

**DEVELOPMENT OF REGIONAL IMPACT
(DRI #3599)**

**TRAFFIC STUDY
FOR
CANEBREAK WEST RESIDENTIAL DEVELOPMENT AT
COLE LAKE ROAD**

CITY OF DALLAS, GEORGIA



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September 29, 2022
A & R Project # 21-134

EXECUTIVE SUMMARY

Traffic impacts were evaluated for the proposed residential development that will be located to the east of Cole Lake Road and north of SR 120 Connector (Scoggins Road) in the City of Dallas, Georgia. The development will consist of 670 units of single-family detached housing.

The development proposes two full access driveways on Cole Lake 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. Cole Lake Road and SR 120 Connector (Scoggins Road)
2. SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)
3. Cole Lake Road and Monroe Cole Road
4. West Avenue and Cole Lake Road
5. SR 120 (Buchanan Highway) and Cole Lake Road
6. Cole Lake Road and Happy Valley Church Road
7. Happy Valley Church Road and Old Villa Rica Road
8. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and Old Villa Rica Road
9. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and West Avenue/ South Main Street
10. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)/ SR 61 (Nathan Dean Boulevard)
11. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 120 (Buchanan Highway)/ SR 6 Business (Buchanan Street)
12. SR 61 (Nathan Dean Boulevard) and SR 6 Business (Merchants Drive)/ Hampton Drive
13. SR 61 (Nathan Dean Boulevard) and Henry Y Holland Drive
14. SR 61 (Nathan Dean Boulevard) and Thomas B Murphy Drive

GDOT planned improvement project (PI 0013702) was identified as a programmed improvement project that is projected to be completed in 2025. Since the proposed development is planned to be completed in 2026, the overlapping intersections in the study network and improved project that are included in the DRI study network are listed below and the programmed project will be analyzed with and without the widening project in the “No-Build” and “Build” conditions.

The following intersections will be considered with the programmed improvement project lane geometry in the analysis:

- SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)
- US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)/ SR 61 (Nathan Dean Boulevard)

Traffic Operations Summary

Table E1 below provides a summary of traffic operations for the “No-Build” and “Build” conditions for the year 2026 with and without system improvements. As per GRTA requirements, all approaches that do not meet the level-of-service (LOS) standard (considered failing) are highlighted in Table E1. Table E1 for “Build” conditions also includes the project’s total added trip and the respective percentage of overall total “Build” condition approach traffic volume for all failing LOS approaches after all improvements are completed.

TABLE E 1 — FUTURE INTERSECTION OPERATIONS AT FAILING APPROACHES													
Intersection		No-Build Condition: LOS (Delay)				Build Condition: LOS (Delay)							
		NO IMPROVEMENTS		PLANNED AND SYSTEM IMPROVEMENTS		NO IMPROVEMENTS		PLANNED AND SYSTEM IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH BUILD WITH IMPROVEMENTS		PERCENT SITE TRIPS OF TOTAL APPROACH TRIPS AT FAILING APPROACHES	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
10	US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 61 (Nathan Dean Boulevard) -Westbound Approach -Southbound Approach	D (48.2) E (71.6) E (62.4)	E (63.7) E (69.4) F (109.4)	C (26.6) B (13.6) D (47.7)	C (29.5) C (22.8) D (44.7)	E (55.7) F (97.8) E (61.4)	F (81.6) F (108.9) F (107.8)	C (27.1) B (15.0) D (47.3)	C (30.4) C (25.4) D (44.5)	No failing approaches	No failing approaches	No failing approaches	No failing approaches
12	SR 6 Business (Merchants Drive) @ SR 61 (Nathan Dean Boulevard) / Hampton Drive -Northbound Approach -Southbound Approach	D (35.9) D (54.7) E (61.4)	E (58.8) F (99.9) E (59.5)	C (27.8) D (47.4) E (61.4)	C (29.3) D (44.6) E (59.5)	D (37.6) E (56.1) E (61.4)	E (62.0) F (105.8) E (59.5)	C (28.2) D (46.8) E (61.4)	C (29.6) D (44.5) E (59.5)	- 0	- 0	- 0%	- 0%
13	SR 61 (Nathan Dean Boulevard) @ Henry Y Holland Drive -Eastbound Approach	C (23.1)	E (36.9)	A (6.0) D (53.6)	A (6.1) D (48.1)	C (24.9)	E (42.1)	A (6.0) D (53.6)	A (6.4) D (48.1)	No failing approaches	No failing approaches	No failing approaches	No failing approaches

