766	69	35	807	181	105
Future Volume (veh/h)	766	69	35	807	181	105
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	1856	1900	1900	1870	1900	1900
Adj Flow Rate, veh/h	790	71	36	832	187	108
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	0	0	2	0	0
Cap, veh/h	1099	99	367	1401	233	207
Arrive On Green	0.65	0.65	0.03	0.75	0.13	0.13
Sat Flow, veh/h	1678	151	1810	1870	1810	1610
Grp Volume(v), veh/h	0	861	36	832	187	108
Grp Sat Flow(s),veh/h/ln	0	1828	1810	1870	1810	1610
Q Serve(g_s), s	0.0	27.6	0.5	18.1	9.0	5.6
Cycle Q Clear(g_c), s	0.0	27.6	0.5	18.1	9.0	5.6
Prop In Lane		0.08	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	1198	367	1401	233	207
V/C Ratio(X)	0.00	0.72	0.10	0.59	0.80	0.52
Avail Cap(c_a), veh/h	0	1198	498	1401	384	342
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	10.1	9.0	5.1	38.1	36.6
Incr Delay (d2), s/veh	0.0	3.7	0.1	1.9	6.3	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	0.2	4.8	4.3	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	13.9	9.1	7.0	44.4	38.6
LnGrp LOS	A	B	A	A	D	D
Approach Vol, veh/h	861			868	295	
Approach Delay, s/veh	13.9			7.1	42.3	
Approach LOS	B			A	D	
Timer - Assigned Phs	2		5		6	8
Phs Duration (G+Y+Rc), s	72.9		8.5		64.4	17.1
Change Period (Y+Rc), s	5.5		5.5		5.5	5.5
Max Green Setting (Gmax), s	59.9		9.5		44.9	19.1
Max Q Clear Time (g_c+l1), s	20.1		2.5		29.6	11.0
Green Ext Time (p_c), s	14.2		0.0		8.8	0.6
Intersection Summary						
HCM 6th Ctrl Delay			15.1			
HCM 6th LOS			B			

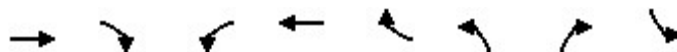
Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	699	918	132	15	54
Future Vol, veh/h	133	699	918	132	15	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	250	-	-	225	0	130
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	0	0	1
Mvmt Flow	145	760	998	143	16	59
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	998	0	-	0	1668	499
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	670	-
Critical Hdwy	4.14	-	-	-	6.8	6.92
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.22	-	-	-	3.5	3.31
Pot Cap-1 Maneuver	689	-	-	-	89	520
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	476	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	689	-	-	-	70	520
Mov Cap-2 Maneuver	-	-	-	-	70	-
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	476	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.9	0		25.5		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	689	-	-	-	70	520
HCM Lane V/C Ratio	0.21	-	-	-	0.233	0.113
HCM Control Delay (s)	11.6	-	-	-	71.4	12.8
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.8	0.4

Timings

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

2e. No-Build 2028 PM - Improved

09/06/2022



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL
Lane Configurations	↑↑	↑	↓	↑↑	↑	↓	↑	↓
Traffic Volume (vph)	658	60	282	1004	5	44	170	38
Future Volume (vph)	658	60	282	1004	5	44	170	38
Lane Group Flow (vph)	700	64	300	1068	5	47	181	40
Turn Type	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm
Protected Phases	6			2				
Permitted Phases		6	2		2	8	8	4
Detector Phase	6	6	2	2	2	8	8	4
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	78.0	78.0	78.0	78.0	78.0	22.0	22.0	22.0
Total Split (%)	78.0%	78.0%	78.0%	78.0%	78.0%	22.0%	22.0%	22.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None
v/c Ratio	0.25	0.05	0.51	0.37	0.00	0.37	0.43	0.32
Control Delay	2.8	0.8	6.3	2.5	0.0	50.5	3.1	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.8	0.8	6.3	2.5	0.0	50.5	3.1	48.5
Queue Length 50th (ft)	43	0	26	44	0	29	0	24
Queue Length 95th (ft)	72	8	51	62	m0	64	0	56
Internal Link Dist (ft)	808			737				
Turn Bay Length (ft)		165	255		315	300		265
Base Capacity (vph)	2838	1308	587	2866	1300	237	526	237
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.05	0.51	0.37	0.00	0.20	0.34	0.17

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

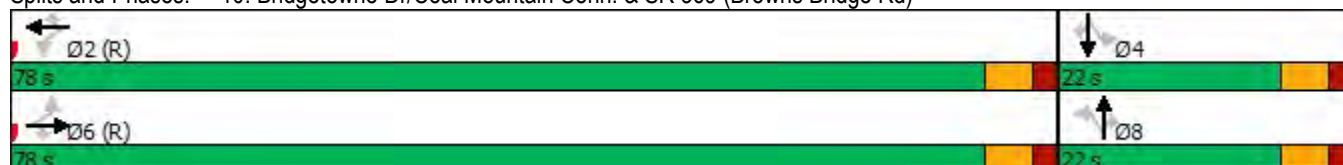
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2e. No-Build 2028 PM - Improved

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	658	60	282	1004	5	44	0	170	38	0	0
Future Volume (veh/h)	0	658	60	282	1004	5	44	0	170	38	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	1900	1870	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	700	0	300	1068	0	47	0	0	40	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	72	2969		675	2992		151	104		151	104	
Arrive On Green	0.00	0.84	0.00	0.84	0.84	0.00	0.05	0.00	0.00	0.05	0.00	0.00
Sat Flow, veh/h	537	3554	1610	758	3582	1610	1440	1900	1610	1440	1900	1610
Grp Volume(v), veh/h	0	700	0	300	1068	0	47	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	537	1777	1610	758	1791	1610	1440	1900	1610	1440	1900	1610
Q Serve(g_s), s	0.0	4.0	0.0	13.4	7.0	0.0	3.2	0.0	0.0	2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.0	0.0	17.5	7.0	0.0	3.2	0.0	0.0	2.7	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	72	2969		675	2992		151	104		151	104	
V/C Ratio(X)	0.00	0.24		0.44	0.36		0.31	0.00		0.27	0.00	
Avail Cap(c_a), veh/h	72	2969		675	2992		310	314		310	314	
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	1.7	0.0	3.5	1.9	0.0	46.2	0.0	0.0	46.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.1	0.3	0.0	1.2	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.0	1.5	0.9	0.0	1.2	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.9	0.0	5.6	2.3	0.0	47.4	0.0	0.0	46.9	0.0	0.0
LnGrp LOS	A	A		A	A		D	A		D	A	
Approach Vol, veh/h	700			1368			47			40		
Approach Delay, s/veh	1.9			3.0			47.4			46.9		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	89.0			11.0			89.0			11.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	72.5			16.5			72.5			16.5		
Max Q Clear Time (g_c+I1), s	19.5			4.7			6.0			5.2		
Green Ext Time (p_c), s	27.1			0.0			10.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay				4.4								
HCM 6th LOS				A								

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	237	25	10	101	23	25
Future Vol, veh/h	237	25	10	101	23	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	29	11	116	26	29
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	272	0	410	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1291	-	598	767
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1291	-	593	767
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	881	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.7		10.6	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	767	-	-	1291	-
HCM Lane V/C Ratio	0.045	0.037	-	-	0.009	-
HCM Control Delay (s)	11.4	9.9	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

Intersection				
Intersection Delay, s/veh	4.2			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	288	137	5	39
Demand Flow Rate, veh/h	294	139	5	40
Vehicles Circulating, veh/h	42	6	294	78
Vehicles Exiting, veh/h	76	293	42	67
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	3.5	3.6	3.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	294	139	5	40
Cap Entry Lane, veh/h	1322	1371	1022	1274
Entry HV Adj Factor	0.980	0.982	0.980	0.980
Flow Entry, veh/h	288	137	5	39
Cap Entry, veh/h	1296	1347	1002	1249
V/C Ratio	0.222	0.101	0.005	0.031
Control Delay, s/veh	4.7	3.5	3.6	3.1
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

2e. No-Build 2028 PM - Improved

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	5	507	376	147	948	82	5	55	5	5	5
Future Volume (vph)	5	507	376	147	948	82	5	55	5	5	5
Lane Group Flow (vph)	5	551	409	160	1035	0	94	60	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	67.0	67.0	67.0	67.0	67.0	33.0	33.0	33.0	33.0	33.0	33.0
Total Split (%)	67.0%	67.0%	67.0%	67.0%	67.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.19	0.30	0.24	0.25		0.57	0.24	0.03	0.02	0.02
Control Delay	3.8	3.3	1.0	3.9	2.8		53.7	12.4	36.2	35.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	3.3	1.0	3.9	2.8		53.7	12.4	36.2	35.8	0.2
Queue Length 50th (ft)	1	38	0	19	44		57	0	3	3	0
Queue Length 95th (ft)	m3	68	20	46	77		104	34	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	393	2844	1352	668	4083		375	478	356	512	454
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.01	0.19	0.30	0.24	0.25		0.25	0.13	0.01	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

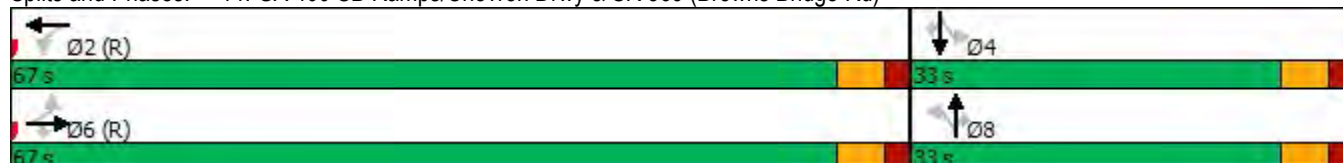
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2e. No-Build 2028 PM - Improved

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	507	376	147	948	5	82	5	55	5	5	5
Future Volume (veh/h)	5	507	376	147	948	5	82	5	55	5	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	551	0	160	1030	5	89	5	0	5	5	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	2	2	2	2	2
Cap, veh/h	510	2858		730	4218	20	183	6		218	160	
Arrive On Green	0.80	0.80	0.00	1.00	1.00	1.00	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	545	3554	1585	857	5244	25	1315	74	1585	1411	1870	1585
Grp Volume(v), veh/h	5	551	0	160	669	366	94	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	545	1777	1585	857	1702	1866	1389	0	1585	1411	1870	1585
Q Serve(g_s), s	0.2	3.6	0.0	1.1	0.0	0.0	6.5	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.2	3.6	0.0	4.7	0.0	0.0	6.7	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.95		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	510	2858		730	2738	1501	189	0		218	160	
V/C Ratio(X)	0.01	0.19		0.22	0.24	0.24	0.50	0.00		0.02	0.03	
Avail Cap(c_a), veh/h	510	2858		730	2738	1501	460	0		485	514	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.85	0.85	0.85	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.9	2.3	0.0	0.1	0.0	0.0	45.0	0.0	0.0	41.9	41.9	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.2	0.3	2.0	0.0	0.0	0.0	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	0.0	0.7	0.0	0.1	0.1	0.1	2.4	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.0	2.4	0.0	0.7	0.2	0.3	47.0	0.0	0.0	42.0	42.0	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h	556			1195			94			10		
Approach Delay, s/veh	2.4			0.3			47.0			42.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	85.9			14.1			85.9			14.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	61.5			27.5			61.5			27.5		
Max Q Clear Time (g_c+I1), s	6.7			2.3			5.6			8.7		
Green Ext Time (p_c), s	20.5			0.0			8.0			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	3.5											
HCM 6th LOS	A											

Notes

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

Timings

2e. No-Build 2028 PM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	491	5	5	545	109	5	5	5	229	5	469
Future Volume (vph)	71	491	5	5	545	109	5	5	5	229	5	469
Lane Group Flow (vph)	77	534	5	5	592	118	4	6	5	127	127	510
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	37.4	37.4	37.4	37.4	37.4	37.4	21.6	21.6	21.6	41.0	41.0	41.0
Total Split (%)	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	21.6%	21.6%	21.6%	41.0%	41.0%	41.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.15	0.23	0.00	0.01	0.25	0.11	0.04	0.06	0.03	0.42	0.41	0.81
Control Delay	13.0	10.5	0.0	12.8	10.1	3.2	44.8	45.2	0.2	37.6	37.5	18.4
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	13.0	10.5	0.0	12.8	10.1	3.2	44.8	45.2	0.2	37.6	37.5	18.4
Queue Length 50th (ft)	15	59	0	1	53	0	2	4	0	78	78	56
Queue Length 95th (ft)	62	153	0	9	174	31	14	17	0	109	109	151
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	507	2335	1073	544	2335	1084	270	282	327	596	599	828
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	0.15	0.23	0.00	0.01	0.25	0.11	0.01	0.02	0.02	0.21	0.21	0.62

Intersection Summary

Cycle Length: 100

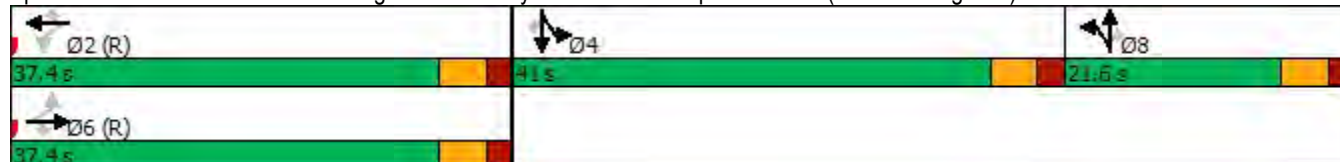
Actuated Cycle Length: 100

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

2e. No-Build 2028 PM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	491	5	5	545	109	5	5	5	229	5	469
Future Volume (veh/h)	71	491	5	5	545	109	5	5	5	229	5	469
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	534	5	5	592	0	5	5	5	253	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	2	2	2	2	2
Cap, veh/h	617	2548	1136	650	2548		36	38	32	348	0	
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.00	0.02	0.02	0.02	0.10	0.00	0.00
Sat Flow, veh/h	825	3554	1585	866	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	77	534	5	5	592	0	5	5	5	253	0	0
Grp Sat Flow(s),veh/h/ln	825	1777	1585	866	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	3.5	5.0	0.1	0.2	5.7	0.0	0.3	0.3	0.3	6.9	0.0	0.0
Cycle Q Clear(g_c), s	9.2	5.0	0.1	5.2	5.7	0.0	0.3	0.3	0.3	6.9	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	617	2548	1136	650	2548		36	38	32	348	0	
V/C Ratio(X)	0.12	0.21	0.00	0.01	0.23		0.14	0.13	0.15	0.73	0.00	
Avail Cap(c_a), veh/h	617	2548	1136	650	2548		287	301	255	1265	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	4.7	4.0	5.6	4.8	0.0	48.1	48.1	48.1	43.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.0	0.0	0.2	0.0	1.7	1.5	2.2	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.4	0.0	0.0	1.6	0.0	0.1	0.1	0.1	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	4.9	4.0	5.6	5.0	0.0	49.8	49.6	50.3	46.8	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	616			597			15			253		
Approach Delay, s/veh	5.1			5.0			49.9			46.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	77.2			15.3			77.2			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	31.9			35.5			31.9			16.1		
Max Q Clear Time (g_c+I1), s	7.7			8.9			11.2			2.3		
Green Ext Time (p_c), s	7.0			0.9			6.7			0.0		

Intersection Summary

HCM 6th Ctrl Delay 12.6

HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

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

Timings

2f. No-Build 2028 Dismissal - Improved

2: SR 9 (Dahlonge Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/06/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	108	4	55	44	11	31	31	412	32	352	155
Future Volume (vph)	108	4	55	44	11	31	31	412	32	352	155
Lane Group Flow (vph)	130	5	66	53	13	37	37	496	39	424	187
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases		4			8		1	6		2	
Permitted Phases	4		4	8		8	6		2		2
Detector Phase	4	4	4	8	8	8	1	6	2	2	2
Switch Phase											
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	36.5	36.5	36.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	17.0	70.0	53.0	53.0	53.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	17.0%	70.0%	53.0%	53.0%	53.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.64	0.02	0.22	0.26	0.05	0.12	0.06	0.36	0.07	0.34	0.17
Control Delay	53.8	33.5	6.2	39.1	34.2	0.8	4.5	5.9	9.2	10.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	33.5	6.2	39.1	34.2	0.8	4.5	5.9	9.2	10.0	1.9
Queue Length 50th (ft)	79	3	0	30	7	0	5	92	9	121	0
Queue Length 95th (ft)	120	11	18	57	21	0	15	156	25	194	23
Internal Link Dist (ft)		652			669			575		500	
Turn Bay Length (ft)	200		385	150		160	310		310		265
Base Capacity (vph)	341	456	453	344	456	453	713	1386	600	1245	1120
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.01	0.15	0.15	0.03	0.08	0.05	0.36	0.07	0.34	0.17

Intersection Summary

Cycle Length: 100

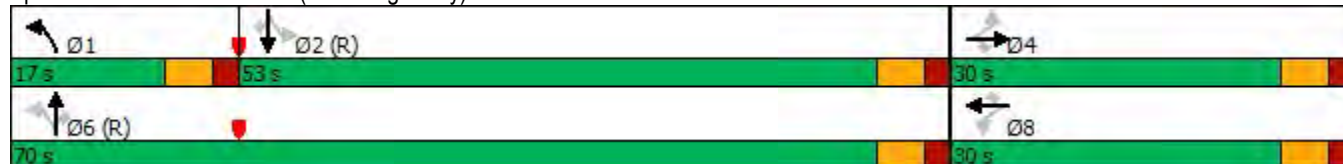
Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonge Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

2f. No-Build 2028 Dismissal - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/06/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	4	55	44	11	31	31	412	0	32	352	155
Future Volume (veh/h)	108	4	55	44	11	31	31	412	0	32	352	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	5	66	53	13	0	37	496	0	39	424	187
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	227	192	230	227		606	1438	1219	686	1275	1080
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.03	0.77	0.00	0.68	0.68	0.68
Sat Flow, veh/h	1401	1870	1585	1329	1870	1585	1781	1870	1585	901	1870	1585
Grp Volume(v), veh/h	130	5	66	53	13	0	37	496	0	39	424	187
Grp Sat Flow(s),veh/h/ln	1401	1870	1585	1329	1870	1585	1781	1870	1585	901	1870	1585
Q Serve(g_s), s	9.1	0.2	3.8	3.7	0.6	0.0	0.6	8.3	0.0	1.4	9.3	4.3
Cycle Q Clear(g_c), s	9.7	0.2	3.8	3.9	0.6	0.0	0.6	8.3	0.0	1.4	9.3	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	227	192	230	227		606	1438	1219	686	1275	1080
V/C Ratio(X)	0.56	0.02	0.34	0.23	0.06		0.06	0.34	0.00	0.06	0.33	0.17
Avail Cap(c_a), veh/h	407	458	388	395	458		754	1438	1219	686	1275	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	38.7	40.3	40.4	38.9	0.0	4.3	3.6	0.0	5.3	6.6	5.7
Incr Delay (d2), s/veh	2.1	0.0	1.1	0.5	0.1	0.0	0.0	0.7	0.0	0.2	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.1	1.6	1.2	0.3	0.0	0.1	2.0	0.0	0.2	3.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	38.8	41.3	40.9	39.0	0.0	4.3	4.3	0.0	5.5	7.3	6.1
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	201			66			533			650		
Approach Delay, s/veh	43.8			40.6			4.3			6.8		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.7	73.7		17.6		82.4		17.6				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	11.5	47.5		24.5		64.5		24.5				
Max Q Clear Time (g_c+I1), s	2.6	11.3		11.7		10.3		5.9				
Green Ext Time (p_c), s	0.0	7.4		0.5		6.7		0.1				

Intersection Summary

HCM 6th Ctrl Delay 12.6

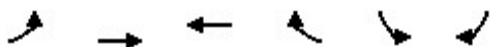
HCM 6th LOS B

Notes

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

Timings
5: SR 369 (Matt Hwy) & Coal Mountain Dr

2f. No-Build 2028 Dismissal - Improved
09/06/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	246	710	774	260	196	247
Future Volume (vph)	246	710	774	260	196	247
Lane Group Flow (vph)	262	755	823	277	209	263
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases	6			2		7
Detector Phase	1	6	2	2	7	7
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	15.0	28.5	21.5	21.5	15.0	15.0
Total Split (s)	15.0	68.0	53.0	53.0	22.0	22.0
Total Split (%)	16.7%	75.6%	58.9%	58.9%	24.4%	24.4%
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	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.76	0.57	0.81	0.28	0.74	0.55
Control Delay	26.7	8.5	25.4	2.2	51.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	8.5	25.4	2.2	51.6	9.2
Queue Length 50th (ft)	52	184	374	0	112	0
Queue Length 95th (ft)	#177	282	#618	35	185	64
Internal Link Dist (ft)		1524	423		639	
Turn Bay Length (ft)	130					
Base Capacity (vph)	344	1336	1015	988	324	505
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	0.76	0.57	0.81	0.28	0.65	0.52

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

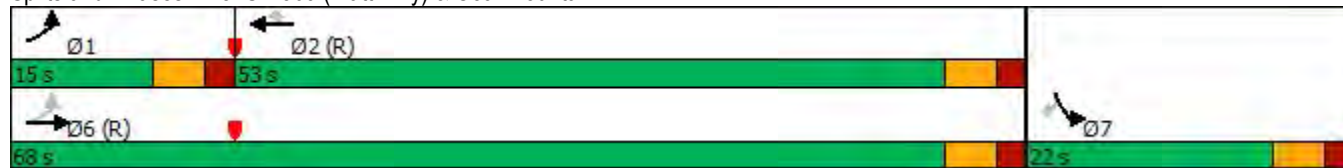
Natural Cycle: 75

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

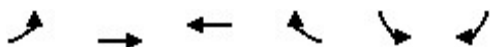
Splits and Phases: 5: SR 369 (Matt Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary
5: SR 369 (Matt Hwy) & Coal Mountain Dr

2f. No-Build 2028 Dismissal - Improved

09/06/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	246	710	774	260	196	247
Future Volume (veh/h)	246	710	774	260	196	247
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	755	823	0	209	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	408	1383	1126		247	
Arrive On Green	0.08	0.74	0.60	0.00	0.14	0.00
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585
Grp Volume(v), veh/h	262	755	823	0	209	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585
Q Serve(g_s), s	4.6	15.9	28.1	0.0	10.3	0.0
Cycle Q Clear(g_c), s	4.6	15.9	28.1	0.0	10.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	408	1383	1126		247	
V/C Ratio(X)	0.64	0.55	0.73		0.85	
Avail Cap(c_a), veh/h	460	1383	1126		327	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	13.1	5.1	12.7	0.0	37.8	0.0
Incr Delay (d2), s/veh	2.5	1.6	4.2	0.0	14.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	4.9	11.4	0.0	5.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.6	6.7	16.9	0.0	52.4	0.0
LnGrp LOS	B	A	B		D	
Approach Vol, veh/h		1017	823		209	
Approach Delay, s/veh		9.0	16.9		52.4	
Approach LOS		A	B		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.4	59.7		18.0		72.0
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	47.5		16.5		62.5
Max Q Clear Time (g_c+I1), s	6.6	30.1		12.3		17.9
Green Ext Time (p_c), s	0.2	9.4		0.2		13.4

Intersection Summary

HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

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

Future “Build” Intersections Analysis

Intersection							
Int Delay, s/veh	5.3						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Vol, veh/h	43	115	188	38	297	718	
Future Vol, veh/h	43	115	188	38	297	718	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	Yield	-	Yield	-	None	
Storage Length	0	0	-	220	200	-	
Veh in Median Storage, #	0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	4	0	0	3	
Mvmt Flow	47	125	204	41	323	780	
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	1630	204	0	0	204	0	
Stage 1	204	-	-	-	-	-	
Stage 2	1426	-	-	-	-	-	
Critical Hdwy	6.4	6.2	-	-	4.1	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	-	-	2.2	-	
Pot Cap-1 Maneuver	113	842	-	-	1380	-	
Stage 1	835	-	-	-	-	-	
Stage 2	224	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Mov Cap-1 Maneuver	87	842	-	-	1380	-	
Mov Cap-2 Maneuver	87	-	-	-	-	-	
Stage 1	835	-	-	-	-	-	
Stage 2	172	-	-	-	-	-	
Approach	WB	NB		SB			
HCM Control Delay, s	30.8	0		2.5			
HCM LOS	D						
Minor Lane/Major Mvmt		NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)		-	-	87	842	1380	-
HCM Lane V/C Ratio		-	-	0.537	0.148	0.234	-
HCM Control Delay (s)		-	-	86.6	10	8.4	-
HCM Lane LOS		-	-	F	B	A	-
HCM 95th %tile Q(veh)		-	-	2.4	0.5	0.9	-

Timings

3a. Build 2028 AM

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	13	39	132	32	32	39	142	43	51	670	40
Future Volume (vph)	52	13	39	132	32	32	39	142	43	51	670	40
Lane Group Flow (vph)	57	14	43	145	35	35	43	156	47	56	736	44
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	21.5	36.5	36.5	36.5
Total Split (s)	26.0	26.0	26.0	26.0	26.0	26.0	15.0	74.0	74.0	59.0	59.0	59.0
Total Split (%)	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	15.0%	74.0%	74.0%	59.0%	59.0%	59.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.27	0.05	0.14	0.68	0.12	0.11	0.10	0.12	0.04	0.07	0.60	0.04
Control Delay	39.0	33.9	1.7	55.1	35.4	0.7	4.9	4.6	1.6	8.9	14.4	0.4
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	39.0	33.9	1.7	55.1	35.4	0.7	4.9	4.6	1.6	8.9	14.4	0.4
Queue Length 50th (ft)	32	8	0	88	19	0	6	24	0	13	276	0
Queue Length 95th (ft)	66	24	5	146	45	0	18	52	10	34	471	3
Internal Link Dist (ft)		652			669			575			500	
Turn Bay Length (ft)	200		385	150		160	310		235	310		265
Base Capacity (vph)	285	389	400	291	389	400	475	1349	1205	831	1226	1102
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	0.20	0.04	0.11	0.50	0.09	0.09	0.09	0.12	0.04	0.07	0.60	0.04

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary
2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

3a. Build 2028 AM

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	13	39	132	32	32	39	142	43	51	670	40
Future Volume (veh/h)	52	13	39	132	32	32	39	142	43	51	670	40
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	1900	1900	1900	1900	1900	1900	1900	1841	1900	1900	1856	1900
Adj Flow Rate, veh/h	57	14	43	145	35	0	43	156	47	56	736	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	4	0	0	3	0
Cap, veh/h	235	253	214	245	253		450	1393	1219	871	1238	1074
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.03	0.76	0.76	0.67	0.67	0.67
Sat Flow, veh/h	1395	1900	1610	1368	1900	1610	1810	1841	1610	1198	1856	1610
Grp Volume(v), veh/h	57	14	43	145	35	0	43	156	47	56	736	44
Grp Sat Flow(s),veh/h/ln	1395	1900	1610	1368	1900	1610	1810	1841	1610	1198	1856	1610
Q Serve(g_s), s	3.8	0.6	2.4	10.4	1.6	0.0	0.7	2.3	0.7	1.6	21.9	0.9
Cycle Q Clear(g_c), s	5.4	0.6	2.4	11.0	1.6	0.0	0.7	2.3	0.7	1.6	21.9	0.9
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	235	253	214	245	253		450	1393	1219	871	1238	1074
V/C Ratio(X)	0.24	0.06	0.20	0.59	0.14		0.10	0.11	0.04	0.06	0.59	0.04
Avail Cap(c_a), veh/h	335	390	330	344	390		559	1393	1219	871	1238	1074
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	37.9	38.6	42.7	38.3	0.0	7.0	3.2	3.0	5.8	9.2	5.7
Incr Delay (d2), s/veh	0.5	0.1	0.5	2.3	0.2	0.0	0.1	0.2	0.1	0.1	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.3	1.0	3.6	0.8	0.0	0.2	0.6	0.2	0.4	7.4	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	37.9	39.1	44.9	38.5	0.0	7.1	3.4	3.1	6.0	11.3	5.8
LnGrp LOS	D	D	D	D	D		A	A	A	A	B	A
Approach Vol, veh/h	114			180			246			836		
Approach Delay, s/veh	40.0			43.7			4.0			10.6		
Approach LOS	D			D			A			B		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	72.2		18.8		81.2		18.8				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	9.5	53.5		20.5		68.5		20.5				
Max Q Clear Time (g_c+I1), s	2.7	23.9		7.4		4.3		13.0				
Green Ext Time (p_c), s	0.0	11.1		0.2		2.1		0.3				

Intersection Summary

HCM 6th Ctrl Delay 16.2

HCM 6th LOS B

Notes

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

Timings

3a. Build 2028 AM

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗	↘	↰	↗	↘	↰	↗	↘	↰	↗	↘
Traffic Volume (vph)	41	519	161	295	522	28	62	386	148	143	759	54
Future Volume (vph)	41	519	161	295	522	28	62	386	148	143	759	54
Lane Group Flow (vph)	42	535	166	304	538	29	64	398	153	147	782	56
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	28.5	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	28.0	28.0	28.0	23.0	51.0	51.0	15.0	62.0	62.0	17.0	64.0	64.0
Total Split (%)	21.5%	21.5%	21.5%	17.7%	39.2%	39.2%	11.5%	47.7%	47.7%	13.1%	49.2%	49.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.34	0.85	0.38	0.93	0.43	0.05	0.43	0.53	0.22	0.36	0.95	0.08
Control Delay	56.2	65.2	9.5	70.3	32.2	0.2	24.5	31.4	4.1	17.3	56.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	65.2	9.5	70.3	32.2	0.2	24.5	31.4	4.1	17.3	56.5	0.3
Queue Length 50th (ft)	32	236	0	~228	185	0	23	236	0	56	601	0
Queue Length 95th (ft)	71	#343	63	#417	240	1	49	335	40	92	#887	0
Internal Link Dist (ft)		658			704			3242			373	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	125	630	433	327	1241	568	169	796	726	420	838	672
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	0.34	0.85	0.38	0.93	0.43	0.05	0.38	0.50	0.21	0.35	0.93	0.08

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

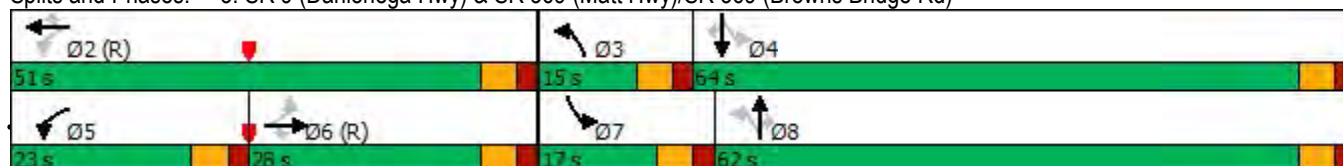
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3a. Build 2028 AM

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	519	161	295	522	28	62	386	148	143	759	54
Future Volume (veh/h)	41	519	161	295	522	28	62	386	148	143	759	54
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	1470	1781	1870	1841	1722	1633	1722	1841	1752	1826	1856	1604
Adj Flow Rate, veh/h	42	535	0	304	538	0	64	398	0	147	782	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	29	8	2	4	12	18	12	4	10	5	3	20
Cap, veh/h	209	760		359	1314		129	749		402	811	
Arrive On Green	0.22	0.22	0.00	0.13	0.40	0.00	0.03	0.41	0.00	0.06	0.44	0.00
Sat Flow, veh/h	682	3385	1585	1753	3272	1384	1640	1841	1485	1739	1856	1359
Grp Volume(v), veh/h	42	535	0	304	538	0	64	398	0	147	782	0
Grp Sat Flow(s),veh/h/ln	682	1692	1585	1753	1636	1384	1640	1841	1485	1739	1856	1359
Q Serve(g_s), s	6.6	18.9	0.0	17.1	15.3	0.0	2.9	21.3	0.0	6.3	53.3	0.0
Cycle Q Clear(g_c), s	6.6	18.9	0.0	17.1	15.3	0.0	2.9	21.3	0.0	6.3	53.3	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	209	760		359	1314		129	749		402	811	
V/C Ratio(X)	0.20	0.70		0.85	0.41		0.50	0.53		0.37	0.96	
Avail Cap(c_a), veh/h	209	760		359	1314		192	800		444	835	
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	41.6	46.4	0.0	33.4	27.9	0.0	31.4	29.1	0.0	21.7	35.6	0.0
Incr Delay (d2), s/veh	2.2	5.4	0.0	16.9	0.9	0.0	2.9	0.6	0.0	0.6	22.6	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	1.2	8.3	0.0	8.7	6.0	0.0	1.2	9.1	0.0	2.5	27.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	51.8	0.0	50.2	28.8	0.0	34.3	29.7	0.0	22.3	58.2	0.0
LnGrp LOS	D	D		D	C		C	C		C	E	
Approach Vol, veh/h	577			842			462			929		
Approach Delay, s/veh	51.2			36.5			30.4			52.5		
Approach LOS	D			D			C			D		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	57.7			10.0			62.3			23.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	45.5			9.5			58.5			17.5		
Max Q Clear Time (g_c+l1), s	17.3			4.9			55.3			19.1		
Green Ext Time (p_c), s	6.6			0.0			1.5			0.0		

Intersection Summary

HCM 6th Ctrl Delay 43.8

HCM 6th LOS D

Notes

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

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

Timings 4: SR 9 (Dahlonega Hwy) & Spot Rd

3a. Build 2028 AM
09/08/2022



Lane Group	EBL	EBT	NBL	NBT	SBL	SBT	SBR	Ø8
Lane Configurations								
Traffic Volume (vph)	146	3	147	451	1	1001	175	
Future Volume (vph)	146	3	147	451	1	1001	175	
Lane Group Flow (vph)	151	335	152	465	1	1032	180	
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4	1	6		2		8
Permitted Phases	4		6		2		2	
Detector Phase	4	4	1	6	2	2	2	
Switch Phase								
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0	15.0	6.0
Minimum Split (s)	27.5	27.5	15.0	28.5	27.5	27.5	27.5	29.5
Total Split (s)	29.5	29.5	15.0	70.5	55.5	55.5	55.5	29.5
Total Split (%)	29.5%	29.5%	15.0%	70.5%	55.5%	55.5%	55.5%	30%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag			Lead		Lag	Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio	0.67	0.73	0.68	0.35	0.00	0.96	0.19	
Control Delay	53.0	21.9	33.1	6.9	12.0	41.9	6.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.0	21.9	33.1	6.9	12.0	41.9	6.9	
Queue Length 50th (ft)	92	59	43	94	0	582	25	
Queue Length 95th (ft)	146	146	#133	185	3	#998	68	
Internal Link Dist (ft)		691		1006		547		
Turn Bay Length (ft)	250		130		150		130	
Base Capacity (vph)	319	553	244	1318	545	1078	926	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.61	0.62	0.35	0.00	0.96	0.19	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

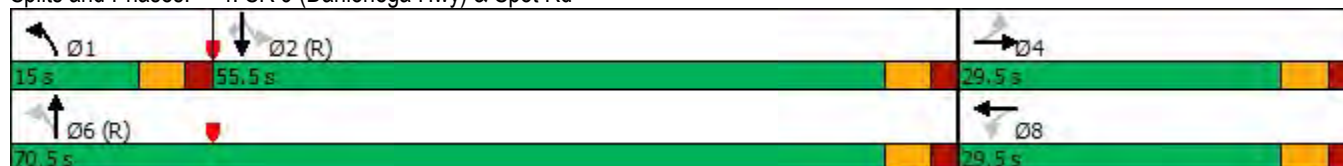
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



HCM 6th Signalized Intersection Summary 4: SR 9 (Dahlonega Hwy) & Spot Rd

3a. Build 2028 AM
09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	3	322	0	0	0	147	451	0	1	1001	175
Future Volume (veh/h)	146	3	322	0	0	0	147	451	0	1	1001	175
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	1781	1900	1856	1900	1900	1900	1841	1841	1900	1900	1870	1826
Adj Flow Rate, veh/h	151	3	332	0	0	0	152	465	0	1	1032	180
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	0	3	0	0	0	4	4	0	0	2	5
Cap, veh/h	457	3	363	0	432	0	184	1220	0	585	1017	842
Arrive On Green	0.23	0.23	0.23	0.00	0.00	0.00	0.06	0.66	0.00	0.54	0.54	0.54
Sat Flow, veh/h	1697	14	1598	0	1900	0	1753	1841	0	942	1870	1547
Grp Volume(v), veh/h	151	0	335	0	0	0	152	465	0	1	1032	180
Grp Sat Flow(s),veh/h/ln	1697	0	1612	0	1900	0	1753	1841	0	942	1870	1547
Q Serve(g_s), s	7.6	0.0	20.3	0.0	0.0	0.0	4.4	11.4	0.0	0.0	54.4	6.0
Cycle Q Clear(g_c), s	7.6	0.0	20.3	0.0	0.0	0.0	4.4	11.4	0.0	0.0	54.4	6.0
Prop In Lane	1.00		0.99	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	0	366	0	432	0	184	1220	0	585	1017	842
V/C Ratio(X)	0.33	0.00	0.91	0.00	0.00	0.00	0.83	0.38	0.00	0.00	1.01	0.21
Avail Cap(c_a), veh/h	479	0	387	0	456	0	239	1220	0	585	1017	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	37.7	0.0	0.0	0.0	27.2	7.6	0.0	10.4	22.8	11.8
Incr Delay (d2), s/veh	0.4	0.0	25.2	0.0	0.0	0.0	16.5	0.9	0.0	0.0	31.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	10.0	0.0	0.0	0.0	2.6	3.6	0.0	0.0	28.4	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	0.0	62.9	0.0	0.0	0.0	43.7	8.5	0.0	10.4	54.6	12.3
LnGrp LOS	C	A	E	A	A	A	D	A	A	B	F	B
Approach Vol, veh/h	486			0			617			1213		
Approach Delay, s/veh	53.6			0.0			17.2			48.3		
Approach LOS	D						B			D		
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	11.9	59.9	28.2			71.8	28.2					
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5	5.5					
Max Green Setting (Gmax), s	9.5	50.0	24.0			65.0	24.0					
Max Q Clear Time (g_c+I1), s	6.4	56.4	22.3			13.4	0.0					
Green Ext Time (p_c), s	0.1	0.0	0.4			6.0	0.0					
Intersection Summary												
HCM 6th Ctrl Delay	41.1											
HCM 6th LOS	D											

Intersection						
Int Delay, s/veh	28.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	329	816	673	289	71	124
Future Vol, veh/h	329	816	673	289	71	124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	7	16	0	0	0
Mvmt Flow	336	833	687	295	72	127

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	687	0	0 2192 687
Stage 1	-	-	- 687 -
Stage 2	-	-	- 1505 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	916	-	- ~ 51 450
Stage 1	-	-	- 503 -
Stage 2	-	-	- 205 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	916	-	- ~ 32 450
Mov Cap-2 Maneuver	-	-	- ~ 32 -
Stage 1	-	-	- 318 -
Stage 2	-	-	- 205 -

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	\$ 317.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	916	-	-	-	32	450
HCM Lane V/C Ratio	0.367	-	-	-	2.264	0.281
HCM Control Delay (s)	11.2	-	-	-	\$ 844.1	16.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	1.7	-	-	-	8.3	1.1

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

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	853	1	15	540	1	34
Future Vol, veh/h	853	1	15	540	1	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	200	200	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	0	0	15	0	5
Mvmt Flow	948	1	17	600	1	38

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	948
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	732
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	732
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	18.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	118	312	-	-	732	-
HCM Lane V/C Ratio	0.009	0.121	-	-	0.023	-
HCM Control Delay (s)	35.8	18.1	-	-	10	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	0	0.4	-	-	0.1	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	212	816	547	69	6	120
Future Vol, veh/h	212	816	547	69	6	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	7	16	14	0	0
Mvmt Flow	230	887	595	75	7	130
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	595	0	-	0	1942	595
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	1347	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	991	-	-	-	72	508
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	245	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	991	-	-	-	55	508
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	245	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		17.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	991	-	-	-	55	508
HCM Lane V/C Ratio	0.233	-	-	-	0.119	0.257
HCM Control Delay (s)	9.7	-	-	-	79.1	14.5
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.4	1

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	801	269	52	527	27	69
Future Vol, veh/h	801	269	52	527	27	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	220	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	7	0	0	17	0	0
Mvmt Flow	880	296	57	579	30	76
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1176	0	1721	1028
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	693	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	601	-	99	287
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	500	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	601	-	90	287
Mov Cap-2 Maneuver	-	-	-	-	90	-
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	453	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1		33.7		
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	90	287	-	-	601	-
HCM Lane V/C Ratio	0.33	0.264	-	-	0.095	-
HCM Control Delay (s)	63.5	22	-	-	11.6	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	1.3	1	-	-	0.3	-

Intersection							
Int Delay, s/veh	4.2						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	7	144	580	562	49	62	134
Future Vol, veh/h	7	144	580	562	49	62	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	Yield	-	Yield
Storage Length	-	250	-	-	225	0	130
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	93	93	93	93	93	93
Heavy Vehicles, %	2	5	8	11	11	3	6
Mvmt Flow	8	155	624	604	53	67	144
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	604	604	0	-	0	1242	302
Stage 1	-	-	-	-	-	604	-
Stage 2	-	-	-	-	-	638	-
Critical Hdwy	6.44	4.2	-	-	-	6.86	7.02
Critical Hdwy Stg 1	-	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	-	5.86	-
Follow-up Hdwy	2.52	2.25	-	-	-	3.53	3.36
Pot Cap-1 Maneuver	595	949	-	-	-	165	682
Stage 1	-	-	-	-	-	506	-
Stage 2	-	-	-	-	-	486	-
Platoon blocked, %			-	-	-		
Mov Cap-1 Maneuver	907	907	-	-	-	135	682
Mov Cap-2 Maneuver	-	-	-	-	-	135	-
Stage 1	-	-	-	-	-	415	-
Stage 2	-	-	-	-	-	486	-
Approach	EB		WB		SB		
HCM Control Delay, s	2		0		25.5		
HCM LOS	D						
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	907	-	-	-	135	682	
HCM Lane V/C Ratio	0.179	-	-	-	0.494	0.211	
HCM Control Delay (s)	9.8	-	-	-	55.2	11.7	
HCM Lane LOS	A	-	-	-	F	B	
HCM 95th %tile Q(veh)	0.7	-	-	-	2.3	0.8	

Timings

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

3a. Build 2028 AM

09/08/2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	3	620	23	47	558	59	45	7	200	111	9	4
Future Volume (vph)	3	620	23	47	558	59	45	7	200	111	9	4
Lane Group Flow (vph)	3	653	24	49	587	62	47	7	211	117	9	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	58.0	58.0	58.0	58.0	58.0	58.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.00	0.26	0.02	0.09	0.24	0.05	0.24	0.03	0.52	0.60	0.03	0.02
Control Delay	4.3	4.5	1.6	3.9	3.7	0.9	39.7	34.6	10.2	52.7	34.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.3	4.5	1.6	3.9	3.7	0.9	39.7	34.6	10.2	52.7	34.7	0.0
Queue Length 50th (ft)	1	55	0	6	43	0	27	4	0	71	5	0
Queue Length 95th (ft)	3	96	7	17	68	8	58	16	60	122	18	0
Internal Link Dist (ft)		808			737			452			744	
Turn Bay Length (ft)	245		165	255		315	300			265		260
Base Capacity (vph)	617	2519	1224	559	2429	1232	521	693	723	522	693	606
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	0.00	0.26	0.02	0.09	0.24	0.05	0.09	0.01	0.29	0.22	0.01	0.01

Intersection Summary

Cycle Length: 100

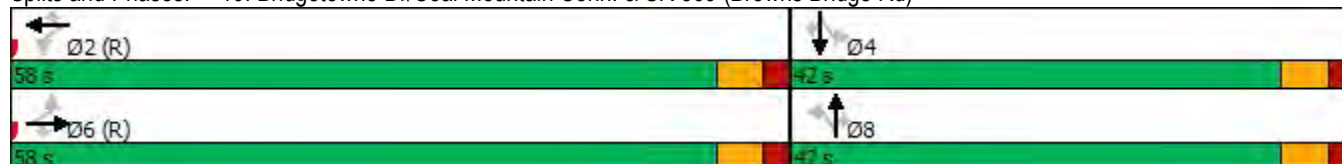
Actuated Cycle Length: 100

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

Natural Cycle: 45

Control Type: Actuated-Coordinated

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3a. Build 2028 AM

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	620	23	47	558	59	45	7	200	111	9	4
Future Volume (veh/h)	3	620	23	47	558	59	45	7	200	111	9	4
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	1900	1781	1900	1856	1722	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	653	0	49	587	0	47	7	0	117	9	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, %	0	8	0	3	12	0	0	0	0	0	0	0
Cap, veh/h	692	2654		639	2566		217	201		219	201	
Arrive On Green	0.78	0.78	0.00	0.78	0.78	0.00	0.11	0.11	0.00	0.11	0.11	0.00
Sat Flow, veh/h	842	3385	1610	773	3272	1610	1428	1900	1610	1431	1900	1610
Grp Volume(v), veh/h	3	653	0	49	587	0	47	7	0	117	9	0
Grp Sat Flow(s),veh/h/ln	842	1692	1610	773	1636	1610	1428	1900	1610	1431	1900	1610
Q Serve(g_s), s	0.1	5.2	0.0	1.8	4.7	0.0	3.1	0.3	0.0	8.0	0.4	0.0
Cycle Q Clear(g_c), s	4.8	5.2	0.0	7.0	4.7	0.0	3.5	0.3	0.0	8.3	0.4	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	692	2654		639	2566		217	201		219	201	
V/C Ratio(X)	0.00	0.25		0.08	0.23		0.22	0.03		0.54	0.04	
Avail Cap(c_a), veh/h	692	2654		639	2566		587	694		590	694	
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	3.5	2.9	0.0	3.8	2.8	0.0	41.7	40.1	0.0	43.9	40.2	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.2	0.0	0.5	0.1	0.0	2.0	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	0.0	1.1	0.0	0.2	0.9	0.0	1.1	0.2	0.0	2.9	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.5	3.1	0.0	4.0	3.0	0.0	42.2	40.2	0.0	45.9	40.3	0.0
LnGrp LOS	A	A		A	A		D	D		D	D	
Approach Vol, veh/h	656			636			54			126		
Approach Delay, s/veh	3.1			3.1			42.0			45.5		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	83.9			16.1			83.9			16.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	52.5			36.5			52.5			36.5		
Max Q Clear Time (g_c+I1), s	9.0			10.3			7.2			5.5		
Green Ext Time (p_c), s	9.1			0.3			9.5			0.1		
Intersection Summary												
HCM 6th Ctrl Delay	8.2											
HCM 6th LOS	A											

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	143	31	18	226	26	10
Future Vol, veh/h	143	31	18	226	26	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	183	40	23	290	33	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	183	0	519	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	336	-
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	-	-	1392	-	517	859
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	724	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1392	-	508	859
Mov Cap-2 Maneuver	-	-	-	-	508	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	712	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		11.7	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	508	859	-	-	1392	-
HCM Lane V/C Ratio	0.066	0.015	-	-	0.017	-
HCM Control Delay (s)	12.6	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-

Intersection				
Intersection Delay, s/veh	4.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	209	256	75	163
Demand Flow Rate, veh/h	214	261	77	166
Vehicles Circulating, veh/h	151	104	228	181
Vehicles Exiting, veh/h	196	201	137	184
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	4.8	4.0	4.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	214	261	77	166
Cap Entry Lane, veh/h	1183	1241	1094	1147
Entry HV Adj Factor	0.978	0.981	0.974	0.984
Flow Entry, veh/h	209	256	75	163
Cap Entry, veh/h	1157	1218	1065	1129
V/C Ratio	0.181	0.210	0.070	0.145
Control Delay, s/veh	4.7	4.8	4.0	4.4
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	1

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

3a. Build 2028 AM

09/08/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	5	469	546	191	709	81	5	49	5	5	5
Future Volume (vph)	5	469	546	191	709	81	5	49	5	5	5
Lane Group Flow (vph)	5	510	593	208	776	0	93	53	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	72.0	72.0	72.0	72.0	72.0	28.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	72.0%	72.0%	72.0%	72.0%	72.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.19	0.43	0.30	0.21		0.56	0.22	0.03	0.02	0.02
Control Delay	3.4	3.1	1.7	3.6	2.2		53.7	12.7	36.4	36.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	3.1	1.7	3.6	2.2		53.7	12.7	36.4	36.0	0.2
Queue Length 50th (ft)	1	33	6	16	20		57	0	3	3	0
Queue Length 95th (ft)	m3	68	43	43	45		103	33	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	518	2689	1389	695	3724		307	397	292	419	377
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.01	0.19	0.43	0.30	0.21		0.30	0.13	0.02	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

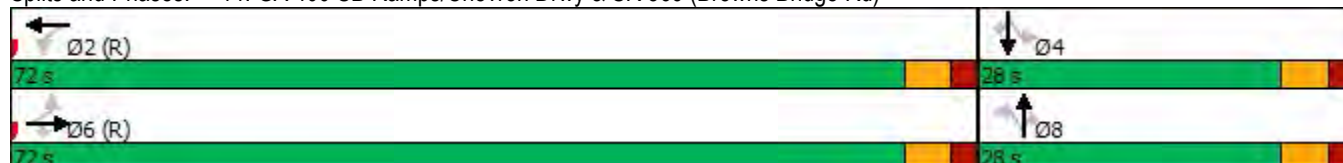
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary
 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

3a. Build 2028 AM
 09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	469	546	191	709	5	81	5	49	5	5	5
Future Volume (veh/h)	5	469	546	191	709	5	81	5	49	5	5	5
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	510	0	208	771	5	88	5	0	5	5	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	632	2727		758	3883	25	181	6		215	158	
Arrive On Green	0.81	0.81	0.00	1.00	1.00	1.00	0.08	0.08	0.00	0.08	0.08	0.00
Sat Flow, veh/h	695	3385	1585	890	4820	31	1314	75	1585	1411	1870	1585
Grp Volume(v), veh/h	5	510	0	208	501	275	93	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	695	1692	1585	890	1567	1717	1388	0	1585	1411	1870	1585
Q Serve(g_s), s	0.1	3.4	0.0	1.4	0.0	0.0	6.4	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.1	3.4	0.0	4.9	0.0	0.0	6.6	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.95		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	632	2727		758	2525	1383	187	0		215	158	
V/C Ratio(X)	0.01	0.19		0.27	0.20	0.20	0.50	0.00		0.02	0.03	
Avail Cap(c_a), veh/h	632	2727		758	2525	1383	388	0		414	421	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.94	0.94	0.94	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.9	2.2	0.0	0.1	0.0	0.0	45.1	0.0	0.0	42.0	42.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.8	0.2	0.3	2.0	0.0	0.0	0.0	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	0.0	0.6	0.0	0.2	0.1	0.1	2.4	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.9	2.4	0.0	0.9	0.2	0.3	47.1	0.0	0.0	42.1	42.1	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h		515			984			93			10	
Approach Delay, s/veh		2.4			0.4			47.1			42.1	
Approach LOS		A			A			D			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.1		13.9		86.1		13.9				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		66.5		22.5		66.5		22.5				
Max Q Clear Time (g_c+I1), s		6.9		2.3		5.4		8.6				
Green Ext Time (p_c), s		15.7		0.0		7.3		0.3				

Intersection Summary

HCM 6th Ctrl Delay	4.0
HCM 6th LOS	A

Notes

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

Timings

3a. Build 2028 AM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	425	5	5	614	55	5	5	5	114	5	214
Future Volume (vph)	92	425	5	5	614	55	5	5	5	114	5	214
Lane Group Flow (vph)	100	462	5	5	667	60	4	6	5	64	65	233
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0	50.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	22.0%	22.0%	22.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.19	0.19	0.00	0.01	0.28	0.05	0.04	0.06	0.03	0.40	0.40	0.64
Control Delay	5.8	4.4	0.0	6.2	5.6	0.9	44.8	45.2	0.2	48.3	48.4	14.1
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	5.8	4.4	0.0	6.2	5.6	0.9	44.8	45.2	0.2	48.3	48.4	14.1
Queue Length 50th (ft)	10	25	0	1	43	0	2	4	0	41	42	0
Queue Length 95th (ft)	43	71	0	6	131	8	14	17	0	81	82	67
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	540	2490	1201	674	2401	1201	277	289	333	378	380	536
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	0.19	0.19	0.00	0.01	0.28	0.05	0.01	0.02	0.02	0.17	0.17	0.43