After accounting for the planned GDOT improvement project and the recommended system improvements listed in the Executive Summary and Page 36, one approach will continue to operate at level-of-service “E”.

- The southbound approach (Hampton Drive) at **intersection 12** (SR 6 Business (Merchants Drive) and SR 61 (Nathan Dean Boulevard) / Hampton Drive) will continue to operate at a level-of-service “E” in the “Build” condition after system and programmed improvements are completed. The delay for the southbound approach is higher given the large volumes of vehicles that enter and exit the intersection from all other approaches versus the 33 southbound vehicles in the PM peak hour (“Build” Scenario).

The LOS standard was achieved at intersection 10 (US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 61 (Nathan Dean Boulevard)) after the programmed GDOT improvement project was accounted for in the analysis.

The LOS standard was achieved at intersection 13 (SR 61 (Nathan Dean Boulevard) and Henry Y Holland Drive) by addition of a traffic signal as a system improvement. It is recommended that a traffic signal be installed at this intersection if warranted per MUTCD guidelines.

The table below includes 95th percentile Synchro HCM 6 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 95TH PERCENTILE SYNCHRO QUEUES (FT) FOR FAILING APPROACHES				
Intersection		Available Storage	Queue in feet	
			BUILD with Improvements	
			AM Peak	PM Peak
12	<u>SR 6 Business (Merchants Drive) @ SR 61 (Nathan Dean Boulevard) / Hampton Drive</u> -Southbound Approach	-	73	48

As reported in Table E2, the projected “Build” condition 95th percentile approach queues will be accommodated by the existing storage available.

Recommended System Improvements

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

Intersection 12: SR 6 Business (Merchants Drive) and SR 61 (Nathan Dean Boulevard) / Hampton Drive

- Convert the existing shared through left turn to a dual left with shared through movement in one lane

Recommended Site Mitigation Improvements

Site Driveway 1: Full Access driveway on Cole Lake Road

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cole Lake Road remaining free flow
- Left turn lane and a deceleration lane for entering traffic

Site Driveway 2: Full Access driveway on Cole Lake Road

- One entering and two exiting lanes
- Stop sign controlled on the driveway approach with Cole Lake Road remaining free flow
- Left turn lane and a deceleration lane for entering traffic