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3a. Build 2028 AM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	425	5	5	614	55	5	5	5	114	5	214
Future Volume (veh/h)	92	425	5	5	614	55	5	5	5	114	5	214
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	462	5	5	667	0	5	5	5	128	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	606	2560	1199	737	2475		36	38	32	208	0	
Arrive On Green	0.76	0.76	0.76	0.76	0.76	0.00	0.02	0.02	0.02	0.06	0.00	0.00
Sat Flow, veh/h	769	3385	1585	926	3272	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	100	462	5	5	667	0	5	5	5	128	0	0
Grp Sat Flow(s),veh/h/ln	769	1692	1585	926	1636	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	4.6	3.9	0.1	0.2	6.2	0.0	0.3	0.3	0.3	3.5	0.0	0.0
Cycle Q Clear(g_c), s	10.8	3.9	0.1	4.0	6.2	0.0	0.3	0.3	0.3	3.5	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	606	2560	1199	737	2475		36	38	32	208	0	
V/C Ratio(X)	0.17	0.18	0.00	0.01	0.27		0.14	0.13	0.15	0.62	0.00	
Avail Cap(c_a), veh/h	606	2560	1199	737	2475		294	309	262	802	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.4	3.4	3.0	4.0	3.7	0.0	48.1	48.1	48.1	46.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.2	0.0	0.0	0.3	0.0	1.7	1.5	2.2	3.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.9	0.0	0.0	1.4	0.0	0.1	0.1	0.1	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	3.6	3.0	4.0	4.0	0.0	49.8	49.6	50.3	49.0	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	567			672			15			128		
Approach Delay, s/veh	4.0			4.0			49.9			49.0		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.1			11.3			81.1			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	44.5			22.5			44.5			16.5		
Max Q Clear Time (g_c+I1), s	8.2			5.5			12.8			2.3		
Green Ext Time (p_c), s	9.3			0.3			7.3			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.7											
HCM 6th LOS	A											
Notes												
User approved volume balancing among the lanes for turning movement.												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	6	386	13	4	833
Future Vol, veh/h	13	6	386	13	4	833
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	3
Mvmt Flow	14	7	420	14	4	905
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1333	420	0	0	434	0
Stage 1	420	-	-	-	-	-
Stage 2	913	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	170	633	-	-	1126	-
Stage 1	663	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	169	633	-	-	1126	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	23.1	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	220	1126	-	
HCM Lane V/C Ratio	-	-	0.094	0.004	-	
HCM Control Delay (s)	-	-	23.1	8.2	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.3	0	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	731	681	23	0	48
Future Vol, veh/h	0	731	681	23	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	175	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	8	11	2	2	2
Mvmt Flow	0	795	740	25	0	52
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	370
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	-	-	0	0	627
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	627
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		11.3		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	627			
HCM Lane V/C Ratio	-	-	0.083			
HCM Control Delay (s)	-	-	11.3			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.3			

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	192	165	9	0	31
Future Vol, veh/h	0	192	165	9	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	209	179	10	0	34
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	179
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	864
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	864
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	864			
HCM Lane V/C Ratio	-	-	0.039			
HCM Control Delay (s)	-	-	9.3			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	192	167	9	0	16
Future Vol, veh/h	0	192	167	9	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	209	182	10	0	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	182
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	861
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	861
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	861			
HCM Lane V/C Ratio	-	-	0.02			
HCM Control Delay (s)	-	-	9.3			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	332	4	5	152	6	8
Future Vol, veh/h	332	4	5	152	6	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	361	4	5	165	7	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	365	0	538	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	175	-
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	-	-	1194	-	504	682
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1194	-	501	682
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	851	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		11.3	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	591	-	-	1194	-	
HCM Lane V/C Ratio	0.026	-	-	0.005	-	
HCM Control Delay (s)	11.3	-	-	8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection						
Int Delay, s/veh	14.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	300	732	59	137	427
Future Vol, veh/h	83	300	732	59	137	427
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	0	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	89	323	787	63	147	459
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1540	787	0	0	787	0
Stage 1	787	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	128	395	-	-	841	-
Stage 1	452	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	106	395	-	-	841	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	60.9	0	2.5			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 106 395	841	-		
HCM Lane V/C Ratio	-	- 0.842 0.817	0.175	-		
HCM Control Delay (s)	-	- 122.3 43.9	10.2	-		
HCM Lane LOS	-	- F E	B	-		
HCM 95th %tile Q(veh)	-	- 4.8 7.4	0.6	-		

Timings

3b. Build 2028 PM

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	20	47	99	24	23	9	700	78	53	345	99
Future Volume (vph)	86	20	47	99	24	23	9	700	78	53	345	99
Lane Group Flow (vph)	91	21	49	104	25	24	9	737	82	56	363	104
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	21.5	36.5	36.5	36.5
Total Split (s)	27.0	27.0	27.0	27.0	27.0	27.0	15.0	73.0	73.0	58.0	58.0	58.0
Total Split (%)	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	15.0%	73.0%	73.0%	58.0%	58.0%	58.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.52	0.09	0.18	0.58	0.10	0.09	0.01	0.49	0.06	0.10	0.25	0.08
Control Delay	50.3	37.0	3.6	53.5	37.4	0.6	3.8	6.2	1.1	6.3	5.8	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	50.3	37.0	3.6	53.5	37.4	0.6	3.8	6.2	1.1	6.3	5.8	1.6
Queue Length 50th (ft)	55	12	0	63	14	0	1	149	0	7	55	0
Queue Length 95th (ft)	100	32	10	112	37	0	6	279	12	34	164	21
Internal Link Dist (ft)		652			669			575			500	
Turn Bay Length (ft)	200		385	150		160	310		235	310		265
Base Capacity (vph)	302	408	415	304	408	415	821	1505	1308	544	1433	1277
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	0.30	0.05	0.12	0.34	0.06	0.06	0.01	0.49	0.06	0.10	0.25	0.08

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary
2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

3b. Build 2028 PM

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	20	47	99	24	23	9	700	78	53	345	99
Future Volume (veh/h)	86	20	47	99	24	23	9	700	78	53	345	99
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	1900	1900	1900	1900	1900	1900	1900	1885	1900	1900	1856	1900
Adj Flow Rate, veh/h	91	21	49	104	25	0	9	737	82	56	363	104
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, %	0	0	0	0	0	0	0	1	0	0	3	0
Cap, veh/h	207	205	173	204	205		701	1475	1260	508	1329	1153
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	0.01	0.78	0.78	0.72	0.72	0.72
Sat Flow, veh/h	1408	1900	1610	1352	1900	1610	1810	1885	1610	678	1856	1610
Grp Volume(v), veh/h	91	21	49	104	25	0	9	737	82	56	363	104
Grp Sat Flow(s),veh/h/ln	1408	1900	1610	1352	1900	1610	1810	1885	1610	678	1856	1610
Q Serve(g_s), s	6.2	1.0	2.8	7.5	1.2	0.0	0.1	14.0	1.2	3.2	6.9	2.0
Cycle Q Clear(g_c), s	7.4	1.0	2.8	8.5	1.2	0.0	0.1	14.0	1.2	10.6	6.9	2.0
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	207	205	173	204	205		701	1475	1260	508	1329	1153
V/C Ratio(X)	0.44	0.10	0.28	0.51	0.12		0.01	0.50	0.07	0.11	0.27	0.09
Avail Cap(c_a), veh/h	358	409	346	349	409		853	1475	1260	508	1329	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	40.3	41.1	44.1	40.3	0.0	3.6	3.9	2.5	7.0	5.0	4.3
Incr Delay (d2), s/veh	1.5	0.2	0.9	2.0	0.3	0.0	0.0	1.2	0.1	0.4	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.5	1.2	2.6	0.6	0.0	0.0	3.2	0.2	0.4	2.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	40.5	41.9	46.1	40.6	0.0	3.6	5.1	2.6	7.4	5.5	4.5
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	161			129			828			523		
Approach Delay, s/veh	43.6			45.0			4.8			5.5		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	6.6	77.1	16.3		83.7		16.3					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	9.5	52.5	21.5		67.5		21.5					
Max Q Clear Time (g_c+I1), s	2.1	12.6	9.4		16.0		10.5					
Green Ext Time (p_c), s	0.0	6.2	0.4		13.1		0.3					

Intersection Summary

HCM 6th Ctrl Delay 12.0

HCM 6th LOS B

Notes

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

Timings

3b. Build 2028 PM

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗↗	↰	↰	↗↗	↰	↰	↗	↰	↰	↗	↰
Traffic Volume (vph)	71	710	130	256	853	20	99	753	114	120	488	42
Future Volume (vph)	71	710	130	256	853	20	99	753	114	120	488	42
Lane Group Flow (vph)	73	732	134	264	879	21	102	776	118	124	503	43
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	28.5	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	35.0	35.0	35.0	18.0	53.0	53.0	17.0	63.0	63.0	14.0	60.0	60.0
Total Split (%)	26.9%	26.9%	26.9%	13.8%	40.8%	40.8%	13.1%	48.5%	48.5%	10.8%	46.2%	46.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.67	0.91	0.29	1.09	0.66	0.04	0.31	0.95	0.16	0.71	0.64	0.08
Control Delay	76.3	65.6	8.3	117.5	36.8	0.1	17.0	58.2	4.7	46.7	33.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.3	65.6	8.3	117.5	36.8	0.1	17.0	58.2	4.7	46.7	33.9	0.3
Queue Length 50th (ft)	56	318	0	~214	326	0	40	611	2	50	323	0
Queue Length 95th (ft)	#135	#430	53	#394	400	0	69	#874	38	#144	458	0
Internal Link Dist (ft)		658			704			3242			373	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	109	803	456	242	1340	577	355	831	756	174	792	556
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	0.67	0.91	0.29	1.09	0.66	0.04	0.29	0.93	0.16	0.71	0.64	0.08

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

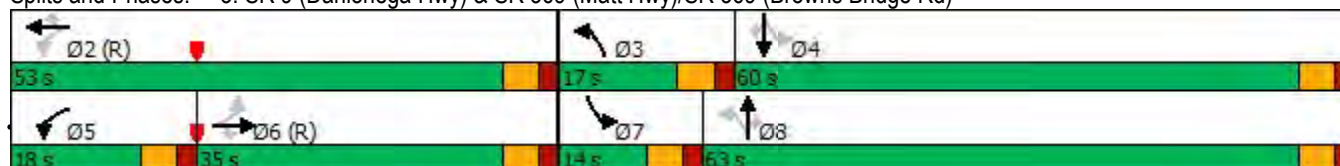
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



Coal Mountain Town Center (DRI #3718)

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HCM 6th Signalized Intersection Summary

3b. Build 2028 PM

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	710	130	256	853	20	99	753	114	120	488	42
Future Volume (veh/h)	71	710	130	256	853	20	99	753	114	120	488	42
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	1707	1870	1841	1856	1885	1707	1781	1885	1856	1885	1856	1292
Adj Flow Rate, veh/h	73	732	0	264	879	0	102	776	0	124	503	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	13	2	4	3	1	13	8	1	3	1	3	41
Cap, veh/h	167	900		268	1403		327	806		171	803	
Arrive On Green	0.25	0.25	0.00	0.10	0.39	0.00	0.05	0.43	0.00	0.05	0.43	0.00
Sat Flow, veh/h	576	3554	1560	1767	3582	1447	1697	1885	1572	1795	1856	1095
Grp Volume(v), veh/h	73	732	0	264	879	0	102	776	0	124	503	0
Grp Sat Flow(s),veh/h/ln	576	1777	1560	1767	1791	1447	1697	1885	1572	1795	1856	1095
Q Serve(g_s), s	15.2	25.2	0.0	12.5	25.7	0.0	4.4	52.0	0.0	5.0	27.4	0.0
Cycle Q Clear(g_c), s	22.9	25.2	0.0	12.5	25.7	0.0	4.4	52.0	0.0	5.0	27.4	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	167	900		268	1403		327	806		171	803	
V/C Ratio(X)	0.44	0.81		0.98	0.63		0.31	0.96		0.73	0.63	
Avail Cap(c_a), veh/h	167	900		268	1403		395	834		192	803	
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	48.3	45.6	0.0	37.9	31.9	0.0	22.1	36.2	0.0	30.4	28.7	0.0
Incr Delay (d2), s/veh	8.1	7.9	0.0	50.5	2.1	0.0	0.5	22.1	0.0	11.4	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	11.8	0.0	9.8	11.1	0.0	1.7	27.2	0.0	2.5	11.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	53.6	0.0	88.3	34.0	0.0	22.6	58.3	0.0	41.8	30.2	0.0
LnGrp LOS	E	D		F	C		C	E		D	C	
Approach Vol, veh/h	805			1143			878			627		
Approach Delay, s/veh	53.8			46.5			54.1			32.5		
Approach LOS	D			D			D			C		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	56.4			11.8			61.8			18.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	47.5			11.5			54.5			12.5		
Max Q Clear Time (g_c+I1), s	27.7			6.4			29.4			14.5		
Green Ext Time (p_c), s	9.6			0.1			2.8			0.0		

Intersection Summary

HCM 6th Ctrl Delay 47.6

HCM 6th LOS D

Notes

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

Timings
4: SR 9 (Dahlonega Hwy) & Spot Rd

3b. Build 2028 PM
09/08/2022



Lane Group	EBL	EBT	WBT	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	158	1	1	402	669	683	204
Future Volume (vph)	158	1	1	402	669	683	204
Lane Group Flow (vph)	166	201	1	423	704	719	215
Turn Type	Perm	NA	NA	pm+pt	NA	NA	Perm
Protected Phases		4	8	1	6	2	
Permitted Phases	4			6			2
Detector Phase	4	4	8	1	6	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	27.5	27.5	29.5	15.0	28.5	27.5	27.5
Total Split (s)	29.5	29.5	29.5	23.0	70.5	47.5	47.5
Total Split (%)	29.5%	29.5%	29.5%	23.0%	70.5%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.70	0.46	0.00	0.84	0.53	0.93	0.29
Control Delay	54.0	8.4	30.0	43.0	9.0	47.9	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	8.4	30.0	43.0	9.0	47.9	10.0
Queue Length 50th (ft)	101	1	1	201	175	426	39
Queue Length 95th (ft)	159	56	5	#448	328	#665	89
Internal Link Dist (ft)		691	125		1006	547	
Turn Bay Length (ft)	250			130			130
Base Capacity (vph)	331	536	456	504	1338	774	731
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.38	0.00	0.84	0.53	0.93	0.29

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

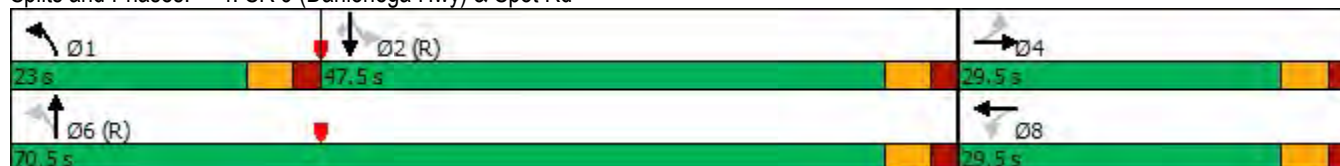
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



HCM 6th Signalized Intersection Summary

4: SR 9 (Dahlonega Hwy) & Spot Rd

3b. Build 2028 PM

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	1	190	0	1	0	402	669	0	0	683	204
Future Volume (veh/h)	158	1	190	0	1	0	402	669	0	0	683	204
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	1841	1900	1885	1900	1900	1900	1870	1870	1900	1900	1856	1870
Adj Flow Rate, veh/h	166	1	200	0	1	0	423	704	0	0	719	215
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, %	4	0	1	0	0	0	2	2	0	0	3	2
Cap, veh/h	283	1	243	0	289	0	460	1381	0	72	1040	889
Arrive On Green	0.15	0.15	0.15	0.00	0.15	0.00	0.12	0.74	0.00	0.00	0.56	0.56
Sat Flow, veh/h	1394	8	1603	0	1900	0	1781	1870	0	755	1856	1585
Grp Volume(v), veh/h	166	0	201	0	1	0	423	704	0	0	719	215
Grp Sat Flow(s),veh/h/ln	1394	0	1611	0	1900	0	1781	1870	0	755	1856	1585
Q Serve(g_s), s	11.5	0.0	12.1	0.0	0.0	0.0	9.6	15.8	0.0	0.0	27.8	6.9
Cycle Q Clear(g_c), s	11.5	0.0	12.1	0.0	0.0	0.0	9.6	15.8	0.0	0.0	27.8	6.9
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	0	245	0	289	0	460	1381	0	72	1040	889
V/C Ratio(X)	0.59	0.00	0.82	0.00	0.00	0.00	0.92	0.51	0.00	0.00	0.69	0.24
Avail Cap(c_a), veh/h	406	0	387	0	456	0	553	1381	0	72	1040	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	41.1	0.0	36.0	0.0	17.4	5.5	0.0	0.0	15.8	11.2
Incr Delay (d2), s/veh	1.9	0.0	7.6	0.0	0.0	0.0	18.8	1.3	0.0	0.0	3.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	5.1	0.0	0.0	0.0	7.5	4.2	0.0	0.0	10.7	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	0.0	48.7	0.0	36.0	0.0	36.1	6.8	0.0	0.0	19.5	11.8
LnGrp LOS	D	A	D	A	D	A	D	A	A	A	B	B
Approach Vol, veh/h	367			1			1127			934		
Approach Delay, s/veh	46.0			36.0			17.8			17.7		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	17.7	61.6	20.7		79.3		20.7					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	17.5	42.0	24.0		65.0		24.0					
Max Q Clear Time (g_c+I1), s	11.6	29.8	14.1		17.8		2.0					
Green Ext Time (p_c), s	0.7	6.9	1.1		10.7		0.0					
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	138	1064	1012	45	26	75
Future Vol, veh/h	138	1064	1012	45	26	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	4	0	0	0
Mvmt Flow	145	1120	1065	47	27	79
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1065	0	-	0	2475	1065
Stage 1	-	-	-	-	1065	-
Stage 2	-	-	-	-	1410	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	662	-	-	-	33	273
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	228	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	662	-	-	-	~ 26	273
Mov Cap-2 Maneuver	-	-	-	-	~ 26	-
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	228	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.4	0		123.4		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	662	-	-	-	26	273
HCM Lane V/C Ratio	0.219	-	-	-	1.053	0.289
HCM Control Delay (s)	12	-	-	-	\$ 411.7	23.5
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.8	-	-	-	3.3	1.2
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection							
Int Delay, s/veh	0.4						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑	↗	↖	↑	↖	↗	
Traffic Vol, veh/h	898	7	16	867	0	27	
Future Vol, veh/h	898	7	16	867	0	27	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	Yield	-	None	-	Yield	
Storage Length	-	200	200	-	0	100	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	0	0	2	0	0	
Mvmt Flow	955	7	17	922	0	29	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	955	0	1911	955	
Stage 1	-	-	-	-	955	-	
Stage 2	-	-	-	-	956	-	
Critical Hdwy	-	-	4.1	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	5.4	-	
Follow-up Hdwy	-	-	2.2	-	3.5	3.3	
Pot Cap-1 Maneuver	-	-	728	-	76	316	
Stage 1	-	-	-	-	377	-	
Stage 2	-	-	-	-	376	-	
Platoon blocked, %	-	-		-			
Mov Cap-1 Maneuver	-	-	728	-	74	316	
Mov Cap-2 Maneuver	-	-	-	-	74	-	
Stage 1	-	-	-	-	377	-	
Stage 2	-	-	-	-	367	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.2		17.5		
HCM LOS	C						
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-		316	-	-	728	-
HCM Lane V/C Ratio	-		0.091	-	-	0.023	-
HCM Control Delay (s)	0		17.5	-	-	10.1	-
HCM Lane LOS	A		C	-	-	B	-
HCM 95th %tile Q(veh)	-		0.3	-	-	0.1	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	983	943	19	7	83
Future Vol, veh/h	46	983	943	19	7	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	47	1013	972	20	7	86
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	972	0	-	0	2079	972
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	1107	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	717	-	-	-	59	309
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	319	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	717	-	-	-	55	309
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	319	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		25.7		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	717	-	-	-	55	309
HCM Lane V/C Ratio	0.066	-	-	-	0.131	0.277
HCM Control Delay (s)	10.4	-	-	-	80.1	21.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	1.1

Intersection						
Int Delay, s/veh	61.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	792	69	47	828	181	120
Future Vol, veh/h	792	69	47	828	181	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	220	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	0	0	2	0	0
Mvmt Flow	816	71	48	854	187	124

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	887
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	772
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	772
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	\$ 416.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	83	362	-	-	772	-
HCM Lane V/C Ratio	2.248	0.342	-	-	0.063	-
HCM Control Delay (s)	\$ 679.6	20	-	-	10	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	17.1	1.5	-	-	0.2	-

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

Intersection							
Int Delay, s/veh	5.4						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	13	174	739	966	132	33	95
Future Vol, veh/h	13	174	739	966	132	33	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	Yield	-	Yield
Storage Length	-	250	-	-	225	0	130
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	0	0	1
Mvmt Flow	14	189	803	1050	143	36	103
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	1050	1050	0	-	0	1858	525
Stage 1	-	-	-	-	-	1050	-
Stage 2	-	-	-	-	-	808	-
Critical Hdwy	6.44	4.14	-	-	-	6.8	6.92
Critical Hdwy Stg 1	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.52	2.22	-	-	-	3.5	3.31
Pot Cap-1 Maneuver	308	659	-	-	-	66	500
Stage 1	-	-	-	-	-	302	-
Stage 2	-	-	-	-	-	404	-
Platoon blocked, %			-	-	-		
Mov Cap-1 Maneuver	591	591	-	-	-	43	500
Mov Cap-2 Maneuver	-	-	-	-	-	43	-
Stage 1	-	-	-	-	-	198	-
Stage 2	-	-	-	-	-	404	-
Approach	EB		WB		SB		
HCM Control Delay, s	2.9		0		70.4		
HCM LOS					F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	591	-	-	-	43	500	
HCM Lane V/C Ratio	0.344	-	-	-	0.834	0.207	
HCM Control Delay (s)	14.2	-	-	-	232.6	14.1	
HCM Lane LOS	B	-	-	-	F	B	
HCM 95th %tile Q(veh)	1.5	-	-	-	3.2	0.8	

Timings

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

3b. Build 2028 PM

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	705	67	282	1042	95	49	13	170	96	8	4
Future Volume (vph)	5	705	67	282	1042	95	49	13	170	96	8	4
Lane Group Flow (vph)	5	750	71	300	1109	101	52	14	181	102	9	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	6			2			8			4		
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	78.5	78.5	78.5	78.5	78.5	78.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (%)	78.5%	78.5%	78.5%	78.5%	78.5%	78.5%	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.28	0.06	0.57	0.40	0.08	0.30	0.06	0.51	0.60	0.04	0.02
Control Delay	3.6	3.9	1.0	8.2	3.1	0.2	43.4	37.4	11.3	55.4	36.9	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	3.6	3.9	1.0	8.2	3.1	0.2	43.4	37.4	11.3	55.4	36.9	0.2
Queue Length 50th (ft)	1	60	0	40	62	0	31	8	0	62	5	0
Queue Length 95th (ft)	4	95	10	59	78	2	65	26	59	113	19	0
Internal Link Dist (ft)	808			737			452			744		
Turn Bay Length (ft)	245		165	255		315	300			265		260
Base Capacity (vph)	347	2722	1258	529	2750	1265	228	304	410	227	304	281
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	0.01	0.28	0.06	0.57	0.40	0.08	0.23	0.05	0.44	0.45	0.03	0.01

Intersection Summary

Cycle Length: 100

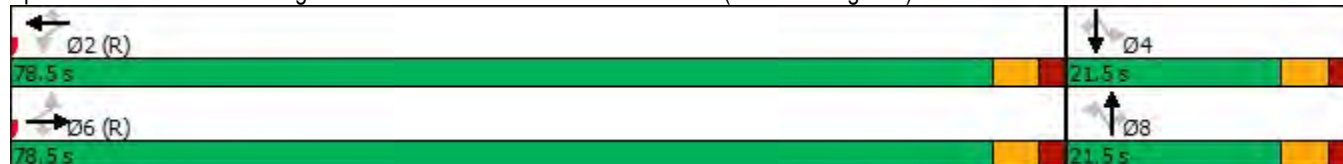
Actuated Cycle Length: 100

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3b. Build 2028 PM

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	705	67	282	1042	95	49	13	170	96	8	4
Future Volume (veh/h)	5	705	67	282	1042	95	49	13	170	96	8	4
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	1900	1870	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	750	0	300	1109	0	52	14	0	102	9	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	433	2816		605	2839		205	185		201	185	
Arrive On Green	0.79	0.79	0.00	0.79	0.79	0.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	516	3554	1610	723	3582	1610	1428	1900	1610	1422	1900	1610
Grp Volume(v), veh/h	5	750	0	300	1109	0	52	14	0	102	9	0
Grp Sat Flow(s),veh/h/ln	516	1777	1610	723	1791	1610	1428	1900	1610	1422	1900	1610
Q Serve(g_s), s	0.3	5.5	0.0	18.6	9.3	0.0	3.4	0.7	0.0	7.0	0.4	0.0
Cycle Q Clear(g_c), s	9.6	5.5	0.0	24.2	9.3	0.0	3.9	0.7	0.0	7.7	0.4	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	433	2816		605	2839		205	185		201	185	
V/C Ratio(X)	0.01	0.27		0.50	0.39		0.25	0.08		0.51	0.05	
Avail Cap(c_a), veh/h	433	2816		605	2839		294	304		290	304	
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	4.6	2.7	0.0	5.9	3.1	0.0	42.7	41.0	0.0	44.5	40.9	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.9	0.4	0.0	0.6	0.2	0.0	2.0	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	0.0	1.1	0.0	2.4	1.9	0.0	1.2	0.3	0.0	2.6	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	3.0	0.0	8.8	3.5	0.0	43.3	41.2	0.0	46.5	41.0	0.0
LnGrp LOS	A	A		A	A		D	D		D	D	
Approach Vol, veh/h	755			1409			66			111		
Approach Delay, s/veh	3.0			4.6			42.9			46.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	84.8			15.2			84.8			15.2		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	73.0			16.0			73.0			16.0		
Max Q Clear Time (g_c+I1), s	26.2			9.7			11.6			5.9		
Green Ext Time (p_c), s	26.6			0.1			12.0			0.1		

Intersection Summary

HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	252	25	10	119	23	25
Future Vol, veh/h	252	25	10	119	23	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	290	29	11	137	26	29
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	290	0	449	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1272	-	568	749
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1272	-	563	749
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	862	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		10.8	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	563	749	-	-	1272	-
HCM Lane V/C Ratio	0.047	0.038	-	-	0.009	-
HCM Control Delay (s)	11.7	10	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

Intersection				
Intersection Delay, s/veh	5.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	332	156	122	145
Demand Flow Rate, veh/h	339	159	124	147
Vehicles Circulating, veh/h	132	167	352	133
Vehicles Exiting, veh/h	148	309	119	193
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	4.3	5.0	4.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	339	159	124	147
Cap Entry Lane, veh/h	1206	1164	964	1205
Entry HV Adj Factor	0.980	0.984	0.980	0.984
Flow Entry, veh/h	332	156	122	145
Cap Entry, veh/h	1182	1145	944	1186
V/C Ratio	0.281	0.137	0.129	0.122
Control Delay, s/veh	5.6	4.3	5.0	4.1
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

3b. Build 2028 PM

09/08/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	5	552	436	147	1058	100	5	55	5	5	5
Future Volume (vph)	5	552	436	147	1058	100	5	55	5	5	5
Lane Group Flow (vph)	5	600	474	160	1155	0	114	60	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	68.0	68.0	68.0	68.0	68.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	68.0%	68.0%	68.0%	68.0%	68.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.02	0.23	0.36	0.27	0.30		0.61	0.22	0.03	0.02	0.02
Control Delay	3.8	3.7	1.0	4.8	3.6		53.9	11.5	34.6	34.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	3.7	1.0	4.8	3.6		53.9	11.5	34.6	34.2	0.2
Queue Length 50th (ft)	1	44	0	25	66		69	0	3	3	0
Queue Length 95th (ft)	m3	70	9	m49	94		119	33	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	318	2666	1309	596	3827		361	463	329	493	439
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.02	0.23	0.36	0.27	0.30		0.32	0.13	0.02	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

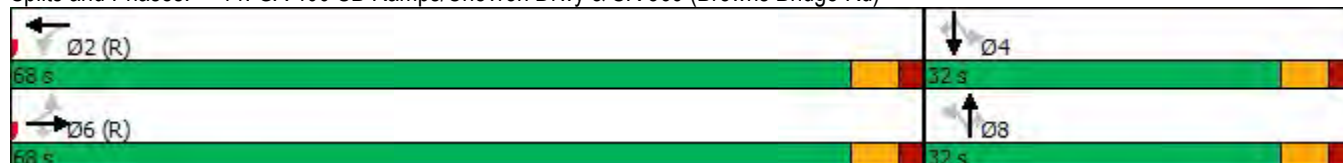
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary
 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

3b. Build 2028 PM
 09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			  						 	
Traffic Volume (veh/h)	5	552	436	147	1058	5	100	5	55	5	5	5
Future Volume (veh/h)	5	552	436	147	1058	5	100	5	55	5	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	600	0	160	1150	5	109	5	0	5	5	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	2	2	2	2	2
Cap, veh/h	455	2801		682	4136	18	206	6		246	190	
Arrive On Green	0.79	0.79	0.00	1.00	1.00	1.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	487	3554	1585	819	5247	23	1332	61	1585	1411	1870	1585
Grp Volume(v), veh/h	5	600	0	160	746	409	114	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	487	1777	1585	819	1702	1866	1393	0	1585	1411	1870	1585
Q Serve(g_s), s	0.2	4.3	0.0	1.4	0.0	0.0	7.8	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.2	4.3	0.0	5.7	0.0	0.0	8.1	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.96		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	455	2801		682	2683	1471	212	0		246	190	
V/C Ratio(X)	0.01	0.21		0.23	0.28	0.28	0.54	0.00		0.02	0.03	
Avail Cap(c_a), veh/h	455	2801		682	2683	1471	445	0		476	496	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.79	0.79	0.79	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	2.3	2.7	0.0	0.2	0.0	0.0	44.1	0.0	0.0	40.4	40.4	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.2	0.4	2.1	0.0	0.0	0.0	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	0.0	0.9	0.0	0.1	0.1	0.2	2.9	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.3	2.9	0.0	0.8	0.2	0.4	46.2	0.0	0.0	40.5	40.5	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h	605		1315				114		10			
Approach Delay, s/veh	2.9		0.3				46.2		40.5			
Approach LOS	A		A				D		D			
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	84.3		15.7		84.3		15.7					
Change Period (Y+Rc), s	5.5		5.5		5.5		5.5					
Max Green Setting (Gmax), s	62.5		26.5		62.5		26.5					
Max Q Clear Time (g_c+I1), s	7.7		2.3		6.3		10.1					
Green Ext Time (p_c), s	23.8		0.0		8.9		0.5					
Intersection Summary												
HCM 6th Ctrl Delay	3.8											
HCM 6th LOS	A											

Timings

3b. Build 2028 PM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	521	5	5	582	109	5	5	5	229	5	542
Future Volume (vph)	86	521	5	5	582	109	5	5	5	229	5	542
Lane Group Flow (vph)	93	566	5	5	633	118	4	6	5	127	127	589
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	39.5	39.5	39.5	39.5	39.5	39.5	21.5	21.5	21.5	39.0	39.0	39.0
Total Split (%)	39.5%	39.5%	39.5%	39.5%	39.5%	39.5%	21.5%	21.5%	21.5%	39.0%	39.0%	39.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.21	0.26	0.00	0.01	0.29	0.12	0.04	0.06	0.03	0.33	0.33	0.88
Control Delay	16.9	13.5	0.0	14.6	12.5	3.5	44.8	45.2	0.2	31.9	31.8	26.4
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	16.9	13.5	0.0	14.6	12.5	3.5	44.8	45.2	0.2	31.9	31.8	26.4
Queue Length 50th (ft)	27	88	0	1	81	0	2	4	0	70	70	122
Queue Length 95th (ft)	77	165	m0	9	190	32	14	17	0	108	108	245
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	438	2173	1005	478	2173	1017	268	280	326	563	565	794
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	0.26	0.00	0.01	0.29	0.12	0.01	0.02	0.02	0.23	0.22	0.74

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

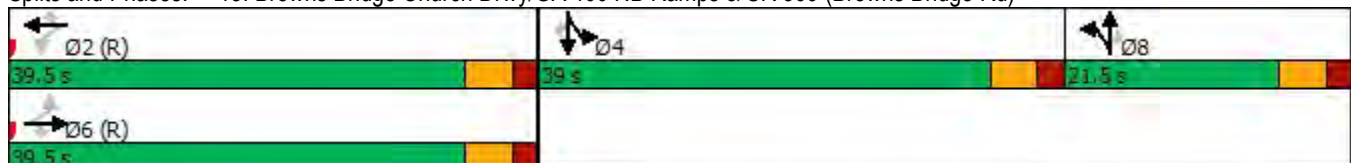
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3b. Build 2028 PM

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	521	5	5	582	109	5	5	5	229	5	542
Future Volume (veh/h)	86	521	5	5	582	109	5	5	5	229	5	542
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	566	5	5	633	0	5	5	5	253	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	2	2	2	2	2
Cap, veh/h	593	2548	1137	630	2548		36	38	32	347	0	
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.00	0.02	0.02	0.02	0.10	0.00	0.00
Sat Flow, veh/h	794	3554	1585	841	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	93	566	5	5	633	0	5	5	5	253	0	0
Grp Sat Flow(s),veh/h/ln	794	1777	1585	841	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	4.6	5.4	0.1	0.2	6.1	0.0	0.3	0.3	0.3	6.9	0.0	0.0
Cycle Q Clear(g_c), s	10.7	5.4	0.1	5.6	6.1	0.0	0.3	0.3	0.3	6.9	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	593	2548	1137	630	2548		36	38	32	347	0	
V/C Ratio(X)	0.16	0.22	0.00	0.01	0.25		0.14	0.13	0.15	0.73	0.00	
Avail Cap(c_a), veh/h	593	2548	1137	630	2548		285	299	254	1193	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	4.8	4.0	5.7	4.9	0.0	48.1	48.1	48.1	43.8	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.2	0.0	0.0	0.2	0.0	1.7	1.5	2.2	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.5	0.0	0.0	1.7	0.0	0.1	0.1	0.1	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	5.0	4.0	5.7	5.1	0.0	49.8	49.6	50.3	46.8	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	664			638			15			253		
Approach Delay, s/veh	5.3			5.1			49.9			46.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	77.2			15.2			77.2			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	34.0			33.5			34.0			16.0		
Max Q Clear Time (g_c+I1), s	8.1			8.9			12.7			2.3		
Green Ext Time (p_c), s	7.7			0.9			7.4			0.0		

Intersection Summary

HCM 6th Ctrl Delay 12.3

HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↑	↔	↑
Traffic Vol, veh/h	12	6	784	24	7	611
Future Vol, veh/h	12	6	784	24	7	611
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	2	2	3
Mvmt Flow	13	7	852	26	8	664
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1532	852	0	0	878	0
Stage 1	852	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	128	359	-	-	769	-
Stage 1	418	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	127	359	-	-	769	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	30.3	0	0.1			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	162	769	-	
HCM Lane V/C Ratio	-	-	0.121	0.01	-	
HCM Control Delay (s)	-	-	30.3	9.7	-	
HCM Lane LOS	-	-	D	A	-	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	925	975	99	0	102
Future Vol, veh/h	0	925	975	99	0	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	175	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1005	1060	108	0	111
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	530
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	-	-	0	0	493
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	493
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		14.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	493			
HCM Lane V/C Ratio	-	-	0.225			
HCM Control Delay (s)	-	-	14.4			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.9			

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	306	93	20	0	35
Future Vol, veh/h	0	306	93	20	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	333	101	22	0	38
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	101
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	954
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	954
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	954			
HCM Lane V/C Ratio	-	-	0.04			
HCM Control Delay (s)	-	-	8.9			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	306	118	16	0	14
Future Vol, veh/h	0	306	118	16	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	333	128	17	0	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	128
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	922
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	922
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	922			
HCM Lane V/C Ratio	-	-	0.017			
HCM Control Delay (s)	-	-	9			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	189	6	9	378	5	7
Future Vol, veh/h	189	6	9	378	5	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	205	7	10	411	5	8
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	212	0	640	209
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	431	-
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	-	-	1358	-	440	831
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	655	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1358	-	436	831
Mov Cap-2 Maneuver	-	-	-	-	436	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	648	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.2		11.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	603	-	-	1358	-	
HCM Lane V/C Ratio	0.022	-	-	0.007	-	
HCM Control Delay (s)	11.1	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Timings

3c. Build 2028 Dismissal

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	18	57	89	22	45	32	419	65	50	359	155
Future Volume (vph)	108	18	57	89	22	45	32	419	65	50	359	155
Lane Group Flow (vph)	130	22	69	107	27	54	39	505	78	60	433	187
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	21.5	36.5	36.5	36.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	17.0	70.0	70.0	53.0	53.0	53.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	17.0%	70.0%	70.0%	53.0%	53.0%	53.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.64	0.08	0.23	0.53	0.10	0.18	0.06	0.36	0.07	0.10	0.35	0.17
Control Delay	54.0	34.8	6.8	47.8	35.2	4.0	4.5	6.0	1.3	9.5	10.2	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	34.8	6.8	47.8	35.2	4.0	4.5	6.0	1.3	9.5	10.2	2.0
Queue Length 50th (ft)	79	12	0	64	15	0	5	95	0	14	125	0
Queue Length 95th (ft)	120	29	20	100	34	9	16	161	11	35	201	23
Internal Link Dist (ft)		652			669			575			500	
Turn Bay Length (ft)	200		385	150		160	310		235	310		265
Base Capacity (vph)	337	456	453	339	456	453	705	1384	1196	593	1243	1118
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	0.39	0.05	0.15	0.32	0.06	0.12	0.06	0.36	0.07	0.10	0.35	0.17

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

3c. Build 2028 Dismissal

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	18	57	89	22	45	32	419	65	50	359	155
Future Volume (veh/h)	108	18	57	89	22	45	32	419	65	50	359	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	22	69	107	27	0	39	505	78	60	433	187
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	243	206	228	243		592	1422	1205	631	1257	1065
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.03	0.76	0.76	0.67	0.67	0.67
Sat Flow, veh/h	1383	1870	1585	1306	1870	1585	1781	1870	1585	832	1870	1585
Grp Volume(v), veh/h	130	22	69	107	27	0	39	505	78	60	433	187
Grp Sat Flow(s),veh/h/ln	1383	1870	1585	1306	1870	1585	1781	1870	1585	832	1870	1585
Q Serve(g_s), s	9.2	1.0	4.0	7.9	1.3	0.0	0.6	8.9	1.2	2.6	9.9	4.4
Cycle Q Clear(g_c), s	10.4	1.0	4.0	8.9	1.3	0.0	0.6	8.9	1.2	2.6	9.9	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	243	206	228	243		592	1422	1205	631	1257	1065
V/C Ratio(X)	0.56	0.09	0.34	0.47	0.11		0.07	0.36	0.06	0.10	0.34	0.18
Avail Cap(c_a), veh/h	393	458	388	378	458		738	1422	1205	631	1257	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	38.3	39.6	42.2	38.4	0.0	4.6	3.9	3.0	5.8	7.0	6.1
Incr Delay (d2), s/veh	2.1	0.2	1.0	1.5	0.2	0.0	0.0	0.7	0.1	0.3	0.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.5	1.6	2.6	0.6	0.0	0.2	2.3	0.3	0.4	3.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	38.5	40.5	43.7	38.6	0.0	4.6	4.6	3.1	6.1	7.7	6.5
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	221			134			622			680		
Approach Delay, s/veh	43.0			42.7			4.4			7.2		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.8	72.7		18.5		81.5		18.5				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	11.5	47.5		24.5		64.5		24.5				
Max Q Clear Time (g_c+I1), s	2.6	11.9		12.4		10.9		10.9				
Green Ext Time (p_c), s	0.0	7.9		0.5		7.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay 13.8

HCM 6th LOS B

Notes

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

Intersection						
Int Delay, s/veh	216.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	246	753	809	262	199	247
Future Vol, veh/h	246	753	809	262	199	247
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	130	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	262	801	861	279	212	263
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	861	0	-	0	2186	861
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	1325	-
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	781	-	-	-	~ 50	355
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	248	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	781	-	-	-	~ 33	355
Mov Cap-2 Maneuver	-	-	-	-	~ 33	-
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	248	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.9	0		\$ 1214.8		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	781	-	-	-	33	355
HCM Lane V/C Ratio	0.335	-	-	-	6.415	0.74
HCM Control Delay (s)	11.9	-	-	-	\$ 2674	39.1
HCM Lane LOS	B	-	-	-	F	E
HCM 95th %tile Q(veh)	1.5	-	-	-	25.5	5.7
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Future “Build” Intersections Analysis with Improvements

Intersection						
Int Delay, s/veh	5.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	115	188	38	297	718
Future Vol, veh/h	43	115	188	38	297	718
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	0	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	4	0	0	3
Mvmt Flow	47	125	204	41	323	780
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1630	204	0	0	204	0
Stage 1	204	-	-	-	-	-
Stage 2	1426	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	113	842	-	-	1380	-
Stage 1	835	-	-	-	-	-
Stage 2	224	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	87	842	-	-	1380	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	30.8	0	2.5			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 87 842 1380	-	-		
HCM Lane V/C Ratio	-	- 0.537 0.148 0.234	-	-		
HCM Control Delay (s)	-	- 86.6 10 8.4	-	-		
HCM Lane LOS	-	- F B A	-	-		
HCM 95th %tile Q(veh)	-	- 2.4 0.5 0.9	-	-		

Timings

3d. Build 2028 AM - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	13	39	132	32	32	39	142	43	51	670	40
Future Volume (vph)	52	13	39	132	32	32	39	142	43	51	670	40
Lane Group Flow (vph)	57	14	43	145	35	35	43	156	47	56	736	44
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	21.5	36.5	36.5	36.5
Total Split (s)	26.0	26.0	26.0	26.0	26.0	26.0	15.0	74.0	74.0	59.0	59.0	59.0
Total Split (%)	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	15.0%	74.0%	74.0%	59.0%	59.0%	59.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.27	0.05	0.14	0.68	0.12	0.11	0.10	0.12	0.04	0.07	0.60	0.04
Control Delay	39.0	33.9	1.7	55.1	35.4	0.7	4.9	4.6	1.6	8.9	14.4	0.4
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	39.0	33.9	1.7	55.1	35.4	0.7	4.9	4.6	1.6	8.9	14.4	0.4
Queue Length 50th (ft)	32	8	0	88	19	0	6	24	0	13	276	0
Queue Length 95th (ft)	66	24	5	146	45	0	18	52	10	34	471	3
Internal Link Dist (ft)		652			669			575			500	
Turn Bay Length (ft)	200		385	150		160	310		235	310		265
Base Capacity (vph)	285	389	400	291	389	400	475	1349	1205	831	1226	1102
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	0.20	0.04	0.11	0.50	0.09	0.09	0.09	0.12	0.04	0.07	0.60	0.04

Intersection Summary

Cycle Length: 100

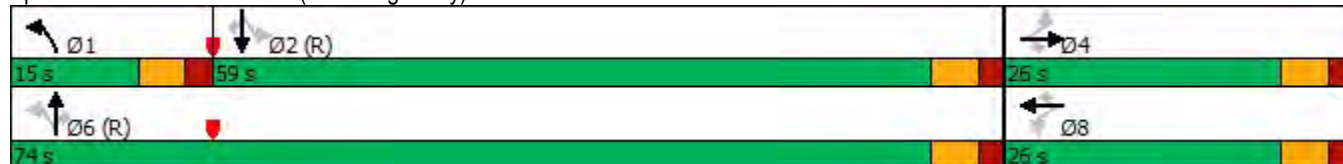
Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

3d. Build 2028 AM - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	13	39	132	32	32	39	142	43	51	670	40
Future Volume (veh/h)	52	13	39	132	32	32	39	142	43	51	670	40
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	1900	1900	1900	1900	1900	1900	1900	1841	1900	1900	1856	1900
Adj Flow Rate, veh/h	57	14	43	145	35	0	43	156	47	56	736	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	4	0	0	3	0
Cap, veh/h	235	253	214	245	253		450	1393	1219	871	1238	1074
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.03	0.76	0.76	0.67	0.67	0.67
Sat Flow, veh/h	1395	1900	1610	1368	1900	1610	1810	1841	1610	1198	1856	1610
Grp Volume(v), veh/h	57	14	43	145	35	0	43	156	47	56	736	44
Grp Sat Flow(s),veh/h/ln	1395	1900	1610	1368	1900	1610	1810	1841	1610	1198	1856	1610
Q Serve(g_s), s	3.8	0.6	2.4	10.4	1.6	0.0	0.7	2.3	0.7	1.6	21.9	0.9
Cycle Q Clear(g_c), s	5.4	0.6	2.4	11.0	1.6	0.0	0.7	2.3	0.7	1.6	21.9	0.9
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	235	253	214	245	253		450	1393	1219	871	1238	1074
V/C Ratio(X)	0.24	0.06	0.20	0.59	0.14		0.10	0.11	0.04	0.06	0.59	0.04
Avail Cap(c_a), veh/h	335	390	330	344	390		559	1393	1219	871	1238	1074
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	37.9	38.6	42.7	38.3	0.0	7.0	3.2	3.0	5.8	9.2	5.7
Incr Delay (d2), s/veh	0.5	0.1	0.5	2.3	0.2	0.0	0.1	0.2	0.1	0.1	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.3	1.0	3.6	0.8	0.0	0.2	0.6	0.2	0.4	7.4	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	37.9	39.1	44.9	38.5	0.0	7.1	3.4	3.1	6.0	11.3	5.8
LnGrp LOS	D	D	D	D	D		A	A	A	A	B	A
Approach Vol, veh/h	114			180			246			836		
Approach Delay, s/veh	40.0			43.7			4.0			10.6		
Approach LOS	D			D			A			B		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	72.2		18.8		81.2		18.8				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	9.5	53.5		20.5		68.5		20.5				
Max Q Clear Time (g_c+I1), s	2.7	23.9		7.4		4.3		13.0				
Green Ext Time (p_c), s	0.0	11.1		0.2		2.1		0.3				

Intersection Summary

HCM 6th Ctrl Delay 16.2

HCM 6th LOS B

Notes

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

Timings

3d. Build 2028 AM - Improved

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗	↘	↰	↗	↘	↰	↗	↘	↰	↗	↘
Traffic Volume (vph)	41	519	161	295	522	28	62	386	148	143	759	54
Future Volume (vph)	41	519	161	295	522	28	62	386	148	143	759	54
Lane Group Flow (vph)	42	535	166	304	538	29	64	398	153	147	782	56
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	28.5	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	28.0	28.0	28.0	23.0	51.0	51.0	15.0	62.0	62.0	17.0	64.0	64.0
Total Split (%)	21.5%	21.5%	21.5%	17.7%	39.2%	39.2%	11.5%	47.7%	47.7%	13.1%	49.2%	49.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.34	0.85	0.38	0.93	0.43	0.05	0.43	0.53	0.22	0.36	0.95	0.08
Control Delay	56.2	65.2	9.5	70.3	32.2	0.2	24.5	31.4	4.1	17.3	56.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	65.2	9.5	70.3	32.2	0.2	24.5	31.4	4.1	17.3	56.5	0.3
Queue Length 50th (ft)	32	236	0	~228	185	0	23	236	0	56	601	0
Queue Length 95th (ft)	71	#343	63	#417	240	1	49	335	40	92	#887	0
Internal Link Dist (ft)		658			704			886			373	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	125	630	433	327	1241	568	169	796	726	420	838	672
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	0.34	0.85	0.38	0.93	0.43	0.05	0.38	0.50	0.21	0.35	0.93	0.08

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

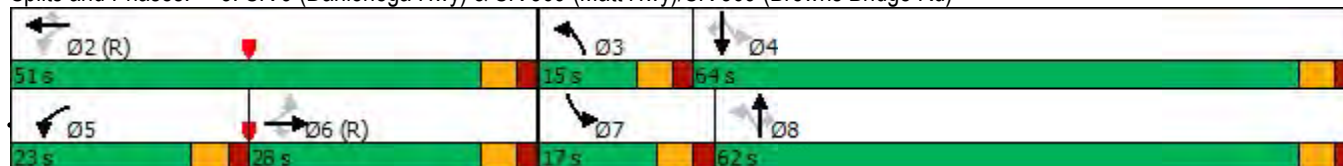
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3d. Build 2028 AM - Improved

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	519	161	295	522	28	62	386	148	143	759	54
Future Volume (veh/h)	41	519	161	295	522	28	62	386	148	143	759	54
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	1470	1781	1870	1841	1722	1633	1722	1841	1752	1826	1856	1604
Adj Flow Rate, veh/h	42	535	0	304	538	0	64	398	0	147	782	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	29	8	2	4	12	18	12	4	10	5	3	20
Cap, veh/h	209	760		359	1314		129	749		402	811	
Arrive On Green	0.22	0.22	0.00	0.13	0.40	0.00	0.03	0.41	0.00	0.06	0.44	0.00
Sat Flow, veh/h	682	3385	1585	1753	3272	1384	1640	1841	1485	1739	1856	1359
Grp Volume(v), veh/h	42	535	0	304	538	0	64	398	0	147	782	0
Grp Sat Flow(s),veh/h/ln	682	1692	1585	1753	1636	1384	1640	1841	1485	1739	1856	1359
Q Serve(g_s), s	6.6	18.9	0.0	17.1	15.3	0.0	2.9	21.3	0.0	6.3	53.3	0.0
Cycle Q Clear(g_c), s	6.6	18.9	0.0	17.1	15.3	0.0	2.9	21.3	0.0	6.3	53.3	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	209	760		359	1314		129	749		402	811	
V/C Ratio(X)	0.20	0.70		0.85	0.41		0.50	0.53		0.37	0.96	
Avail Cap(c_a), veh/h	209	760		359	1314		192	800		444	835	
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	41.6	46.4	0.0	33.4	27.9	0.0	31.4	29.1	0.0	21.7	35.6	0.0
Incr Delay (d2), s/veh	2.2	5.4	0.0	16.9	0.9	0.0	2.9	0.6	0.0	0.6	22.6	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	1.2	8.3	0.0	8.7	6.0	0.0	1.2	9.1	0.0	2.5	27.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	51.8	0.0	50.2	28.8	0.0	34.3	29.7	0.0	22.3	58.2	0.0
LnGrp LOS	D	D		D	C		C	C		C	E	
Approach Vol, veh/h	577			842			462			929		
Approach Delay, s/veh	51.2			36.5			30.4			52.5		
Approach LOS	D			D			C			D		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	57.7			10.0			62.3			23.0		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	45.5			9.5			58.5			17.5		
Max Q Clear Time (g_c+I1), s	17.3			4.9			55.3			19.1		
Green Ext Time (p_c), s	6.6			0.0			1.5			0.0		

Intersection Summary

HCM 6th Ctrl Delay 43.8

HCM 6th LOS D

Notes

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

User approved ignoring U-Turning movement.

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

Timings 4: SR 9 (Dahlonge Hwy) & Spot Rd

3d. Build 2028 AM - Improved
09/08/2022



Lane Group	EBL	EBT	NBL	NBT	SBL	SBT	SBR	Ø8
Lane Configurations								
Traffic Volume (vph)	146	3	147	451	1	1001	175	
Future Volume (vph)	146	3	147	451	1	1001	175	
Lane Group Flow (vph)	151	335	152	465	1	1032	180	
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4	1	6		2		8
Permitted Phases	4		6		2		2	
Detector Phase	4	4	1	6	2	2	2	
Switch Phase								
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0	15.0	15.0	6.0
Minimum Split (s)	27.5	27.5	15.0	28.5	27.5	27.5	27.5	29.5
Total Split (s)	29.5	29.5	15.0	70.5	55.5	55.5	55.5	29.5
Total Split (%)	29.5%	29.5%	15.0%	70.5%	55.5%	55.5%	55.5%	30%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag			Lead		Lag	Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio	0.67	0.73	0.68	0.35	0.00	0.96	0.19	
Control Delay	53.0	21.9	33.1	6.9	12.0	41.9	6.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.0	21.9	33.1	6.9	12.0	41.9	6.9	
Queue Length 50th (ft)	92	59	43	94	0	582	25	
Queue Length 95th (ft)	146	146	#133	185	3	#998	68	
Internal Link Dist (ft)		691		1006		547		
Turn Bay Length (ft)	250		130		150		130	
Base Capacity (vph)	319	553	244	1318	545	1078	926	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.47	0.61	0.62	0.35	0.00	0.96	0.19	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

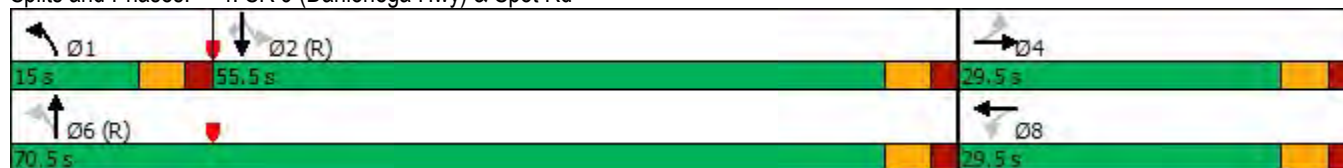
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonge Hwy) & Spot Rd



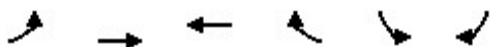
HCM 6th Signalized Intersection Summary 4: SR 9 (Dahlonega Hwy) & Spot Rd

3d. Build 2028 AM - Improved
09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	3	322	0	0	0	147	451	0	1	1001	175
Future Volume (veh/h)	146	3	322	0	0	0	147	451	0	1	1001	175
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	1781	1900	1856	1900	1900	1900	1841	1841	1900	1900	1870	1826
Adj Flow Rate, veh/h	151	3	332	0	0	0	152	465	0	1	1032	180
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	0	3	0	0	0	4	4	0	0	2	5
Cap, veh/h	457	3	363	0	432	0	184	1220	0	585	1017	842
Arrive On Green	0.23	0.23	0.23	0.00	0.00	0.00	0.06	0.66	0.00	0.54	0.54	0.54
Sat Flow, veh/h	1697	14	1598	0	1900	0	1753	1841	0	942	1870	1547
Grp Volume(v), veh/h	151	0	335	0	0	0	152	465	0	1	1032	180
Grp Sat Flow(s),veh/h/ln	1697	0	1612	0	1900	0	1753	1841	0	942	1870	1547
Q Serve(g_s), s	7.6	0.0	20.3	0.0	0.0	0.0	4.4	11.4	0.0	0.0	54.4	6.0
Cycle Q Clear(g_c), s	7.6	0.0	20.3	0.0	0.0	0.0	4.4	11.4	0.0	0.0	54.4	6.0
Prop In Lane	1.00		0.99	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	0	366	0	432	0	184	1220	0	585	1017	842
V/C Ratio(X)	0.33	0.00	0.91	0.00	0.00	0.00	0.83	0.38	0.00	0.00	1.01	0.21
Avail Cap(c_a), veh/h	479	0	387	0	456	0	239	1220	0	585	1017	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	37.7	0.0	0.0	0.0	27.2	7.6	0.0	10.4	22.8	11.8
Incr Delay (d2), s/veh	0.4	0.0	25.2	0.0	0.0	0.0	16.5	0.9	0.0	0.0	31.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	10.0	0.0	0.0	0.0	2.6	3.6	0.0	0.0	28.4	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	0.0	62.9	0.0	0.0	0.0	43.7	8.5	0.0	10.4	54.6	12.3
LnGrp LOS	C	A	E	A	A	A	D	A	A	B	F	B
Approach Vol, veh/h	486			0			617			1213		
Approach Delay, s/veh	53.6			0.0			17.2			48.3		
Approach LOS	D						B			D		
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	11.9	59.9	28.2			71.8	28.2					
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5	5.5					
Max Green Setting (Gmax), s	9.5	50.0	24.0			65.0	24.0					
Max Q Clear Time (g_c+l1), s	6.4	56.4	22.3			13.4	0.0					
Green Ext Time (p_c), s	0.1	0.0	0.4			6.0	0.0					
Intersection Summary												
HCM 6th Ctrl Delay	41.1											
HCM 6th LOS	D											

Timings
5: SR 369 (Matt Hwy) & Coal Mountain Dr

3d. Build 2028 AM - Improved
09/08/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	329	816	673	289	71	124
Future Volume (vph)	329	816	673	289	71	124
Lane Group Flow (vph)	336	833	687	295	72	127
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases	6			2		7
Detector Phase	1	6	2	2	7	7
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	15.0	28.5	21.5	21.5	15.0	15.0
Total Split (s)	19.0	75.0	56.0	56.0	15.0	15.0
Total Split (%)	21.1%	83.3%	62.2%	62.2%	16.7%	16.7%
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	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.61	0.60	0.71	0.27	0.44	0.48
Control Delay	8.7	9.5	18.4	1.8	46.8	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.7	9.5	18.4	1.8	46.8	13.9
Queue Length 50th (ft)	55	263	256	0	39	0
Queue Length 95th (ft)	m80	m426	426	33	81	51
Internal Link Dist (ft)		1524	423		639	
Turn Bay Length (ft)	130					
Base Capacity (vph)	573	1396	973	1079	190	284
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	0.59	0.60	0.71	0.27	0.38	0.45

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

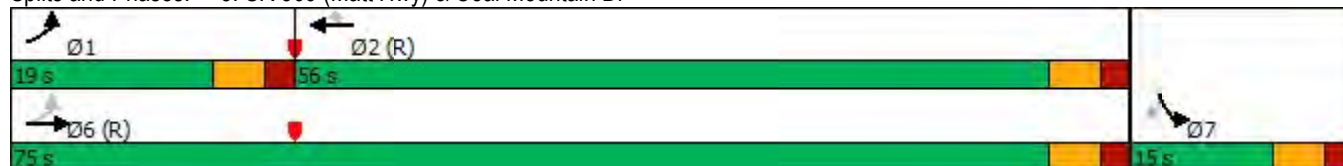
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

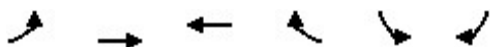
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 369 (Matt Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary 5: SR 369 (Matt Hwy) & Coal Mountain Dr

3d. Build 2028 AM - Improved
09/08/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	329	816	673	289	71	124
Future Volume (veh/h)	329	816	673	289	71	124
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	1900	1796	1663	1900	1900	1900
Adj Flow Rate, veh/h	336	833	687	0	72	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	7	16	0	0	0
Cap, veh/h	579	1484	1143		94	
Arrive On Green	0.08	0.83	0.69	0.00	0.05	0.00
Sat Flow, veh/h	1810	1796	1663	1610	1810	1610
Grp Volume(v), veh/h	336	833	687	0	72	0
Grp Sat Flow(s),veh/h/ln	1810	1796	1663	1610	1810	1610
Q Serve(g_s), s	4.4	13.5	19.8	0.0	3.5	0.0
Cycle Q Clear(g_c), s	4.4	13.5	19.8	0.0	3.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	579	1484	1143		94	
V/C Ratio(X)	0.58	0.56	0.60		0.77	
Avail Cap(c_a), veh/h	710	1484	1143		191	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	7.2	2.5	7.5	0.0	42.1	0.0
Incr Delay (d2), s/veh	0.9	1.5	2.3	0.0	12.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.6	6.3	0.0	1.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.1	4.1	9.8	0.0	54.5	0.0
LnGrp LOS	A	A	A		D	
Approach Vol, veh/h		1169	687		72	
Approach Delay, s/veh		5.2	9.8		54.5	
Approach LOS		A	A		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.5	67.4		10.2		79.8
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	13.5	50.5		9.5		69.5
Max Q Clear Time (g_c+I1), s	6.4	21.8		5.5		15.5
Green Ext Time (p_c), s	0.6	10.0		0.0		16.8

Intersection Summary

HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	853	1	15	540	1	34
Future Vol, veh/h	853	1	15	540	1	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	200	200	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	0	0	15	0	5
Mvmt Flow	948	1	17	600	1	38
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	948	0	1582	948
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	634	-
Critical Hdwy	-	-	4.1	-	6.4	6.25
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.345
Pot Cap-1 Maneuver	-	-	732	-	121	312
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	732	-	118	312
Mov Cap-2 Maneuver	-	-	-	-	118	-
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	520	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		18.6	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	118	312	-	-	732	-
HCM Lane V/C Ratio	0.009	0.121	-	-	0.023	-
HCM Control Delay (s)	35.8	18.1	-	-	10	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	0	0.4	-	-	0.1	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	212	816	547	69	6	120
Future Vol, veh/h	212	816	547	69	6	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	7	16	14	0	0
Mvmt Flow	230	887	595	75	7	130
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	595	0	-	0	1942	595
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	1347	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	991	-	-	-	72	508
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	245	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	991	-	-	-	55	508
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	245	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		17.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	991	-	-	-	55	508
HCM Lane V/C Ratio	0.233	-	-	-	0.119	0.257
HCM Control Delay (s)	9.7	-	-	-	79.1	14.5
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.4	1

Timings
8: Gravitt Rd & SR 369 (Matt Hwy)

3d. Build 2028 AM - Improved
09/08/2022

	→	↖	←	↙	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰	↰	↰	↰	↰
Traffic Volume (vph)	801	52	527	27	69
Future Volume (vph)	801	52	527	27	69
Lane Group Flow (vph)	1176	57	579	30	76
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	6	5	2	3	
Permitted Phases		2			8
Detector Phase	6	5	2	3	8
Switch Phase					
Minimum Initial (s)	15.0	5.0	15.0	5.0	6.0
Minimum Split (s)	28.5	15.0	21.5	15.0	24.5
Total Split (s)	50.5	15.0	65.5	24.5	24.5
Total Split (%)	56.1%	16.7%	72.8%	27.2%	27.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Min	None	C-Min	None	None
v/c Ratio	0.92	0.27	0.43	0.21	0.38
Control Delay	27.4	7.1	6.5	41.6	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	7.1	6.5	41.6	15.4
Queue Length 50th (ft)	571	7	201	16	0
Queue Length 95th (ft)	#983	m10	231	42	40
Internal Link Dist (ft)	1034		546	572	
Turn Bay Length (ft)		220		150	
Base Capacity (vph)	1281	273	1356	381	400
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.92	0.21	0.43	0.08	0.19

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 130

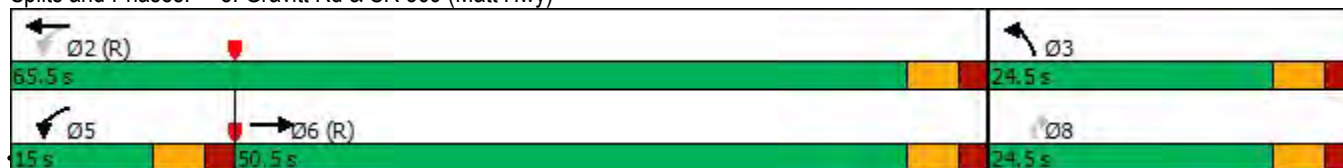
Control Type: Actuated-Coordinated

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: 8: Gravitt Rd & SR 369 (Matt Hwy)



HCM 6th Signalized Intersection Summary 8: Gravitt Rd & SR 369 (Matt Hwy)

3d. Build 2028 AM - Improved
09/08/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (veh/h)	801	269	52	527	27	69
Future Volume (veh/h)	801	269	52	527	27	69
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	1796	1900	1900	1648	1900	1900
Adj Flow Rate, veh/h	880	296	57	579	30	76
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	0	0	17	0	0
Cap, veh/h	911	307	194	1338	119	106
Arrive On Green	0.71	0.71	0.04	0.81	0.07	0.07
Sat Flow, veh/h	1286	433	1810	1648	1810	1610
Grp Volume(v), veh/h	0	1176	57	579	30	76
Grp Sat Flow(s),veh/h/ln	0	1718	1810	1648	1810	1610
Q Serve(g_s), s	0.0	56.8	0.7	9.2	1.4	4.2
Cycle Q Clear(g_c), s	0.0	56.8	0.7	9.2	1.4	4.2
Prop In Lane		0.25	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	1218	194	1338	119	106
V/C Ratio(X)	0.00	0.97	0.29	0.43	0.25	0.72
Avail Cap(c_a), veh/h	0	1218	308	1338	382	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.1	24.1	2.4	39.9	41.2
Incr Delay (d2), s/veh	0.0	18.7	0.8	1.0	1.1	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.3	0.9	1.4	0.7	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	30.8	25.0	3.5	41.0	50.0
LnGrp LOS	A	C	C	A	D	D
Approach Vol, veh/h	1176			636	106	
Approach Delay, s/veh	30.8			5.4	47.5	
Approach LOS	C			A	D	
Timer - Assigned Phs	2		5		6	8
Phs Duration (G+Y+Rc), s	78.6		9.3		69.3	11.4
Change Period (Y+Rc), s	5.5		5.5		5.5	5.5
Max Green Setting (Gmax), s	60.0		9.5		45.0	19.0
Max Q Clear Time (g_c+I1), s	11.2		2.7		58.8	6.2
Green Ext Time (p_c), s	8.6		0.0		0.0	0.2
Intersection Summary						
HCM 6th Ctrl Delay			23.3			
HCM 6th LOS			C			

Intersection							
Int Delay, s/veh	4.2						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	7	144	580	562	49	62	134
Future Vol, veh/h	7	144	580	562	49	62	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	Yield	-	Yield
Storage Length	-	250	-	-	225	0	130
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	93	93	93	93	93	93
Heavy Vehicles, %	2	5	8	11	11	3	6
Mvmt Flow	8	155	624	604	53	67	144
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	604	604	0	-	0	1242	302
Stage 1	-	-	-	-	-	604	-
Stage 2	-	-	-	-	-	638	-
Critical Hdwy	6.44	4.2	-	-	-	6.86	7.02
Critical Hdwy Stg 1	-	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	-	5.86	-
Follow-up Hdwy	2.52	2.25	-	-	-	3.53	3.36
Pot Cap-1 Maneuver	595	949	-	-	-	165	682
Stage 1	-	-	-	-	-	506	-
Stage 2	-	-	-	-	-	486	-
Platoon blocked, %			-	-	-		
Mov Cap-1 Maneuver	907	907	-	-	-	135	682
Mov Cap-2 Maneuver	-	-	-	-	-	135	-
Stage 1	-	-	-	-	-	415	-
Stage 2	-	-	-	-	-	486	-
Approach	EB		WB		SB		
HCM Control Delay, s	2		0		25.5		
HCM LOS	D						
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	907	-	-	-	135	682	
HCM Lane V/C Ratio	0.179	-	-	-	0.494	0.211	
HCM Control Delay (s)	9.8	-	-	-	55.2	11.7	
HCM Lane LOS	A	-	-	-	F	B	
HCM 95th %tile Q(veh)	0.7	-	-	-	2.3	0.8	

Timings

3d. Build 2028 AM - Improved

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/08/2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	3	620	23	47	558	59	45	7	200	111	9	4
Future Volume (vph)	3	620	23	47	558	59	45	7	200	111	9	4
Lane Group Flow (vph)	3	653	24	49	587	62	47	7	211	117	9	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	58.0	58.0	58.0	58.0	58.0	58.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.00	0.26	0.02	0.09	0.24	0.05	0.24	0.03	0.52	0.60	0.03	0.02
Control Delay	4.3	4.5	1.6	3.9	3.7	0.9	39.7	34.6	10.2	52.7	34.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.3	4.5	1.6	3.9	3.7	0.9	39.7	34.6	10.2	52.7	34.7	0.0
Queue Length 50th (ft)	1	55	0	6	43	0	27	4	0	71	5	0
Queue Length 95th (ft)	3	96	7	17	68	8	58	16	60	122	18	0
Internal Link Dist (ft)		808			737			452			744	
Turn Bay Length (ft)	245		165	255		315	300			265		260
Base Capacity (vph)	617	2519	1224	559	2429	1232	521	693	723	522	693	606
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	0.00	0.26	0.02	0.09	0.24	0.05	0.09	0.01	0.29	0.22	0.01	0.01

Intersection Summary

Cycle Length: 100

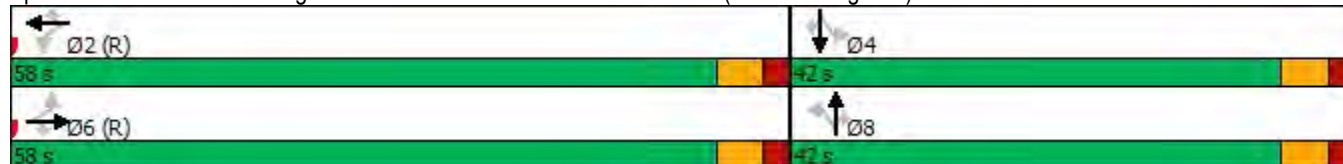
Actuated Cycle Length: 100

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

Natural Cycle: 45

Control Type: Actuated-Coordinated

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3d. Build 2028 AM - Improved

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	620	23	47	558	59	45	7	200	111	9	4
Future Volume (veh/h)	3	620	23	47	558	59	45	7	200	111	9	4
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	1900	1781	1900	1856	1722	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	653	0	49	587	0	47	7	0	117	9	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, %	0	8	0	3	12	0	0	0	0	0	0	0
Cap, veh/h	692	2654		639	2566		217	201		219	201	
Arrive On Green	0.78	0.78	0.00	0.78	0.78	0.00	0.11	0.11	0.00	0.11	0.11	0.00
Sat Flow, veh/h	842	3385	1610	773	3272	1610	1428	1900	1610	1431	1900	1610
Grp Volume(v), veh/h	3	653	0	49	587	0	47	7	0	117	9	0
Grp Sat Flow(s),veh/h/ln	842	1692	1610	773	1636	1610	1428	1900	1610	1431	1900	1610
Q Serve(g_s), s	0.1	5.2	0.0	1.8	4.7	0.0	3.1	0.3	0.0	8.0	0.4	0.0
Cycle Q Clear(g_c), s	4.8	5.2	0.0	7.0	4.7	0.0	3.5	0.3	0.0	8.3	0.4	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	692	2654		639	2566		217	201		219	201	
V/C Ratio(X)	0.00	0.25		0.08	0.23		0.22	0.03		0.54	0.04	
Avail Cap(c_a), veh/h	692	2654		639	2566		587	694		590	694	
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	3.5	2.9	0.0	3.8	2.8	0.0	41.7	40.1	0.0	43.9	40.2	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.2	0.0	0.5	0.1	0.0	2.0	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	0.0	1.1	0.0	0.2	0.9	0.0	1.1	0.2	0.0	2.9	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.5	3.1	0.0	4.0	3.0	0.0	42.2	40.2	0.0	45.9	40.3	0.0
LnGrp LOS	A	A		A	A		D	D		D	D	
Approach Vol, veh/h	656			636			54			126		
Approach Delay, s/veh	3.1			3.1			42.0			45.5		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	83.9			16.1			83.9			16.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	52.5			36.5			52.5			36.5		
Max Q Clear Time (g_c+I1), s	9.0			10.3			7.2			5.5		
Green Ext Time (p_c), s	9.1			0.3			9.5			0.1		

Intersection Summary

HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	143	31	18	226	26	10
Future Vol, veh/h	143	31	18	226	26	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	183	40	23	290	33	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	183	0	519	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	336	-
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	-	-	1392	-	517	859
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	724	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1392	-	508	859
Mov Cap-2 Maneuver	-	-	-	-	508	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	712	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		11.7	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	508	859	-	-	1392	-
HCM Lane V/C Ratio	0.066	0.015	-	-	0.017	-
HCM Control Delay (s)	12.6	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-

Intersection				
Intersection Delay, s/veh	4.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	209	256	75	163
Demand Flow Rate, veh/h	214	261	77	166
Vehicles Circulating, veh/h	151	104	228	181
Vehicles Exiting, veh/h	196	201	137	184
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	4.8	4.0	4.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	214	261	77	166
Cap Entry Lane, veh/h	1183	1241	1094	1147
Entry HV Adj Factor	0.978	0.981	0.974	0.984
Flow Entry, veh/h	209	256	75	163
Cap Entry, veh/h	1157	1218	1065	1129
V/C Ratio	0.181	0.210	0.070	0.145
Control Delay, s/veh	4.7	4.8	4.0	4.4
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	1

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

3d. Build 2028 AM - Improved

09/08/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	5	469	546	191	709	81	5	49	5	5	5
Future Volume (vph)	5	469	546	191	709	81	5	49	5	5	5
Lane Group Flow (vph)	5	510	593	208	776	0	93	53	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	72.0	72.0	72.0	72.0	72.0	28.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	72.0%	72.0%	72.0%	72.0%	72.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.19	0.43	0.30	0.21		0.56	0.22	0.03	0.02	0.02
Control Delay	3.4	3.1	1.7	3.6	2.2		53.7	12.7	36.4	36.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	3.1	1.7	3.6	2.2		53.7	12.7	36.4	36.0	0.2
Queue Length 50th (ft)	1	33	6	16	20		57	0	3	3	0
Queue Length 95th (ft)	m3	68	43	43	45		103	33	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	518	2689	1389	695	3724		307	397	292	419	377
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.01	0.19	0.43	0.30	0.21		0.30	0.13	0.02	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

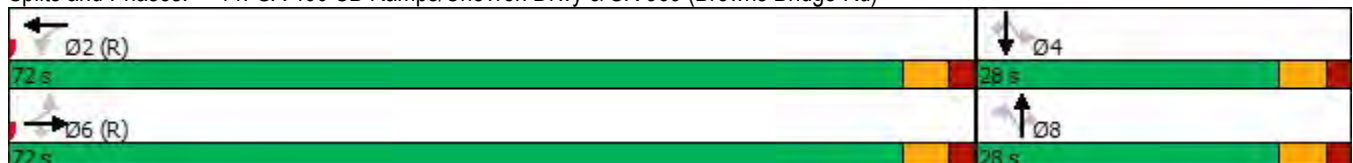
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3d. Build 2028 AM - Improved

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	469	546	191	709	5	81	5	49	5	5	5
Future Volume (veh/h)	5	469	546	191	709	5	81	5	49	5	5	5
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	510	0	208	771	5	88	5	0	5	5	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	632	2727		758	3883	25	181	6		215	158	
Arrive On Green	0.81	0.81	0.00	1.00	1.00	1.00	0.08	0.08	0.00	0.08	0.08	0.00
Sat Flow, veh/h	695	3385	1585	890	4820	31	1314	75	1585	1411	1870	1585
Grp Volume(v), veh/h	5	510	0	208	501	275	93	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	695	1692	1585	890	1567	1717	1388	0	1585	1411	1870	1585
Q Serve(g_s), s	0.1	3.4	0.0	1.4	0.0	0.0	6.4	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.1	3.4	0.0	4.9	0.0	0.0	6.6	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.95		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	632	2727		758	2525	1383	187	0		215	158	
V/C Ratio(X)	0.01	0.19		0.27	0.20	0.20	0.50	0.00		0.02	0.03	
Avail Cap(c_a), veh/h	632	2727		758	2525	1383	388	0		414	421	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.94	0.94	0.94	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.9	2.2	0.0	0.1	0.0	0.0	45.1	0.0	0.0	42.0	42.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.8	0.2	0.3	2.0	0.0	0.0	0.0	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	0.0	0.6	0.0	0.2	0.1	0.1	2.4	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.9	2.4	0.0	0.9	0.2	0.3	47.1	0.0	0.0	42.1	42.1	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h	515			984			93			10		
Approach Delay, s/veh	2.4			0.4			47.1			42.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	86.1			13.9			86.1			13.9		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	66.5			22.5			66.5			22.5		
Max Q Clear Time (g_c+I1), s	6.9			2.3			5.4			8.6		
Green Ext Time (p_c), s	15.7			0.0			7.3			0.3		

Intersection Summary

HCM 6th Ctrl Delay 4.0

HCM 6th LOS A

Notes

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

Timings

3d. Build 2028 AM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	425	5	5	614	55	5	5	5	114	5	214
Future Volume (vph)	92	425	5	5	614	55	5	5	5	114	5	214
Lane Group Flow (vph)	100	462	5	5	667	60	4	6	5	64	65	233
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0	50.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	22.0%	22.0%	22.0%	28.0%	28.0%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.19	0.19	0.00	0.01	0.28	0.05	0.04	0.06	0.03	0.40	0.40	0.64
Control Delay	5.8	4.4	0.0	6.2	5.6	0.9	44.8	45.2	0.2	48.3	48.4	14.1
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	5.8	4.4	0.0	6.2	5.6	0.9	44.8	45.2	0.2	48.3	48.4	14.1
Queue Length 50th (ft)	10	25	0	1	43	0	2	4	0	41	42	0
Queue Length 95th (ft)	43	71	0	6	131	8	14	17	0	81	82	67
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	540	2490	1201	674	2401	1201	277	289	333	378	380	536
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	0.19	0.19	0.00	0.01	0.28	0.05	0.01	0.02	0.02	0.17	0.17	0.43

Intersection Summary

Cycle Length: 100

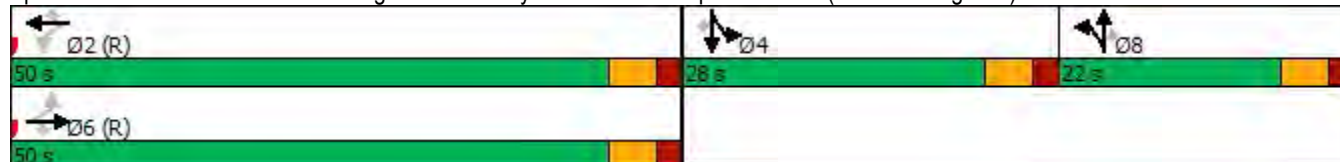
Actuated Cycle Length: 100

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3d. Build 2028 AM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	425	5	5	614	55	5	5	5	114	5	214
Future Volume (veh/h)	92	425	5	5	614	55	5	5	5	114	5	214
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	1781	1870	1870	1722	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	462	5	5	667	0	5	5	5	128	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	8	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	606	2560	1199	737	2475		36	38	32	208	0	
Arrive On Green	0.76	0.76	0.76	0.76	0.76	0.00	0.02	0.02	0.02	0.06	0.00	0.00
Sat Flow, veh/h	769	3385	1585	926	3272	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	100	462	5	5	667	0	5	5	5	128	0	0
Grp Sat Flow(s),veh/h/ln	769	1692	1585	926	1636	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	4.6	3.9	0.1	0.2	6.2	0.0	0.3	0.3	0.3	3.5	0.0	0.0
Cycle Q Clear(g_c), s	10.8	3.9	0.1	4.0	6.2	0.0	0.3	0.3	0.3	3.5	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	606	2560	1199	737	2475		36	38	32	208	0	
V/C Ratio(X)	0.17	0.18	0.00	0.01	0.27		0.14	0.13	0.15	0.62	0.00	
Avail Cap(c_a), veh/h	606	2560	1199	737	2475		294	309	262	802	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.4	3.4	3.0	4.0	3.7	0.0	48.1	48.1	48.1	46.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.2	0.0	0.0	0.3	0.0	1.7	1.5	2.2	3.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.9	0.0	0.0	1.4	0.0	0.1	0.1	0.1	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	3.6	3.0	4.0	4.0	0.0	49.8	49.6	50.3	49.0	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	567				672				15			
Approach Delay, s/veh	4.0				4.0				49.9			
Approach LOS	A				A				D			
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.1			11.3			81.1			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	44.5			22.5			44.5			16.5		
Max Q Clear Time (g_c+I1), s	8.2			5.5			12.8			2.3		
Green Ext Time (p_c), s	9.3			0.3			7.3			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	8.7											
HCM 6th LOS	A											
Notes												
User approved volume balancing among the lanes for turning movement.												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	6	386	13	4	833
Future Vol, veh/h	13	6	386	13	4	833
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	3
Mvmt Flow	14	7	420	14	4	905
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1333	420	0	0	434	0
Stage 1	420	-	-	-	-	-
Stage 2	913	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	170	633	-	-	1126	-
Stage 1	663	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	169	633	-	-	1126	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	23.1	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	220	1126	-	
HCM Lane V/C Ratio	-	-	0.094	0.004	-	
HCM Control Delay (s)	-	-	23.1	8.2	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	0.3	0	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	731	681	23	0	48
Future Vol, veh/h	0	731	681	23	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	175	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	8	11	2	2	2
Mvmt Flow	0	795	740	25	0	52
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	370
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	-	-	0	0	627
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	627
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		11.3		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	627			
HCM Lane V/C Ratio	-	-	0.083			
HCM Control Delay (s)	-	-	11.3			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.3			

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	192	165	9	0	31
Future Vol, veh/h	0	192	165	9	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	209	179	10	0	34
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	179
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	864
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	864
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	864			
HCM Lane V/C Ratio	-	-	0.039			
HCM Control Delay (s)	-	-	9.3			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	192	167	9	0	16
Future Vol, veh/h	0	192	167	9	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	209	182	10	0	17
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	182
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	861
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	861
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		9.3	
HCM LOS					A	
Minor Lane/Major Mvmt	EBT		WBT		SBLn1	
Capacity (veh/h)	-		-		861	
HCM Lane V/C Ratio	-		-		0.02	
HCM Control Delay (s)	-		-		9.3	
HCM Lane LOS	-		-		A	
HCM 95th %tile Q(veh)	-		-		0.1	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	332	4	5	152	6	8
Future Vol, veh/h	332	4	5	152	6	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	361	4	5	165	7	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	365	0	538	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	175	-
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	-	-	1194	-	504	682
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1194	-	501	682
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	851	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		11.3	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	591	-	-	1194	-	
HCM Lane V/C Ratio	0.026	-	-	0.005	-	
HCM Control Delay (s)	11.3	-	-	8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection						
Int Delay, s/veh	14.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	300	732	59	137	427
Future Vol, veh/h	83	300	732	59	137	427
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Yield	-	None
Storage Length	0	0	-	220	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	89	323	787	63	147	459
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1540	787	0	0	787	0
Stage 1	787	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	128	395	-	-	841	-
Stage 1	452	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	106	395	-	-	841	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	60.9	0	2.5			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 106 395	841	-		
HCM Lane V/C Ratio	-	- 0.842 0.817	0.175	-		
HCM Control Delay (s)	-	- 122.3 43.9	10.2	-		
HCM Lane LOS	-	- F E	B	-		
HCM 95th %tile Q(veh)	-	- 4.8 7.4	0.6	-		

Timings

3e. Build 2028 PM - Improved

2: SR 9 (Dahlongega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	20	47	99	24	23	9	700	78	53	345	99
Future Volume (vph)	86	20	47	99	24	23	9	700	78	53	345	99
Lane Group Flow (vph)	91	21	49	104	25	24	9	737	82	56	363	104
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	21.5	36.5	36.5	36.5
Total Split (s)	27.0	27.0	27.0	27.0	27.0	27.0	15.0	73.0	73.0	58.0	58.0	58.0
Total Split (%)	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	15.0%	73.0%	73.0%	58.0%	58.0%	58.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.52	0.09	0.18	0.58	0.10	0.09	0.01	0.49	0.06	0.10	0.25	0.08
Control Delay	50.3	37.0	3.6	53.5	37.4	0.6	3.8	6.2	1.1	6.3	5.8	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	50.3	37.0	3.6	53.5	37.4	0.6	3.8	6.2	1.1	6.3	5.8	1.6
Queue Length 50th (ft)	55	12	0	63	14	0	1	149	0	7	55	0
Queue Length 95th (ft)	100	32	10	112	37	0	6	279	12	34	164	21
Internal Link Dist (ft)		652			669			575			500	
Turn Bay Length (ft)	200		385	150		160	310		235	310		265
Base Capacity (vph)	302	408	415	304	408	415	821	1505	1308	544	1433	1277
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	0.30	0.05	0.12	0.34	0.06	0.06	0.01	0.49	0.06	0.10	0.25	0.08

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlongega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

3e. Build 2028 PM - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	20	47	99	24	23	9	700	78	53	345	99
Future Volume (veh/h)	86	20	47	99	24	23	9	700	78	53	345	99
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	1900	1900	1900	1900	1900	1900	1900	1885	1900	1900	1856	1900
Adj Flow Rate, veh/h	91	21	49	104	25	0	9	737	82	56	363	104
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, %	0	0	0	0	0	0	0	1	0	0	3	0
Cap, veh/h	207	205	173	204	205		701	1475	1260	508	1329	1153
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	0.01	0.78	0.78	0.72	0.72	0.72
Sat Flow, veh/h	1408	1900	1610	1352	1900	1610	1810	1885	1610	678	1856	1610
Grp Volume(v), veh/h	91	21	49	104	25	0	9	737	82	56	363	104
Grp Sat Flow(s),veh/h/ln	1408	1900	1610	1352	1900	1610	1810	1885	1610	678	1856	1610
Q Serve(g_s), s	6.2	1.0	2.8	7.5	1.2	0.0	0.1	14.0	1.2	3.2	6.9	2.0
Cycle Q Clear(g_c), s	7.4	1.0	2.8	8.5	1.2	0.0	0.1	14.0	1.2	10.6	6.9	2.0
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	207	205	173	204	205		701	1475	1260	508	1329	1153
V/C Ratio(X)	0.44	0.10	0.28	0.51	0.12		0.01	0.50	0.07	0.11	0.27	0.09
Avail Cap(c_a), veh/h	358	409	346	349	409		853	1475	1260	508	1329	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	40.3	41.1	44.1	40.3	0.0	3.6	3.9	2.5	7.0	5.0	4.3
Incr Delay (d2), s/veh	1.5	0.2	0.9	2.0	0.3	0.0	0.0	1.2	0.1	0.4	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.5	1.2	2.6	0.6	0.0	0.0	3.2	0.2	0.4	2.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	40.5	41.9	46.1	40.6	0.0	3.6	5.1	2.6	7.4	5.5	4.5
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	161			129			828			523		
Approach Delay, s/veh	43.6			45.0			4.8			5.5		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	6.6	77.1		16.3		83.7		16.3				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	9.5	52.5		21.5		67.5		21.5				
Max Q Clear Time (g_c+I1), s	2.1	12.6		9.4		16.0		10.5				
Green Ext Time (p_c), s	0.0	6.2		0.4		13.1		0.3				

Intersection Summary

HCM 6th Ctrl Delay 12.0

HCM 6th LOS B

Notes

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

Timings

3e. Build 2028 PM - Improved

3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	71	710	130	256	853	20	99	753	114	120	488	42
Future Volume (vph)	71	710	130	256	853	20	99	753	114	120	488	42
Lane Group Flow (vph)	73	732	134	264	879	21	102	776	118	124	503	43
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	28.5	28.5	28.5	15.0	21.5	21.5	15.0	24.5	24.5	15.0	28.5	28.5
Total Split (s)	35.0	35.0	35.0	18.0	53.0	53.0	17.0	63.0	63.0	14.0	60.0	60.0
Total Split (%)	26.9%	26.9%	26.9%	13.8%	40.8%	40.8%	13.1%	48.5%	48.5%	10.8%	46.2%	46.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.67	0.91	0.29	1.09	0.66	0.04	0.31	0.95	0.16	0.71	0.64	0.08
Control Delay	76.3	65.6	8.3	117.5	36.8	0.1	17.0	58.2	4.7	46.7	33.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.3	65.6	8.3	117.5	36.8	0.1	17.0	58.2	4.7	46.7	33.9	0.3
Queue Length 50th (ft)	56	318	0	~214	326	0	40	611	2	50	323	0
Queue Length 95th (ft)	#135	#430	53	#394	400	0	69	#874	38	#144	458	0
Internal Link Dist (ft)		658			704			886			373	
Turn Bay Length (ft)	250		250	310		220	275		275	300		300
Base Capacity (vph)	109	803	456	242	1340	577	355	831	756	174	792	556
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	0.67	0.91	0.29	1.09	0.66	0.04	0.29	0.93	0.16	0.71	0.64	0.08

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

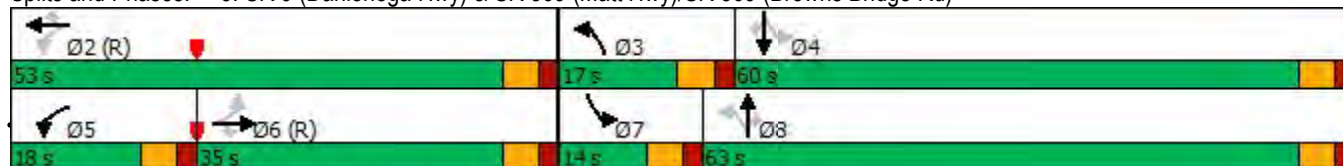
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: SR 9 (Dahlonge Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3e. Build 2028 PM - Improved

3: SR 9 (Dahlonega Hwy) & SR 369 (Matt Hwy)/SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	710	130	256	853	20	99	753	114	120	488	42
Future Volume (veh/h)	71	710	130	256	853	20	99	753	114	120	488	42
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	1707	1870	1841	1856	1885	1707	1781	1885	1856	1885	1856	1292
Adj Flow Rate, veh/h	73	732	0	264	879	0	102	776	0	124	503	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	13	2	4	3	1	13	8	1	3	1	3	41
Cap, veh/h	167	900		268	1403		327	806		171	803	
Arrive On Green	0.25	0.25	0.00	0.10	0.39	0.00	0.05	0.43	0.00	0.05	0.43	0.00
Sat Flow, veh/h	576	3554	1560	1767	3582	1447	1697	1885	1572	1795	1856	1095
Grp Volume(v), veh/h	73	732	0	264	879	0	102	776	0	124	503	0
Grp Sat Flow(s),veh/h/ln	576	1777	1560	1767	1791	1447	1697	1885	1572	1795	1856	1095
Q Serve(g_s), s	15.2	25.2	0.0	12.5	25.7	0.0	4.4	52.0	0.0	5.0	27.4	0.0
Cycle Q Clear(g_c), s	22.9	25.2	0.0	12.5	25.7	0.0	4.4	52.0	0.0	5.0	27.4	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	167	900		268	1403		327	806		171	803	
V/C Ratio(X)	0.44	0.81		0.98	0.63		0.31	0.96		0.73	0.63	
Avail Cap(c_a), veh/h	167	900		268	1403		395	834		192	803	
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	48.3	45.6	0.0	37.9	31.9	0.0	22.1	36.2	0.0	30.4	28.7	0.0
Incr Delay (d2), s/veh	8.1	7.9	0.0	50.5	2.1	0.0	0.5	22.1	0.0	11.4	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	11.8	0.0	9.8	11.1	0.0	1.7	27.2	0.0	2.5	11.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	53.6	0.0	88.3	34.0	0.0	22.6	58.3	0.0	41.8	30.2	0.0
LnGrp LOS	E	D		F	C		C	E		D	C	
Approach Vol, veh/h		805			1143			878			627	
Approach Delay, s/veh		53.8			46.5			54.1			32.5	
Approach LOS		D			D			D			C	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		56.4	11.8	61.8	18.0	38.4	12.5	61.1				
Change Period (Y+Rc), s		5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s		47.5	11.5	54.5	12.5	29.5	8.5	57.5				
Max Q Clear Time (g_c+I1), s		27.7	6.4	29.4	14.5	27.2	7.0	54.0				
Green Ext Time (p_c), s		9.6	0.1	2.8	0.0	1.6	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 47.6

HCM 6th LOS D

Notes

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

Timings 4: SR 9 (Dahlonega Hwy) & Spot Rd

3e. Build 2028 PM - Improved
09/08/2022



Lane Group	EBL	EBT	WBT	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	158	1	1	402	669	683	204
Future Volume (vph)	158	1	1	402	669	683	204
Lane Group Flow (vph)	166	201	1	423	704	719	215
Turn Type	Perm	NA	NA	pm+pt	NA	NA	Perm
Protected Phases		4	8	1	6	2	
Permitted Phases	4			6			2
Detector Phase	4	4	8	1	6	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	15.0	15.0	15.0
Minimum Split (s)	27.5	27.5	29.5	15.0	28.5	27.5	27.5
Total Split (s)	29.5	29.5	29.5	23.0	70.5	47.5	47.5
Total Split (%)	29.5%	29.5%	29.5%	23.0%	70.5%	47.5%	47.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.70	0.46	0.00	0.84	0.53	0.93	0.29
Control Delay	54.0	8.4	30.0	43.0	9.0	47.9	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	8.4	30.0	43.0	9.0	47.9	10.0
Queue Length 50th (ft)	101	1	1	201	175	426	39
Queue Length 95th (ft)	159	56	5	#448	328	#665	89
Internal Link Dist (ft)		691	125		1006	547	
Turn Bay Length (ft)	250			130			130
Base Capacity (vph)	331	536	456	504	1338	774	731
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.38	0.00	0.84	0.53	0.93	0.29

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

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

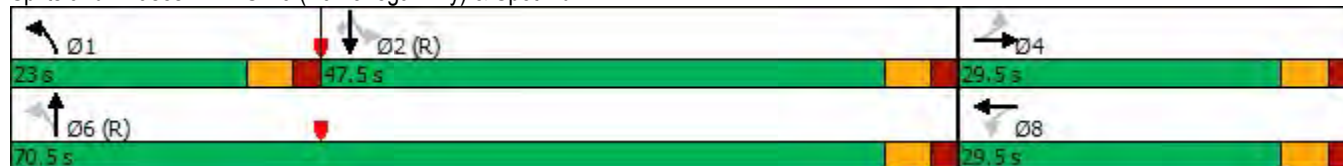
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: SR 9 (Dahlonega Hwy) & Spot Rd



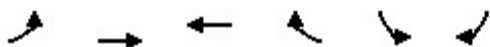
HCM 6th Signalized Intersection Summary 4: SR 9 (Dahlonega Hwy) & Spot Rd

3e. Build 2028 PM - Improved
09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	1	190	0	1	0	402	669	0	0	683	204
Future Volume (veh/h)	158	1	190	0	1	0	402	669	0	0	683	204
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	1841	1900	1885	1900	1900	1900	1870	1870	1900	1900	1856	1870
Adj Flow Rate, veh/h	166	1	200	0	1	0	423	704	0	0	719	215
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, %	4	0	1	0	0	0	2	2	0	0	3	2
Cap, veh/h	283	1	243	0	289	0	460	1381	0	72	1040	889
Arrive On Green	0.15	0.15	0.15	0.00	0.15	0.00	0.12	0.74	0.00	0.00	0.56	0.56
Sat Flow, veh/h	1394	8	1603	0	1900	0	1781	1870	0	755	1856	1585
Grp Volume(v), veh/h	166	0	201	0	1	0	423	704	0	0	719	215
Grp Sat Flow(s),veh/h/ln	1394	0	1611	0	1900	0	1781	1870	0	755	1856	1585
Q Serve(g_s), s	11.5	0.0	12.1	0.0	0.0	0.0	9.6	15.8	0.0	0.0	27.8	6.9
Cycle Q Clear(g_c), s	11.5	0.0	12.1	0.0	0.0	0.0	9.6	15.8	0.0	0.0	27.8	6.9
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	0	245	0	289	0	460	1381	0	72	1040	889
V/C Ratio(X)	0.59	0.00	0.82	0.00	0.00	0.00	0.92	0.51	0.00	0.00	0.69	0.24
Avail Cap(c_a), veh/h	406	0	387	0	456	0	553	1381	0	72	1040	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	41.1	0.0	36.0	0.0	17.4	5.5	0.0	0.0	15.8	11.2
Incr Delay (d2), s/veh	1.9	0.0	7.6	0.0	0.0	0.0	18.8	1.3	0.0	0.0	3.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	5.1	0.0	0.0	0.0	7.5	4.2	0.0	0.0	10.7	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	0.0	48.7	0.0	36.0	0.0	36.1	6.8	0.0	0.0	19.5	11.8
LnGrp LOS	D	A	D	A	D	A	D	A	A	A	B	B
Approach Vol, veh/h	367			1			1127			934		
Approach Delay, s/veh	46.0			36.0			17.8			17.7		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	17.7	61.6	20.7		79.3		20.7					
Change Period (Y+Rc), s	5.5	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	17.5	42.0	24.0		65.0		24.0					
Max Q Clear Time (g_c+I1), s	11.6	29.8	14.1		17.8		2.0					
Green Ext Time (p_c), s	0.7	6.9	1.1		10.7		0.0					
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

Timings 5: SR 369 (Matt Hwy) & Coal Mountain Dr

3e. Build 2028 PM - Improved
09/08/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	138	1064	1012	45	26	75
Future Volume (vph)	138	1064	1012	45	26	75
Lane Group Flow (vph)	145	1120	1065	47	27	79
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases	6			2		7
Detector Phase	1	6	2	2	7	7
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	15.0	28.5	21.5	21.5	15.0	15.0
Total Split (s)	15.0	75.0	60.0	60.0	15.0	15.0
Total Split (%)	16.7%	83.3%	66.7%	66.7%	16.7%	16.7%
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	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.51	0.75	0.87	0.04	0.19	0.40
Control Delay	11.9	15.3	23.3	2.4	41.2	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	15.3	23.3	2.4	41.2	15.6
Queue Length 50th (ft)	24	544	444	0	15	0
Queue Length 95th (ft)	m36	780	#851	13	39	41
Internal Link Dist (ft)		1524	423		639	
Turn Bay Length (ft)	130					
Base Capacity (vph)	316	1498	1230	1103	190	241
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	0.46	0.75	0.87	0.04	0.14	0.33

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 90

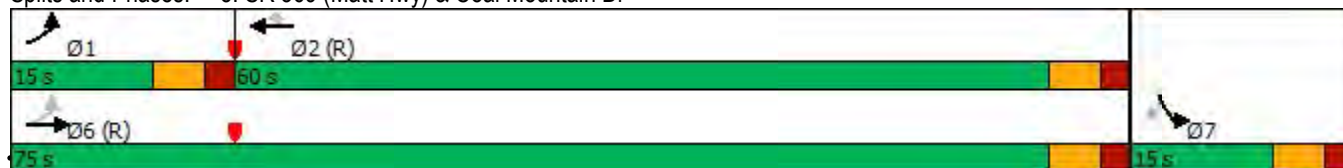
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

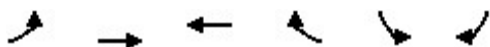
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: SR 369 (Matt Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary 5: SR 369 (Matt Hwy) & Coal Mountain Dr

3e. Build 2028 PM - Improved
09/08/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	138	1064	1012	45	26	75
Future Volume (veh/h)	138	1064	1012	45	26	75
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	1900	1811	1841	1900	1900	1900
Adj Flow Rate, veh/h	145	1120	1065	0	27	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	6	4	0	0	0
Cap, veh/h	378	1540	1354		49	
Arrive On Green	0.05	0.85	0.74	0.00	0.03	0.00
Sat Flow, veh/h	1810	1811	1841	1610	1810	1610
Grp Volume(v), veh/h	145	1120	1065	0	27	0
Grp Sat Flow(s),veh/h/ln	1810	1811	1841	1610	1810	1610
Q Serve(g_s), s	1.5	21.8	32.7	0.0	1.3	0.0
Cycle Q Clear(g_c), s	1.5	21.8	32.7	0.0	1.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	378	1540	1354		49	
V/C Ratio(X)	0.38	0.73	0.79		0.55	
Avail Cap(c_a), veh/h	471	1540	1354		191	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	10.9	2.6	7.5	0.0	43.2	0.0
Incr Delay (d2), s/veh	0.6	3.0	4.7	0.0	9.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.2	10.7	0.0	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	5.7	12.2	0.0	52.3	0.0
LnGrp LOS	B	A	B		D	
Approach Vol, veh/h		1265	1065		27	
Approach Delay, s/veh		6.3	12.2		52.3	
Approach LOS		A	B		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.4	71.7		8.0		82.0
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	54.5		9.5		69.5
Max Q Clear Time (g_c+I1), s	3.5	34.7		3.3		23.8
Green Ext Time (p_c), s	0.2	14.0		0.0		27.0

Intersection Summary

HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

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

Intersection								
Int Delay, s/veh	0.4							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	898	7	16	867	0	27		
Future Vol, veh/h	898	7	16	867	0	27		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	Yield	-	None	-	Yield		
Storage Length	-	200	200	-	0	100		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	94	94	94	94	94	94		
Heavy Vehicles, %	2	0	0	2	0	0		
Mvmt Flow	955	7	17	922	0	29		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	955	0	1911	955		
Stage 1	-	-	-	-	955	-		
Stage 2	-	-	-	-	956	-		
Critical Hdwy	-	-	4.1	-	6.4	6.2		
Critical Hdwy Stg 1	-	-	-	-	5.4	-		
Critical Hdwy Stg 2	-	-	-	-	5.4	-		
Follow-up Hdwy	-	-	2.2	-	3.5	3.3		
Pot Cap-1 Maneuver	-	-	728	-	76	316		
Stage 1	-	-	-	-	377	-		
Stage 2	-	-	-	-	376	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	728	-	74	316		
Mov Cap-2 Maneuver	-	-	-	-	74	-		
Stage 1	-	-	-	-	377	-		
Stage 2	-	-	-	-	367	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.2		17.5			
HCM LOS	C							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	-		316		-	-	728	-
HCM Lane V/C Ratio	-		0.091		-	-	0.023	-
HCM Control Delay (s)	0		17.5		-	-	10.1	-
HCM Lane LOS	A		C		-	-	B	-
HCM 95th %tile Q(veh)	-		0.3		-	-	0.1	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	983	943	19	7	83
Future Vol, veh/h	46	983	943	19	7	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	245	-	-	175	0	115
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	47	1013	972	20	7	86
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	972	0	-	0	2079	972
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	1107	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	717	-	-	-	59	309
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	319	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	717	-	-	-	55	309
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	319	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		25.7		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	717	-	-	-	55	309
HCM Lane V/C Ratio	0.066	-	-	-	0.131	0.277
HCM Control Delay (s)	10.4	-	-	-	80.1	21.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	1.1

Timings 8: Gravitt Rd & SR 369 (Matt Hwy)

3e. Build 2028 PM - Improved
09/08/2022

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↰	↰	↰	↰	↰
Traffic Volume (vph)	792	47	828	181	120
Future Volume (vph)	792	47	828	181	120
Lane Group Flow (vph)	887	48	854	187	124
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	6	5	2	3	
Permitted Phases		2			8
Detector Phase	6	5	2	3	8
Switch Phase					
Minimum Initial (s)	15.0	5.0	15.0	5.0	6.0
Minimum Split (s)	28.5	15.0	21.5	15.0	24.5
Total Split (s)	50.5	15.0	65.5	24.5	24.5
Total Split (%)	56.1%	16.7%	72.8%	27.2%	27.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Min	None	C-Min	None	None
v/c Ratio	0.76	0.16	0.64	0.65	0.34
Control Delay	20.1	6.1	16.5	45.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	6.1	16.5	45.9	8.7
Queue Length 50th (ft)	369	10	472	101	0
Queue Length 95th (ft)	#713	m14	m599	160	44
Internal Link Dist (ft)	1034		546	572	
Turn Bay Length (ft)		220		150	
Base Capacity (vph)	1168	363	1338	381	438
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.76	0.13	0.64	0.49	0.28

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 90

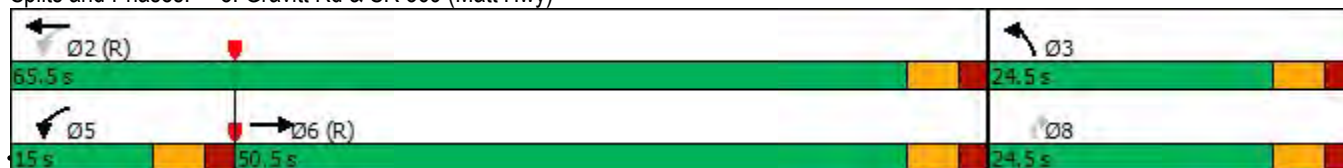
Control Type: Actuated-Coordinated

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: 8: Gravitt Rd & SR 369 (Matt Hwy)



HCM 6th Signalized Intersection Summary 8: Gravitt Rd & SR 369 (Matt Hwy)

3e. Build 2028 PM - Improved
09/08/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (veh/h)	792	69	47	828	181	120
Future Volume (veh/h)	792	69	47	828	181	120
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	1856	1900	1900	1870	1900	1900
Adj Flow Rate, veh/h	816	71	48	854	187	124
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	0	0	2	0	0
Cap, veh/h	1092	95	353	1400	234	208
Arrive On Green	0.65	0.65	0.04	0.75	0.13	0.13
Sat Flow, veh/h	1683	146	1810	1870	1810	1610
Grp Volume(v), veh/h	0	887	48	854	187	124
Grp Sat Flow(s),veh/h/ln	0	1829	1810	1870	1810	1610
Q Serve(g_s), s	0.0	29.8	0.7	19.0	9.0	6.5
Cycle Q Clear(g_c), s	0.0	29.8	0.7	19.0	9.0	6.5
Prop In Lane		0.08	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	1187	353	1400	234	208
V/C Ratio(X)	0.00	0.75	0.14	0.61	0.80	0.60
Avail Cap(c_a), veh/h	0	1187	473	1400	382	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	10.8	10.0	5.2	38.1	37.0
Incr Delay (d2), s/veh	0.0	4.3	0.2	2.0	6.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.4	0.3	5.1	4.3	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.1	10.1	7.2	44.3	39.7
LnGrp LOS	A	B	B	A	D	D
Approach Vol, veh/h	887			902	311	
Approach Delay, s/veh	15.1			7.4	42.5	
Approach LOS	B			A	D	
Timer - Assigned Phs	2		5		6	8
Phs Duration (G+Y+Rc), s	72.9		9.0		63.9	17.1
Change Period (Y+Rc), s	5.5		5.5		5.5	5.5
Max Green Setting (Gmax), s	60.0		9.5		45.0	19.0
Max Q Clear Time (g_c+l1), s	21.0		2.7		31.8	11.0
Green Ext Time (p_c), s	14.7		0.0		8.2	0.6
Intersection Summary						
HCM 6th Ctrl Delay			15.8			
HCM 6th LOS			B			

Intersection							
Int Delay, s/veh	5.4						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	13	174	739	966	132	33	95
Future Vol, veh/h	13	174	739	966	132	33	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	Yield	-	Yield
Storage Length	-	250	-	-	225	0	130
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	0	0	1
Mvmt Flow	14	189	803	1050	143	36	103
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	1050	1050	0	-	0	1858	525
Stage 1	-	-	-	-	-	1050	-
Stage 2	-	-	-	-	-	808	-
Critical Hdwy	6.44	4.14	-	-	-	6.8	6.92
Critical Hdwy Stg 1	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.52	2.22	-	-	-	3.5	3.31
Pot Cap-1 Maneuver	308	659	-	-	-	66	500
Stage 1	-	-	-	-	-	302	-
Stage 2	-	-	-	-	-	404	-
Platoon blocked, %			-	-	-		
Mov Cap-1 Maneuver	591	591	-	-	-	43	500
Mov Cap-2 Maneuver	-	-	-	-	-	43	-
Stage 1	-	-	-	-	-	198	-
Stage 2	-	-	-	-	-	404	-
Approach	EB		WB		SB		
HCM Control Delay, s	2.9		0		70.4		
HCM LOS					F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	591	-	-	-	43	500	
HCM Lane V/C Ratio	0.344	-	-	-	0.834	0.207	
HCM Control Delay (s)	14.2	-	-	-	232.6	14.1	
HCM Lane LOS	B	-	-	-	F	B	
HCM 95th %tile Q(veh)	1.5	-	-	-	3.2	0.8	

Timings

3e. Build 2028 PM - Improved

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	705	67	282	1042	95	49	13	170	96	8	4
Future Volume (vph)	5	705	67	282	1042	95	49	13	170	96	8	4
Lane Group Flow (vph)	5	750	71	300	1109	101	52	14	181	102	9	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	78.5	78.5	78.5	78.5	78.5	78.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (%)	78.5%	78.5%	78.5%	78.5%	78.5%	78.5%	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.01	0.28	0.06	0.57	0.40	0.08	0.30	0.06	0.51	0.60	0.04	0.02
Control Delay	3.6	3.9	1.0	8.2	3.1	0.2	43.4	37.4	11.3	55.4	36.9	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	3.6	3.9	1.0	8.2	3.1	0.2	43.4	37.4	11.3	55.4	36.9	0.2
Queue Length 50th (ft)	1	60	0	40	62	0	31	8	0	62	5	0
Queue Length 95th (ft)	4	95	10	59	78	2	65	26	59	113	19	0
Internal Link Dist (ft)		808			737			452			744	
Turn Bay Length (ft)	245		165	255		315	300			265		260
Base Capacity (vph)	347	2722	1258	529	2750	1265	228	304	410	227	304	281
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	0.01	0.28	0.06	0.57	0.40	0.08	0.23	0.05	0.44	0.45	0.03	0.01

Intersection Summary

Cycle Length: 100

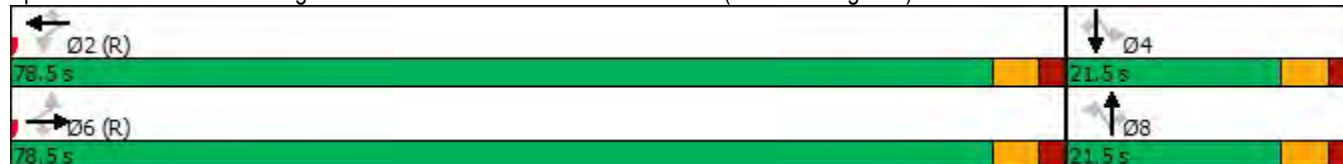
Actuated Cycle Length: 100

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3e. Build 2028 PM - Improved

10: Bridgetowne Dr/Coal Mountain Conn. & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	705	67	282	1042	95	49	13	170	96	8	4
Future Volume (veh/h)	5	705	67	282	1042	95	49	13	170	96	8	4
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	1900	1870	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	750	0	300	1109	0	52	14	0	102	9	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	433	2816		605	2839		205	185		201	185	
Arrive On Green	0.79	0.79	0.00	0.79	0.79	0.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	516	3554	1610	723	3582	1610	1428	1900	1610	1422	1900	1610
Grp Volume(v), veh/h	5	750	0	300	1109	0	52	14	0	102	9	0
Grp Sat Flow(s),veh/h/ln	516	1777	1610	723	1791	1610	1428	1900	1610	1422	1900	1610
Q Serve(g_s), s	0.3	5.5	0.0	18.6	9.3	0.0	3.4	0.7	0.0	7.0	0.4	0.0
Cycle Q Clear(g_c), s	9.6	5.5	0.0	24.2	9.3	0.0	3.9	0.7	0.0	7.7	0.4	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	433	2816		605	2839		205	185		201	185	
V/C Ratio(X)	0.01	0.27		0.50	0.39		0.25	0.08		0.51	0.05	
Avail Cap(c_a), veh/h	433	2816		605	2839		294	304		290	304	
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	4.6	2.7	0.0	5.9	3.1	0.0	42.7	41.0	0.0	44.5	40.9	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.9	0.4	0.0	0.6	0.2	0.0	2.0	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	0.0	1.1	0.0	2.4	1.9	0.0	1.2	0.3	0.0	2.6	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	3.0	0.0	8.8	3.5	0.0	43.3	41.2	0.0	46.5	41.0	0.0
LnGrp LOS	A	A		A	A		D	D		D	D	
Approach Vol, veh/h	755			1409			66			111		
Approach Delay, s/veh	3.0			4.6			42.9			46.1		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	84.8			15.2			84.8			15.2		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	73.0			16.0			73.0			16.0		
Max Q Clear Time (g_c+I1), s	26.2			9.7			11.6			5.9		
Green Ext Time (p_c), s	26.6			0.1			12.0			0.1		

Intersection Summary

HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

Notes

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

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	252	25	10	119	23	25
Future Vol, veh/h	252	25	10	119	23	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	170	80	-	0	140
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	290	29	11	137	26	29
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	290	0	449	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1272	-	568	749
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1272	-	563	749
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	862	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		10.8	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	563	749	-	-	1272	-
HCM Lane V/C Ratio	0.047	0.038	-	-	0.009	-
HCM Control Delay (s)	11.7	10	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

Intersection				
Intersection Delay, s/veh	5.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	332	156	122	145
Demand Flow Rate, veh/h	339	159	124	147
Vehicles Circulating, veh/h	132	167	352	133
Vehicles Exiting, veh/h	148	309	119	193
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	4.3	5.0	4.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	339	159	124	147
Cap Entry Lane, veh/h	1206	1164	964	1205
Entry HV Adj Factor	0.980	0.984	0.980	0.984
Flow Entry, veh/h	332	156	122	145
Cap Entry, veh/h	1182	1145	944	1186
V/C Ratio	0.281	0.137	0.129	0.122
Control Delay, s/veh	5.6	4.3	5.0	4.1
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

Timings

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

3e. Build 2028 PM - Improved

09/08/2022

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	5	552	436	147	1058	100	5	55	5	5	5
Future Volume (vph)	5	552	436	147	1058	100	5	55	5	5	5
Lane Group Flow (vph)	5	600	474	160	1155	0	114	60	5	5	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2		8			4	
Permitted Phases	6		6	2		8		8	4		4
Detector Phase	6	6	6	2	2	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	68.0	68.0	68.0	68.0	68.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	68.0%	68.0%	68.0%	68.0%	68.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.02	0.23	0.36	0.27	0.30		0.61	0.22	0.03	0.02	0.02
Control Delay	3.8	3.7	1.0	4.8	3.6		53.9	11.5	34.6	34.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	3.7	1.0	4.8	3.6		53.9	11.5	34.6	34.2	0.2
Queue Length 50th (ft)	1	44	0	25	66		69	0	3	3	0
Queue Length 95th (ft)	m3	70	9	m49	94		119	33	13	13	0
Internal Link Dist (ft)		654			1814		684			199	
Turn Bay Length (ft)	255		350	650				360	50		50
Base Capacity (vph)	318	2666	1309	596	3827		361	463	329	493	439
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.02	0.23	0.36	0.27	0.30		0.32	0.13	0.02	0.01	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

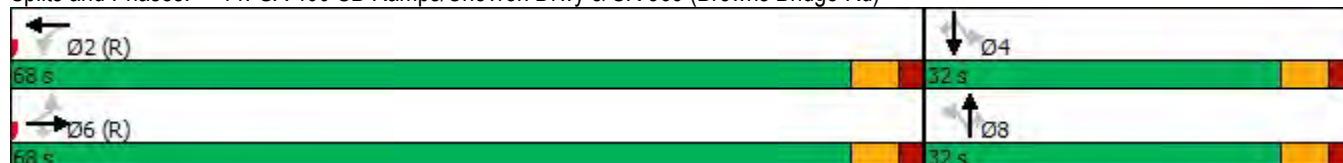
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3e. Build 2028 PM - Improved

14: GA 400 SB Ramps/Chevron Drwy & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	552	436	147	1058	5	100	5	55	5	5	5
Future Volume (veh/h)	5	552	436	147	1058	5	100	5	55	5	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	600	0	160	1150	5	109	5	0	5	5	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	2	2	2	2	2
Cap, veh/h	455	2801		682	4136	18	206	6		246	190	
Arrive On Green	0.79	0.79	0.00	1.00	1.00	1.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	487	3554	1585	819	5247	23	1332	61	1585	1411	1870	1585
Grp Volume(v), veh/h	5	600	0	160	746	409	114	0	0	5	5	0
Grp Sat Flow(s),veh/h/ln	487	1777	1585	819	1702	1866	1393	0	1585	1411	1870	1585
Q Serve(g_s), s	0.2	4.3	0.0	1.4	0.0	0.0	7.8	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	0.2	4.3	0.0	5.7	0.0	0.0	8.1	0.0	0.0	0.3	0.2	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.96		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	455	2801		682	2683	1471	212	0		246	190	
V/C Ratio(X)	0.01	0.21		0.23	0.28	0.28	0.54	0.00		0.02	0.03	
Avail Cap(c_a), veh/h	455	2801		682	2683	1471	445	0		476	496	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.79	0.79	0.79	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	2.3	2.7	0.0	0.2	0.0	0.0	44.1	0.0	0.0	40.4	40.4	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.2	0.4	2.1	0.0	0.0	0.0	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	0.0	0.9	0.0	0.1	0.1	0.2	2.9	0.0	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.3	2.9	0.0	0.8	0.2	0.4	46.2	0.0	0.0	40.5	40.5	0.0
LnGrp LOS	A	A		A	A	A	D	A		D	D	
Approach Vol, veh/h	605			1315			114			10		
Approach Delay, s/veh	2.9			0.3			46.2			40.5		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	84.3			15.7			84.3			15.7		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	62.5			26.5			62.5			26.5		
Max Q Clear Time (g_c+I1), s	7.7			2.3			6.3			10.1		
Green Ext Time (p_c), s	23.8			0.0			8.9			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	3.8											
HCM 6th LOS	A											

Timings

3e. Build 2028 PM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	521	5	5	582	109	5	5	5	229	5	542
Future Volume (vph)	86	521	5	5	582	109	5	5	5	229	5	542
Lane Group Flow (vph)	93	566	5	5	633	118	4	6	5	127	127	589
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases		6			2		8	8		4	4	
Permitted Phases	6		6	2		2			8			4
Detector Phase	6	6	6	2	2	2	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	39.5	39.5	39.5	39.5	39.5	39.5	21.5	21.5	21.5	39.0	39.0	39.0
Total Split (%)	39.5%	39.5%	39.5%	39.5%	39.5%	39.5%	21.5%	21.5%	21.5%	39.0%	39.0%	39.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.21	0.26	0.00	0.01	0.29	0.12	0.04	0.06	0.03	0.33	0.33	0.88
Control Delay	16.9	13.5	0.0	14.6	12.5	3.5	44.8	45.2	0.2	31.9	31.8	26.4
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	16.9	13.5	0.0	14.6	12.5	3.5	44.8	45.2	0.2	31.9	31.8	26.4
Queue Length 50th (ft)	27	88	0	1	81	0	2	4	0	70	70	122
Queue Length 95th (ft)	77	165	m0	9	190	32	14	17	0	108	108	245
Internal Link Dist (ft)		1814			1357			627			546	
Turn Bay Length (ft)	500		470	260		310	310			115		
Base Capacity (vph)	438	2173	1005	478	2173	1017	268	280	326	563	565	794
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	0.26	0.00	0.01	0.29	0.12	0.01	0.02	0.02	0.23	0.22	0.74

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

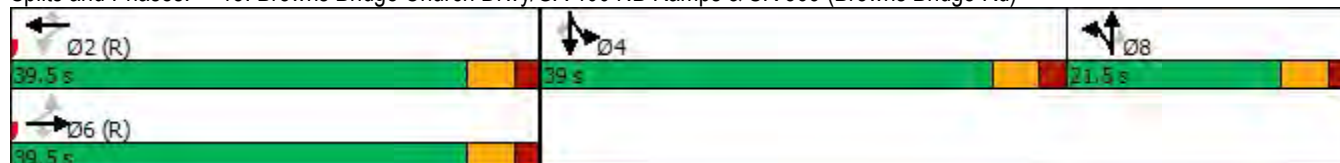
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)



HCM 6th Signalized Intersection Summary

3e. Build 2028 PM - Improved

15: Browns Bridge Church Drwy/GA 400 NB Ramps & SR 369 (Browns Bridge Rd)

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	521	5	5	582	109	5	5	5	229	5	542
Future Volume (veh/h)	86	521	5	5	582	109	5	5	5	229	5	542
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	566	5	5	633	0	5	5	5	253	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	2	2	2	2	2
Cap, veh/h	593	2548	1137	630	2548		36	38	32	347	0	
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.00	0.02	0.02	0.02	0.10	0.00	0.00
Sat Flow, veh/h	794	3554	1585	841	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	93	566	5	5	633	0	5	5	5	253	0	0
Grp Sat Flow(s),veh/h/ln	794	1777	1585	841	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	4.6	5.4	0.1	0.2	6.1	0.0	0.3	0.3	0.3	6.9	0.0	0.0
Cycle Q Clear(g_c), s	10.7	5.4	0.1	5.6	6.1	0.0	0.3	0.3	0.3	6.9	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	593	2548	1137	630	2548		36	38	32	347	0	
V/C Ratio(X)	0.16	0.22	0.00	0.01	0.25		0.14	0.13	0.15	0.73	0.00	
Avail Cap(c_a), veh/h	593	2548	1137	630	2548		285	299	254	1193	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	4.8	4.0	5.7	4.9	0.0	48.1	48.1	48.1	43.8	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.2	0.0	0.0	0.2	0.0	1.7	1.5	2.2	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.5	0.0	0.0	1.7	0.0	0.1	0.1	0.1	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	5.0	4.0	5.7	5.1	0.0	49.8	49.6	50.3	46.8	0.0	0.0
LnGrp LOS	A	A	A	A	A		D	D	D	D	A	
Approach Vol, veh/h	664			638			15			253		
Approach Delay, s/veh	5.3			5.1			49.9			46.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	77.2			15.2			77.2			7.5		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	34.0			33.5			34.0			16.0		
Max Q Clear Time (g_c+I1), s	8.1			8.9			12.7			2.3		
Green Ext Time (p_c), s	7.7			0.9			7.4			0.0		

Intersection Summary

HCM 6th Ctrl Delay 12.3

HCM 6th LOS B

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	6	784	24	7	611
Future Vol, veh/h	12	6	784	24	7	611
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	2	2	3
Mvmt Flow	13	7	852	26	8	664
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1532	852	0	0	878	0
Stage 1	852	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	128	359	-	-	769	-
Stage 1	418	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	127	359	-	-	769	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	418	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	30.3	0	0.1			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	162	769	-	
HCM Lane V/C Ratio	-	-	0.121	0.01	-	
HCM Control Delay (s)	-	-	30.3	9.7	-	
HCM Lane LOS	-	-	D	A	-	
HCM 95th %tile Q(veh)	-	-	0.4	0	-	

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗		↗
Traffic Vol, veh/h	0	925	975	99	0	102
Future Vol, veh/h	0	925	975	99	0	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	175	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1005	1060	108	0	111
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	530
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	-	-	0	0	493
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	493
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		14.4		
HCM LOS				B		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	493			
HCM Lane V/C Ratio	-	-	0.225			
HCM Control Delay (s)	-	-	14.4			
HCM Lane LOS	-	-	B			
HCM 95th %tile Q(veh)	-	-	0.9			

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	306	93	20	0	35
Future Vol, veh/h	0	306	93	20	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	333	101	22	0	38
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	101
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	954
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	954
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	954			
HCM Lane V/C Ratio	-	-	0.04			
HCM Control Delay (s)	-	-	8.9			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	306	118	16	0	14
Future Vol, veh/h	0	306	118	16	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	333	128	17	0	15
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	128
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	0	-	-	0	0	922
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	922
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9		
HCM LOS					A	
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	922			
HCM Lane V/C Ratio	-	-	0.017			
HCM Control Delay (s)	-	-	9			
HCM Lane LOS	-	-	A			
HCM 95th %tile Q(veh)	-	-	0.1			

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	189	6	9	378	5	7
Future Vol, veh/h	189	6	9	378	5	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	205	7	10	411	5	8
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	212	0	640	209
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	431	-
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	-	-	1358	-	440	831
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	655	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1358	-	436	831
Mov Cap-2 Maneuver	-	-	-	-	436	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	648	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		11.1	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	603	-	-	1358	-	
HCM Lane V/C Ratio	0.022	-	-	0.007	-	
HCM Control Delay (s)	11.1	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Timings

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

3f. Build 2028 Dismissal - Improved

09/08/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	18	57	89	22	45	32	419	65	50	359	155
Future Volume (vph)	108	18	57	89	22	45	32	419	65	50	359	155
Lane Group Flow (vph)	130	22	69	107	27	54	39	505	78	60	433	187
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	25.5	21.5	21.5	21.5	15.0	21.5	21.5	36.5	36.5	36.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	17.0	70.0	70.0	53.0	53.0	53.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	17.0%	70.0%	70.0%	53.0%	53.0%	53.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.64	0.08	0.23	0.53	0.10	0.18	0.06	0.36	0.07	0.10	0.35	0.17
Control Delay	54.0	34.8	6.8	47.8	35.2	4.0	4.5	6.0	1.3	9.5	10.2	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	34.8	6.8	47.8	35.2	4.0	4.5	6.0	1.3	9.5	10.2	2.0
Queue Length 50th (ft)	79	12	0	64	15	0	5	95	0	14	125	0
Queue Length 95th (ft)	120	29	20	100	34	9	16	161	11	35	201	23
Internal Link Dist (ft)		652			669			575			500	
Turn Bay Length (ft)	200		385	150		160	310		235	310		265
Base Capacity (vph)	337	456	453	339	456	453	705	1384	1196	593	1243	1118
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	0.39	0.05	0.15	0.32	0.06	0.12	0.06	0.36	0.07	0.10	0.35	0.17

Intersection Summary

Cycle Length: 100

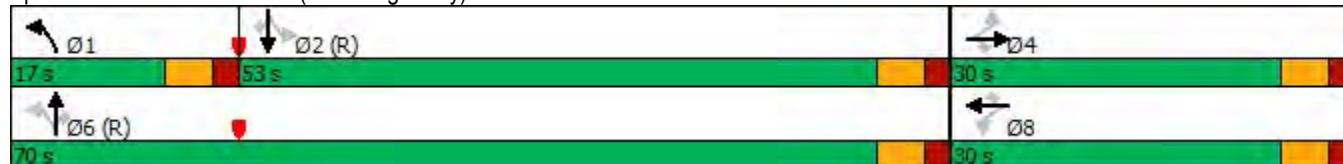
Actuated Cycle Length: 100

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.



HCM 6th Signalized Intersection Summary

3f. Build 2028 Dismissal - Improved

2: SR 9 (Dahlonega Hwy) & Coal Mountain Dr/Coal Mountain Conn.

09/08/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	18	57	89	22	45	32	419	65	50	359	155
Future Volume (veh/h)	108	18	57	89	22	45	32	419	65	50	359	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	22	69	107	27	0	39	505	78	60	433	187
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	243	206	228	243		592	1422	1205	631	1257	1065
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.03	0.76	0.76	0.67	0.67	0.67
Sat Flow, veh/h	1383	1870	1585	1306	1870	1585	1781	1870	1585	832	1870	1585
Grp Volume(v), veh/h	130	22	69	107	27	0	39	505	78	60	433	187
Grp Sat Flow(s),veh/h/ln	1383	1870	1585	1306	1870	1585	1781	1870	1585	832	1870	1585
Q Serve(g_s), s	9.2	1.0	4.0	7.9	1.3	0.0	0.6	8.9	1.2	2.6	9.9	4.4
Cycle Q Clear(g_c), s	10.4	1.0	4.0	8.9	1.3	0.0	0.6	8.9	1.2	2.6	9.9	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	243	206	228	243		592	1422	1205	631	1257	1065
V/C Ratio(X)	0.56	0.09	0.34	0.47	0.11		0.07	0.36	0.06	0.10	0.34	0.18
Avail Cap(c_a), veh/h	393	458	388	378	458		738	1422	1205	631	1257	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	38.3	39.6	42.2	38.4	0.0	4.6	3.9	3.0	5.8	7.0	6.1
Incr Delay (d2), s/veh	2.1	0.2	1.0	1.5	0.2	0.0	0.0	0.7	0.1	0.3	0.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.5	1.6	2.6	0.6	0.0	0.2	2.3	0.3	0.4	3.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	38.5	40.5	43.7	38.6	0.0	4.6	4.6	3.1	6.1	7.7	6.5
LnGrp LOS	D	D	D	D	D		A	A	A	A	A	A
Approach Vol, veh/h	221			134			622			680		
Approach Delay, s/veh	43.0			42.7			4.4			7.2		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2	4			6	8					
Phs Duration (G+Y+Rc), s	8.8	72.7	18.5			81.5	18.5					
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5	5.5					
Max Green Setting (Gmax), s	11.5	47.5	24.5			64.5	24.5					
Max Q Clear Time (g_c+I1), s	2.6	11.9	12.4			10.9	10.9					
Green Ext Time (p_c), s	0.0	7.9	0.5			7.6	0.3					

Intersection Summary

HCM 6th Ctrl Delay 13.8

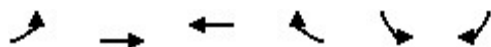
HCM 6th LOS B

Notes

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

Timings 5: SR 369 (Matt Hwy) & Coal Mountain Dr

3f. Build 2028 Dismissal - Improved
09/08/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	246	753	809	262	199	247
Future Volume (vph)	246	753	809	262	199	247
Lane Group Flow (vph)	262	801	861	279	212	263
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		7	
Permitted Phases	6			2		7
Detector Phase	1	6	2	2	7	7
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	15.0	28.5	21.5	21.5	15.0	15.0
Total Split (s)	15.0	70.0	55.0	55.0	20.0	20.0
Total Split (%)	16.7%	77.8%	61.1%	61.1%	22.2%	22.2%
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	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.81	0.59	0.83	0.28	0.79	0.57
Control Delay	33.0	8.3	25.5	2.0	58.4	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	8.3	25.5	2.0	58.4	9.9
Queue Length 50th (ft)	61	191	384	0	116	0
Queue Length 95th (ft)	#190	285	#608	34	#220	66
Internal Link Dist (ft)		1524	423		639	
Turn Bay Length (ft)	130					
Base Capacity (vph)	325	1352	1038	1006	285	475
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	0.81	0.59	0.83	0.28	0.74	0.55

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

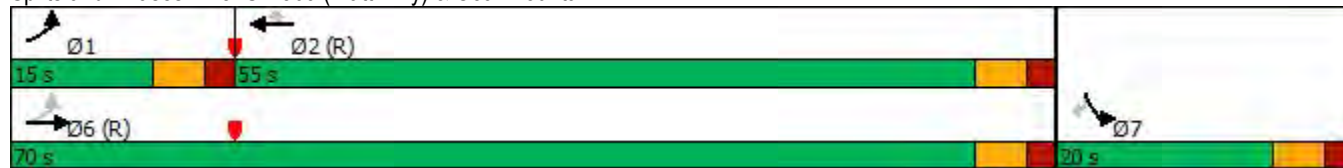
Natural Cycle: 80

Control Type: Actuated-Coordinated

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

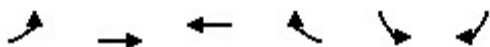
Queue shown is maximum after two cycles.

Splits and Phases: 5: SR 369 (Matt Hwy) & Coal Mountain Dr



HCM 6th Signalized Intersection Summary 5: SR 369 (Matt Hwy) & Coal Mountain Dr

3f. Build 2028 Dismissal - Improved
09/08/2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	246	753	809	262	199	247
Future Volume (veh/h)	246	753	809	262	199	247
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	801	861	0	212	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	383	1381	1124		248	
Arrive On Green	0.08	0.74	0.60	0.00	0.14	0.00
Sat Flow, veh/h	1781	1870	1870	1585	1781	1585
Grp Volume(v), veh/h	262	801	861	0	212	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1585	1781	1585
Q Serve(g_s), s	4.7	17.6	30.6	0.0	10.5	0.0
Cycle Q Clear(g_c), s	4.7	17.6	30.6	0.0	10.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	383	1381	1124		248	
V/C Ratio(X)	0.68	0.58	0.77		0.86	
Avail Cap(c_a), veh/h	436	1381	1124		287	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	14.7	5.4	13.3	0.0	37.8	0.0
Incr Delay (d2), s/veh	3.7	1.8	5.0	0.0	19.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.5	12.5	0.0	5.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.4	7.2	18.3	0.0	57.3	0.0
LnGrp LOS	B	A	B		E	
Approach Vol, veh/h		1063	861		212	
Approach Delay, s/veh		9.9	18.3		57.3	
Approach LOS		A	B		E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.4	59.6		18.0		72.0
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	49.5		14.5		64.5
Max Q Clear Time (g_c+I1), s	6.7	32.6		12.5		19.6
Green Ext Time (p_c), s	0.2	9.7		0.1		14.8

Intersection Summary

HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Notes

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

Traffic Volume Worksheets

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

1. SR 9 @ Martin Rd
 A.M. Peak Hour

Condition	SR 9 (Dahlongega Highway)					SR 9 (Dahlongega Highway)					- Eastbound					Martin Road Westbound				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	0	133	21	154	0	228	545	0	773	0	0	0	0	0	0	26	0	87	113
Projected/Adjusted 2022 Existing Volumes:	0	0	133	21	154	0	228	545	0	773	0	0	0	0	0	0	26	0	87	113
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	0	173	27	200	0	296	709	0	1005	0	0	0	0	0	0	34	0	113	147
Total New Trips:	0	0	15	11	26	0	1	9	0	10	0	0	0	0	0	0	9	0	2	11
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	188	38	226	0	297	718	0	1015	0	0	0	0	0	0	43	0	115	158

P.M. Peak Hour

Condition	SR 9 (Dahlongega Highway)					SR 9 (Dahlongega Highway)					- Eastbound					Martin Road Westbound				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	0	553	36	589	0	104	316	0	420	0	0	0	0	0	0	54	0	230	284
Projected/Adjusted 2022 Existing Volumes:	0	0	553	36	589	0	104	316	0	420	0	0	0	0	0	0	54	0	230	284
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	0	719	47	766	0	135	411	0	546	0	0	0	0	0	0	70	0	299	369
Total New Trips:	0	0	13	12	25	0	2	16	0	18	0	0	0	0	0	0	13	0	1	14
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	732	59	791	0	137	427	0	564	0	0	0	0	0	0	83	0	300	383

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

2. SR 9 @ Coal Mtn Dr

A.M. Peak Hour

Condition	SR 9 (Dahlonge Highway) Northbound					SR 9 (Dahlonge Highway) Southbound					Coal Mountain Drive Eastbound					Coal Mountain Connector Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	42	114	0	156	0	0	540	31	571	0	40	0	32	72	0	0	0	0	0
Projected/Adjusted 2022 Existing Volumes:	0	42	114	0	156	0	0	540	31	571	0	40	0	32	72	0	0	0	0	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	-18	-13	0	-31	0	39	-39	0	0	0	0	4	-4	0	0	72	18	13	103
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	37	135	0	172	0	39	663	40	742	0	52	4	38	94	0	72	18	13	103
Total New Trips:	0	2	7	43	52	0	12	7	0	19	0	0	9	1	10	0	60	14	19	93
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	39	142	43	224	0	51	670	40	761	0	52	13	39	104	0	132	32	32	196

P.M. Peak Hour

Condition	SR 9 (Dahlonge Highway) Northbound					SR 9 (Dahlonge Highway) Southbound					Coal Mountain Drive Eastbound					Coal Mountain Connector Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:																				
Projected/Adjusted 2022 Existing Volumes:																				
Growth Factor (%):																				
Shifted Traffic due to Coal Mountain Connector:																				
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:																				
Total New Trips:																				
Pass-by Trips:																				
Future 2028 Traffic Volumes:																				

School Dismissal Peak Hour

Condition	SR 9 (Dahlonge Highway) Northbound					SR 9 (Dahlonge Highway) Southbound					Coal Mountain Drive Eastbound					Coal Mountain Connector Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	32	341	0	373	0	0	295	119	414	0	83	0	45	128	0	0	0	0	0
Projected/Adjusted 2022 Existing Volumes:	0	32	341	0	373	0	0	295	119	414	0	83	0	45	128	0	0	0	0	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	-11	-31	0	-42	0	32	-32	0	0	0	0	4	-4	0	0	44	11	31	86
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	31	412	0	443	0	32	352	155	539	0	108	4	55	167	0	44	11	31	86
Total New Trips:	0	1	7	65	73	0	18	7	0	25	0	0	14	2	16	0	45	11	14	70
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	32	419	65	516	0	50	359	155	564	0	108	18	57	183	0	89	22	45	156

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

3. SR 9 @ SR 369
A.M. Peak Hour

Condition	SR 9 (Dahlonge Highway)					SR 9 (Dahlonge Highway)					SR 369 (Matt Highway)					SR 369 (Browns Bridge Road)				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	42	235	89	366	0	116	433	20	569	0	17	337	108	462	0	197	332	34	563
Projected/Adjusted 2022 Existing Volumes:	0	48	270	102	420	0	133	498	23	654	0	20	388	124	532	0	227	382	39	648
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	-43	63	9	29	0	0	0	0	0	0	-43	-9	-31	-103
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	62	351	133	546	0	130	710	39	879	0	26	504	161	691	0	232	488	20	740
Total New Trips:	0	0	35	15	50	0	13	49	15	77	0	15	15	0	30	30	33	34	8	105
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	62	386	148	596	0	143	759	54	956	0	41	519	161	721	0	265	522	28	845

P.M. Peak Hour

Condition	SR 9 (Dahlonge Highway)					SR 9 (Dahlonge Highway)					SR 369 (Matt Highway)					SR 369 (Browns Bridge Road)				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	72	505	64	641	0	106	296	17	419	0	32	500	95	627	0	174	607	16	797
Projected/Adjusted 2022 Existing Volumes:	0	76	530	67	673	0	111	311	18	440	0	34	525	100	659	0	183	637	17	837
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	-36	39	6	9	0	0	0	0	0	0	-39	-6	-17	-62
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	99	689	87	875	0	108	443	29	580	0	44	683	130	857	0	199	822	5	1026
Total New Trips:	0	0	64	27	91	0	12	45	13	70	0	27	27	0	54	27	30	31	15	103
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	99	753	114	966	0	120	488	42	650	0	71	710	130	911	27	229	853	20	1129

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

4. SR 9 @ Spot Rd
A.M. Peak Hour

Condition	SR 9 (Dahlonega Highway)					SR 9 (Dahlonega Highway)					Spot Road Eastbound					Mark Heard Fuel, etc Driveway				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	113	324	0	437	0	1	732	109	842	0	97	2	248	347	0	0	0	0	0
Projected/Adjusted 2022 Existing Volumes:	0	113	324	0	437	0	1	732	109	842	0	97	2	248	347	0	0	0	0	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	147	421	0	568	0	1	952	142	1095	0	126	3	322	451	0	0	0	0	0
Total New Trips:	0	0	30	0	30	0	0	49	33	82	0	20	0	0	20	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	147	451	0	598	0	1	1001	175	1177	0	146	3	322	471	0	0	0	0	0

P.M. Peak Hour

Condition	SR 9 (Dahlonega Highway)					SR 9 (Dahlonega Highway)					Spot Road Eastbound					Mark Heard Fuel, etc Driveway				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	309	472	0	781	0	0	491	134	625	0	93	1	146	240	0	0	1	0	1
Projected/Adjusted 2022 Existing Volumes:	0	309	472	0	781	0	0	491	134	625	0	93	1	146	240	0	0	1	0	1
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	402	614	0	1016	0	0	638	174	812	0	121	1	190	312	0	0	1	0	1
Total New Trips:	0	0	55	0	55	0	0	45	30	75	0	37	0	0	37	0	0	0	0	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	402	669	0	1071	0	0	683	204	887	0	158	1	190	349	0	0	1	0	1

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

5. SR 369 @ Coal Mtn Dr

A.M. Peak Hour

Condition	Northbound					Coal Mountain Drive Southbound					SR 369 (Matt Highway) Eastbound					SR 369 (Matt Highway) Westbound											
	L		T	R	Tot	U		L	T	R	Tot	U		L	T	R	Tot	U		L	T	R	Tot				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot		
2019 Traffic Counts:	0	0	0	0	0	0	46	0	83	129	0	220	527	0	747	0	0	419	191	610	0	0	0	0	0	0	
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	9	0	14	23	0	49	546	0	595	0	0	312	74	386	0	0	0	0	0	0	
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	53	0	95	148	0	253	606	0	859	0	0	482	220	702	0	0	0	0	0	0	
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	0	0	0	0	69	0	124	193	0	329	788	0	1117	0	0	627	286	913	0	0	0	0	0	0	
Total New Trips:	0	0	0	0	0	0	2	0	0	2	0	0	28	0	28	0	0	46	3	49	0	0	0	0	0	0	
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Future 2028 Traffic Volumes:	0	0	0	0	0	0	71	0	124	195	0	329	816	0	1145	0	0	673	289	962	0	0	0	0	0	0	

P.M. Peak Hour

Condition	Northbound					Coal Mountain Drive Southbound					SR 369 (Matt Highway) Eastbound					SR 369 (Matt Highway) Westbound				
	U		L		Tot	U		L		Tot	U		L		Tot	U		L		Tot
2019 Traffic Counts:	0	0	0	0	0	0	15	0	50	65	0	92	677	0	769	0	0	649	28	677
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	1	0	10	11	0	34	596	0	630	0	0	571	12	583
Projected/ Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	17	0	58	75	0	106	779	0	885	0	0	746	32	778
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	0	0	0	0	22	0	75	97	0	138	1013	0	1151	0	0	970	42	1012
Total New Trips:	0	0	0	0	0	0	4	0	0	4	0	0	51	0	51	0	0	42	3	45
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	26	0	75	101	0	138	1064	0	1202	0	0	1012	45	1057

School Dismissal Peak Hour

Condition	Northbound					Coal Mountain Drive Southbound					SR 369 (Matt Highway) Eastbound					SR 369 (Matt Highway) Westbound				
	U		T		R	U		T		R	U		T		R	U		T		R
	L	Tot	L	Tot		L	Tot	L	Tot		L	Tot	L	Tot		L	Tot			
2019 Traffic Counts:	0	0	0	0	0	0	131	0	165	296	0	164	475	0	639	0	0	517	174	691
Existing 2022 Traffic Counts without School Traffic:	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	151	0	190	341	0	189	546	0	735	0	0	595	200	795
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	0	0	0	0	196	0	247	443	0	246	710	0	956	0	0	774	260	1034
Total New Trips:	0	0	0	0	0	0	3	0	0	3	0	0	43	0	43	0	0	35	2	37
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	199	0	247	446	0	246	753	0	999	0	0	809	262	1071

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

6. SR 369 @ Sierra Lake Dr

A.M. Peak Hour

Condition	Sierra Lake Drive Northbound					Southbound					SR 369 (Matt Highway) Eastbound					SR 369 (Matt Highway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	1	0	20	21	0	0	0	0	0	0	0	555	1	556	0	5	335	0	340
Projected/Adjusted 2022 Existing Volumes:	0	1	0	23	24	0	0	0	0	0	0	0	638	1	639	0	6	385	0	391
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
No-Build 2028 Volumes:	0	1	0	30	31	0	0	0	0	0	0	0	829	1	830	0	8	501	0	509
Total New Trips:	0	0	0	4	4	0	0	0	0	0	0	0	24	0	24	0	7	39	0	46
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	1	0	34	35	0	0	0	0	0	0	0	853	1	854	0	15	540	0	555

P.M. Peak Hour

Condition	Sierra Lake Drive Northbound					Southbound					SR 369 (Matt Highway) Eastbound					SR 369 (Matt Highway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	0	0	14	14	0	0	0	0	0	0	0	626	5	631	0	8	609	0	617
Projected/Adjusted 2022 Existing Volumes:	0	0	0	15	15	0	0	0	0	0	0	0	657	5	662	0	8	639	0	647
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
No-Build 2028 Volumes:	0	0	0	20	20	0	0	0	0	0	0	0	854	7	861	0	10	831	0	841
Total New Trips:	0	0	0	7	7	0	0	0	0	0	0	0	44	0	44	0	6	36	0	42
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	27	27	0	0	0	0	0	0	0	898	7	905	0	16	867	0	883

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

7. SR 369 @ N. Transp'n. Ctr

A.M. Peak Hour

Condition	Northbound				N. Transportation Center Driveway				SR 369 (Matt Highway) Eastbound				SR 369 (Matt Highway) Westbound			
	Southbound				Southbound				Eastbound				Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	Tot
2019 Traffic Counts:	0	0	0	0	0	0	3	0	80	83	0	142	531	0	673	386
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	3	0	92	95	0	163	611	0	774	444
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2028 Volumes:	0	0	0	0	0	0	4	0	120	124	0	212	794	0	1006	577
Total New Trips:	0	0	0	0	0	0	2	0	0	2	0	0	22	0	36	39
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	6	0	120	126	0	212	816	0	1028	616

P.M. Peak Hour

Condition	Northbound				N. Transportation Center Driveway				SR 369 (Matt Highway) Eastbound				SR 369 (Matt Highway) Westbound			
	Southbound				Southbound				Eastbound				Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	Tot
2019 Traffic Counts:	0	0	0	0	0	0	2	0	56	58	0	30	630	0	660	619
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	2	0	64	66	0	35	725	0	760	712
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2028 Volumes:	0	0	0	0	0	0	3	0	83	86	0	46	943	0	989	926
Total New Trips:	0	0	0	0	0	0	4	0	0	4	0	0	40	0	33	36
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	7	0	83	90	0	46	983	0	1029	962

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

8. SR 369 @ Gravitt Rd
 A.M. Peak Hour

Condition	Gravitt Road Northbound					Southbound					SR 369 (Matt Highway) Eastbound					SR 369 (Matt Highway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	18	0	41	59	0	0	0	0	0	0	0	526	180	706	0	26	337	0	363
Projected/Adjusted 2022 Existing Volumes:	0	21	0	47	68	0	0	0	0	0	0	0	605	207	812	0	30	388	0	418
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
No-Build 2028 Volumes:	0	27	0	61	88	0	0	0	0	0	0	0	787	269	1056	0	39	504	0	543
Total New Trips:	0	0	0	8	8	0	0	0	0	0	0	0	14	0	14	0	13	23	0	36
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	27	0	69	96	0	0	0	0	0	0	0	801	269	1070	0	52	527	0	579

P.M. Peak Hour

Condition	Gravitt Road Northbound					Southbound					SR 369 (Matt Highway) Eastbound					SR 369 (Matt Highway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	132	0	77	209	0	0	0	0	0	0	0	561	50	611	0	26	591	0	617
Projected/Adjusted 2022 Existing Volumes:	0	139	0	81	220	0	0	0	0	0	0	0	589	53	642	0	27	621	0	648
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
No-Build 2028 Volumes:	0	181	0	105	286	0	0	0	0	0	0	0	766	69	835	0	35	807	0	842
Total New Trips:	0	0	0	15	15	0	0	0	0	0	0	0	26	0	26	0	12	21	0	33
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	181	0	120	301	0	0	0	0	0	0	0	792	69	861	0	47	828	0	875

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

9. SR 369 @ Settingdown Rd
A.M. Peak Hour

Condition	Northbound					Settingdown Road Southbound					SR 369 (Browns Bridge Road) Eastbound					SR 369 (Browns Bridge Road) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	36	0	138	174	0	92	447	0	539	0	0	421	35	456
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	36	0	138	174	0	92	447	0	539	0	0	421	35	456
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	-5	0	-90	-95	0	0	-43	0	-43	0	0	-13	3	-10
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
No-Build 2028 Volumes:	0	0	0	0	0	0	42	0	89	131	0	120	538	0	658	0	0	534	49	583
Total New Trips:	0	0	0	0	0	0	20	0	45	65	7	24	42	0	73	0	0	28	0	28
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	62	0	134	196	7	144	580	0	731	0	0	562	49	611

P.M. Peak Hour

Condition	Northbound					Settingdown Road Southbound					SR 369 (Browns Bridge Road) Eastbound					SR 369 (Browns Bridge Road) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	13	0	84	97	0	102	565	0	667	0	0	711	101	812
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	13	0	84	97	0	102	565	0	667	0	0	711	101	812
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	-2	0	-55	-57	0	0	-36	0	-36	0	0	-6	1	-5
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
No-Build 2028 Volumes:	0	0	0	0	0	0	15	0	54	69	0	133	699	0	832	0	0	918	132	1050
Total New Trips:	0	0	0	0	0	0	18	0	41	59	13	41	40	0	94	0	0	48	0	48
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	33	0	95	128	13	174	739	0	926	0	0	966	132	1098

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
September 2022

10. SR 369 @ Bridgetowne-Conn

A.M. Peak Hour

Condition	Bridgetowne Drive					Coal Mountain Connector					SR 369 (Browns Bridge Road)					SR 369 (Browns Bridge Road)				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	32	0	154	186	0	0	0	0	0	0	0	474	12	486	0	36	421	0	457
Projected/Adjusted 2022 Existing Volumes:	0	32	0	154	186	0	0	0	0	0	0	0	474	12	486	0	36	421	0	457
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	48	0	0	48	0	0	-48	0	-48	0	0	-10	10	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	42	0	200	242	0	48	0	0	48	0	0	568	16	584	0	47	537	10	594
Total New Trips:	0	3	7	0	10	0	63	9	4	76	0	3	52	7	62	0	0	21	49	70
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	45	7	200	252	0	111	9	4	124	0	3	620	23	646	0	47	558	59	664

P.M. Peak Hour

Condition	Bridgetowne Drive					Coal Mountain Connector					SR 369 (Browns Bridge Road)					SR 369 (Browns Bridge Road)				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	34	0	131	165	0	0	0	0	0	0	0	535	46	581	0	217	776	0	993
Projected/Adjusted 2022 Existing Volumes:	0	34	0	131	165	0	0	0	0	0	0	0	535	46	581	0	217	776	0	993
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	38	0	0	38	0	0	-38	0	-38	0	0	-5	5	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	44	0	170	214	0	38	0	0	38	0	0	658	60	718	0	282	1004	5	1291
Total New Trips:	0	5	13	0	18	0	58	8	4	70	0	5	47	7	59	0	0	38	90	128
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	49	13	170	232	0	96	8	4	108	0	5	705	67	777	0	282	1042	95	1419

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
September 2022

11. SR 369 @ GA 400
A.M. Peak Hour

Condition	GA 400 / US 19 Northbound					GA 400 / US 19 Southbound					SR 369 (Browns Bridge Road) Eastbound					SR 369 (Browns Bridge Road) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	229	930	91	1250	0	22	1879	54	1955	0	36	170	350	556	0	82	232	34	348
Projected/Adjusted 2022 Existing Volumes:	0	229	930	91	1250	0	22	1879	54	1955	0	36	170	350	556	0	82	232	34	348
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2028 Volumes:	0	298	1209	118	1625	0	29	2443	70	2542	0	47	221	455	723	0	107	302	44	453
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	0	49	0	49	0	0	60	0	60
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	298	1209	118	1625	0	29	2443	70	2542	0	47	270	455	772	0	107	362	44	513

P.M. Peak Hour

Condition	GA 400 / US 19 Northbound					GA 400 / US 19 Southbound					SR 369 (Browns Bridge Road) Eastbound					SR 369 (Browns Bridge Road) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	765	2310	122	3197	0	47	1082	84	1213	0	101	241	286	628	0	90	272	61	423
Projected/Adjusted 2022 Existing Volumes:	0	765	2310	122	3197	0	47	1082	84	1213	0	101	241	286	628	0	90	272	61	423
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2028 Volumes:	0	995	3003	159	4157	0	61	1407	109	1577	0	131	313	372	816	0	117	354	79	550
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	0	45	0	45	0	0	110	0	110
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	995	3003	159	4157	0	61	1407	109	1577	0	131	358	372	861	0	117	464	79	660

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

12. Settingdown @ Dennis C M

A.M. Peak Hour

Condition	Dennis C Martin Memorial Way					Site Driveway 7					Settingdown Road					Settingdown Road				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	20	0	8	28	0	0	0	0	0	0	0	98	24	122	0	14	166	0	180
Projected/Adjusted 2022 Existing Volumes:	0	20	0	8	28	0	0	0	0	0	0	0	98	24	122	0	14	166	0	180
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	26	0	10	36	0	0	0	0	0	0	0	127	31	158	0	18	216	0	234
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	0	0	10	0	10
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	26	0	10	36	0	0	0	0	0	0	0	143	31	174	0	18	226	0	244

P.M. Peak Hour

Condition	Dennis C Martin Memorial Way					Site Driveway 7					Settingdown Road					Settingdown Road				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:																				
Existing 2022 Traffic Counts without School Traffic:	0	18	0	19	37	0	0	0	0	0	0	0	182	19	201	0	8	78	0	86
Projected/Adjusted 2022 Existing Volumes:	0	18	0	19	37	0	0	0	0	0	0	0	182	19	201	0	8	78	0	86
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):																				
No-Build 2028 Volumes:	0	23	0	25	48	0	0	0	0	0	0	0	237	25	262	0	10	101	0	111
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15	0	0	18	0	18
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	23	0	25	48	0	0	0	0	0	0	0	252	25	277	0	10	119	0	129

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

13. Settingdown @ Coal Mtn Conn

A.M. Peak Hour

Condition	Coal Mountain Connector Northbound				Coal Mountain Connector Southbound				Settingdown Road Eastbound				Settingdown Road Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	127	0	0	0	174	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	127	0	0	0	174	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	10	0	0	0	43	0	0	3	0	0	0	5	-95	90
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	10	0	0	0	43	0	0	3	165	0	0	5	131	90
Total New Trips:	0	24	35	0	0	13	76	18	107	0	21	3	0	0	0	3
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	24	45	0	0	13	119	18	150	0	24	168	0	5	134	97

P.M. Peak Hour

Condition	Coal Mountain Connector Northbound				Coal Mountain Connector Southbound				Settingdown Road Eastbound				Settingdown Road Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	203	0	0	0	97	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	203	0	0	0	97	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	5	0	0	0	36	0	0	1	0	0	0	2	-57	55
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	5	0	0	0	36	0	0	1	264	0	0	2	69	55
Total New Trips:	0	44	63	0	0	12	70	16	98	0	38	3	0	0	5	13
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	44	68	0	0	12	106	16	134	0	39	267	0	2	74	68

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

14. SR 369 @ GA 400 SB Ramps

A.M. Peak Hour

Condition	GA 400 Southbound Ramps				Chevron Driveway Southbound				SR 369 (Browns Bridge Road) Eastbound				SR 369 (Browns Bridge Road) Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	556	0	556	0	515	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	556	0	556	0	515	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	65	5	45	115	0	5	5	15	0	5	385	440	830	0	175
No-Build 2028 Volumes:	0	71	5	49	125	0	5	5	15	0	5	420	480	905	0	191
Total New Trips:	0	10	0	0	10	0	0	0	0	0	0	49	66	115	0	60
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	81	5	49	135	0	5	5	15	0	5	469	546	1020	0	191

P.M. Peak Hour

Condition	GA 400 Southbound Ramps				Chevron Driveway Southbound				SR 369 (Browns Bridge Road) Eastbound				SR 369 (Browns Bridge Road) Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	628	0	628	0	1121	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	628	0	628	0	1121	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	75	5	50	130	0	5	5	15	0	5	465	345	815	0	135
No-Build 2028 Volumes:	0	82	5	55	142	0	5	5	15	0	5	507	376	888	0	147
Total New Trips:	0	18	0	0	18	0	0	0	0	0	0	45	60	105	0	110
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	100	5	55	160	0	5	5	15	0	5	552	436	993	0	147

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

15. SR 369 @ GA 400 NB Ramps

A.M. Peak Hour

Condition	Browns Bridge Church Driveway				GA 400 Northbound Ramps				SR 369 (Browns Bridge Road)				SR 369 (Browns Bridge Road)			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	348
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	348	348
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	5	5	5	15	0	105	5	160	270	0	70	360	5	435	600
No-Build 2028 Volumes:	0	5	5	5	15	0	114	5	174	293	0	76	392	5	473	654
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	16	33	0	49	20
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	5	5	5	15	0	114	5	214	333	0	92	425	5	522	674

P.M. Peak Hour

Condition	Browns Bridge Church Driveway				Tot	GA 400 Northbound Ramps				Tot	SR 369 (Browns Bridge Road)				Tot	Tot
	U	L	T	R		U	L	T	R		U	L	T	R		
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	423
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	423
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	5	5	5	15	0	210	5	430	645	0	65	450	5	520	605
No-Build 2028 Volumes:	0	5	5	5	15	0	229	5	469	703	0	71	491	5	567	659
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	15	30	0	45	37
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	5	5	5	15	0	229	5	542	776	0	86	521	5	612	696

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

16. SR 9 @ Drwy1

A.M. Peak Hour

Condition	SR 9 (Dahlongega Highway)					SR 9 (Dahlongega Highway)					- Eastbound					Site Driveway 1 Westbound				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	286	0	286	0	0	569	0	569	0	0	0	0	0	0	0	0	0	0
Projected/Adjusted 2022 Existing Volumes:	0	0	286	0	286	0	0	569	0	569	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	-31	0	-31	0	0	29	0	29	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	341	0	341	0	0	769	0	769	0	0	0	0	0	0	0	0	0	0
Total New Trips:	0	0	45	13	58	0	4	64	0	68	0	0	0	0	0	0	13	0	6	19
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	386	13	399	0	4	833	0	837	0	0	0	0	0	0	13	0	6	19

P.M. Peak Hour

Condition	SR 9 (Dahlongega Highway)					SR 9 (Dahlongega Highway)					- Eastbound					Site Driveway 1 Westbound				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	553	0	553	0	0	419	0	419	0	0	0	0	0	0	0	0	0	0
Projected/Adjusted 2022 Existing Volumes:	0	0	553	0	553	0	0	419	0	419	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	-17	0	-17	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	702	0	702	0	0	553	0	553	0	0	0	0	0	0	0	0	0	0
Total New Trips:	0	0	82	24	106	0	7	58	0	65	0	0	0	0	0	0	12	0	6	18
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	784	24	808	0	7	611	0	618	0	0	0	0	0	0	12	0	6	18

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

17. SR 369 @ Drwy 2 (RIRO)

A.M. Peak Hour

Condition	Northbound					Site Driveway 2 (RIRO)					SR 369 (Browns Bridge Road)					SR 369 (Browns Bridge Road)				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	0	0	0	539	0	539	0	559	0	559
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	0	539	0	539	0	559	0	559
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	-43	0	-43	0	-103	0	-103
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	658	0	658	0	624	0	624
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	0	658	0	658	0	624	0	624
Total New Trips:	0	0	0	0	0	0	0	0	0	48	0	0	0	73	0	73	0	57	23	80
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	0	0	0	48	0	0	0	731	0	731	0	681	23	704

P.M. Peak Hour

Condition	Northbound					Site Driveway 2 (RIRO)					SR 369 (Browns Bridge Road)					SR 369 (Browns Bridge Road)				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	0	0	667	0	667	0	0	795	0	795
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	667	0	667	0	0	795	0	795
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	-36	0	-36	0	0	-61	0	-61
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	831	0	831	0	0	973	0	973
Total New Trips:	0	0	0	0	0	0	0	0	0	43	43	0	94	0	94	0	0	59	42	101
Pass-by Trips:	0	0	0	0	0	0	0	0	0	59	59	0	0	0	0	0	0	-57	57	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	0	0	0	102	102	0	0	925	0	925	0	975	99	1074

A.M. Peak Hour

Condition	Northbound				Site Driveway 3 (Western, RHO)				Settingdown Road Eastbound				Settingdown Road Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	203	0	203	0	97	0
Projected/ Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	203	0	203	0	97	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	1	0	1	0	-57	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	265	0	265	0	69	0
Total New Trips:	0	0	0	0	0	0	0	28	28	0	41	0	41	0	31	16
Pass-by Trips:	0	0	0	0	0	0	0	7	7	0	0	0	0	0	-7	4
Future 2028 Traffic Volumes:	0	0	0	0	0	0	0	35	35	0	306	0	306	0	93	20

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

19. Settingdown @ Drwy 4M (RI)

A.M. Peak Hour

Condition	Northbound				Site Driveway 4 (Middle, RI-Only)				Settingdown Road Eastbound				Settingdown Road Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	127	0	0	0	174	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	127	0	0	0	174	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	3	0	0	0	-95	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	168	0	0	0	131	0
Total New Trips:	0	0	0	0	0	0	0	0	0	0	24	0	0	0	43	9
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	0	0	0	0	192	0	0	0	174	9

P.M. Peak Hour

Condition	Northbound				Site Driveway 4 (Middle, RI-Only)				Settingdown Road Eastbound				Settingdown Road Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	203	0	0	0	97	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	203	0	0	0	97	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-57	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	265	0	0	0	69	0
Total New Trips:	0	0	0	0	0	0	0	0	0	0	41	0	0	0	47	16
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-4	4
Future 2028 Traffic Volumes:	0	0	0	0	0	0	0	0	0	0	306	0	0	0	112	20

A.M. Peak Hour

P.M. Peak Hour

Condition	Northbound					Site Driveway 5 (Eastern, RIR0)					Settingdown Road Eastbound					Settingdown Road Westbound				
	-			Tot		Southbound			Tot		Eastbound			Tot		Westbound			Tot	
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	0	0	203	0	203	0	0	97	0	97
Projected/ Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	203	0	203	0	0	97	0	97
Growth Factor (%):	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5	
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	-57	0	-57
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	0	0	265	0	265	0	0	69	0	69
Total New Trips:	0	0	0	0	0	0	0	0	14	14	0	0	41	0	41	0	0	49	16	65
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	0	0	0	0	0	0	0	14	14	0	0	306	0	306	0	0	118	16	134

Coal Mountain Town Center, Mixed-Use Development (DRI #3718) - Forsyth County
Traffic Volumes

A&R Engineering
 September 2022

ZL Martin Rd @ Drwy 6

A.M. Peak Hour

Condition	Site Driveway 6 Northbound				Southbound				Martin Road Eastbound				Martin Road Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	249	0	0	0	113	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	249	0	0	0	113	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	324	0	0	0	147	0
Total New Trips:	0	6	0	8	14	0	0	0	0	0	8	4	12	0	5	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	6	0	8	14	0	0	0	0	0	332	4	0	5	152	0

P.M. Peak Hour

Condition	Site Driveway 6 Northbound				Southbound				Martin Road Eastbound				Martin Road Westbound			
	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot	U	L	T	Tot
2019 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing 2022 Traffic Counts without School Traffic:	0	0	0	0	0	0	0	0	0	0	140	0	0	0	284	0
Projected/Adjusted 2022 Existing Volumes:	0	0	0	0	0	0	0	0	0	0	140	0	0	0	284	0
Growth Factor (%):	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Shifted Traffic due to Coal Mountain Connector:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SR 369-SR 400 Interchange 2019 Volumes (GDOT Project #0013369):	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	0	182	0	0	0	369	0
Total New Trips:	0	5	0	7	12	0	0	0	0	0	7	6	13	0	9	0
Pass-by Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	0	5	0	7	12	0	0	0	0	0	189	6	0	9	378	0