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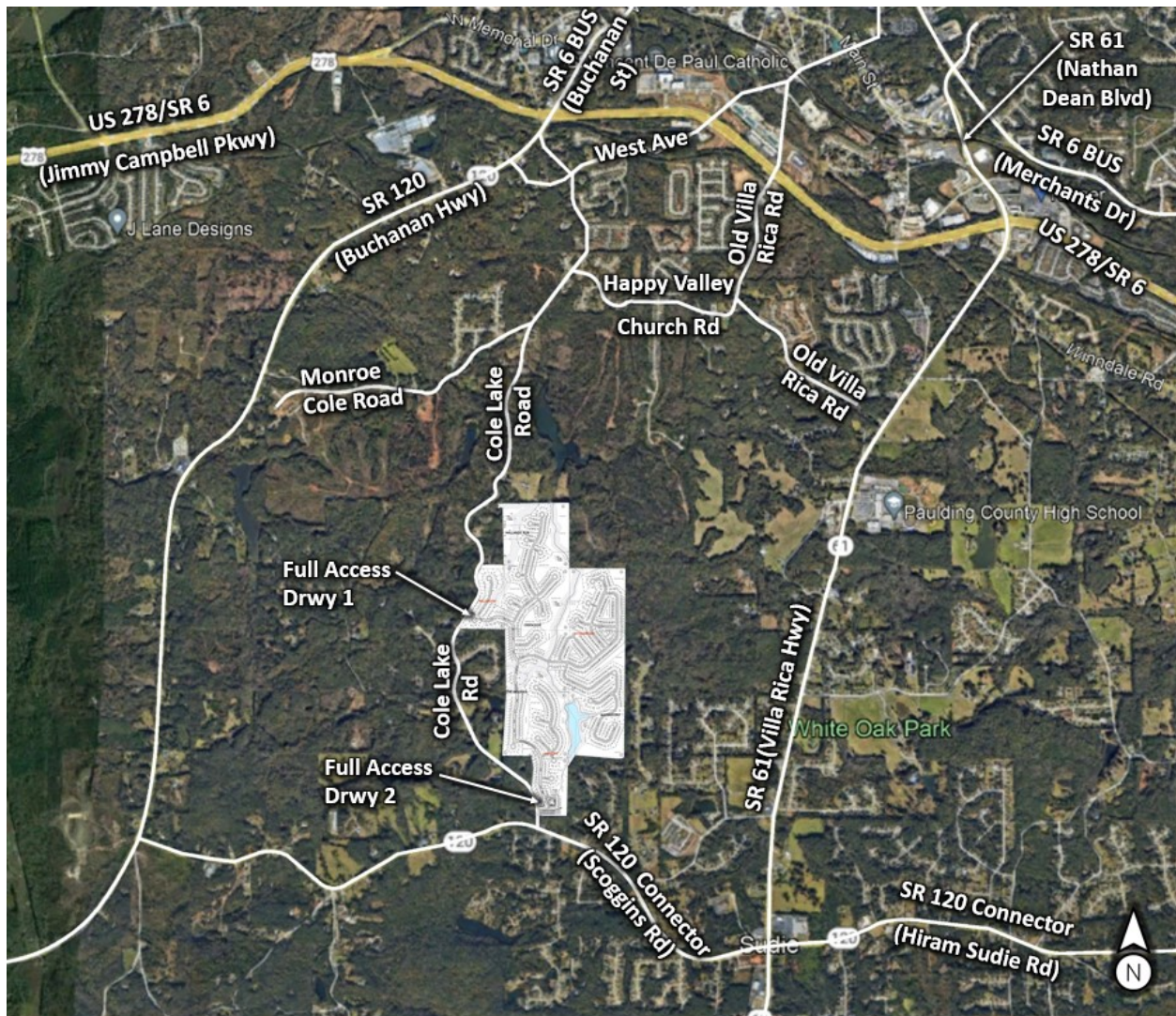
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INTRODUCTION

The purpose of this study is to determine the traffic impact that will result from the proposed residential development that will be located to the east of Cole Lake Road and north of SR 120 Connector (Scoggins Road) in the City of Dallas, Georgia. The traffic analysis evaluates the current operations and the future conditions with the traffic generated by the development. The development will consist of 670 units of single-family detached housing.



The development proposes access at the following locations:

- Site Driveway 1: Full access driveway on Cole Lake Road
- Site Driveway 2: Full access driveway on Cole Lake 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. Cole Lake Road and SR 120 Connector (Scoggins Road)
2. SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)
3. Cole Lake Road and Monroe Cole Road
4. West Avenue and Cole Lake Road
5. SR 120 (Buchanan Highway) and Cole Lake Road
6. Cole Lake Road and Happy Valley Church Road
7. Happy Valley Church Road and Old Villa Rica Road
8. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and Old Villa Rica Road
9. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and West Avenue/ South Main Street
10. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)/ SR 61 (Nathan Dean Boulevard)
11. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 120 (Buchanan Highway)/ SR 6 Business (Buchanan Street)
12. SR 61 (Nathan Dean Boulevard) and SR 6 Business (Merchants Drive)/ Hampton Drive
13. SR 61 (Nathan Dean Boulevard) and Henry Y Holland Drive
14. SR 61 (Nathan Dean Boulevard) and Thomas B Murphy Drive

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

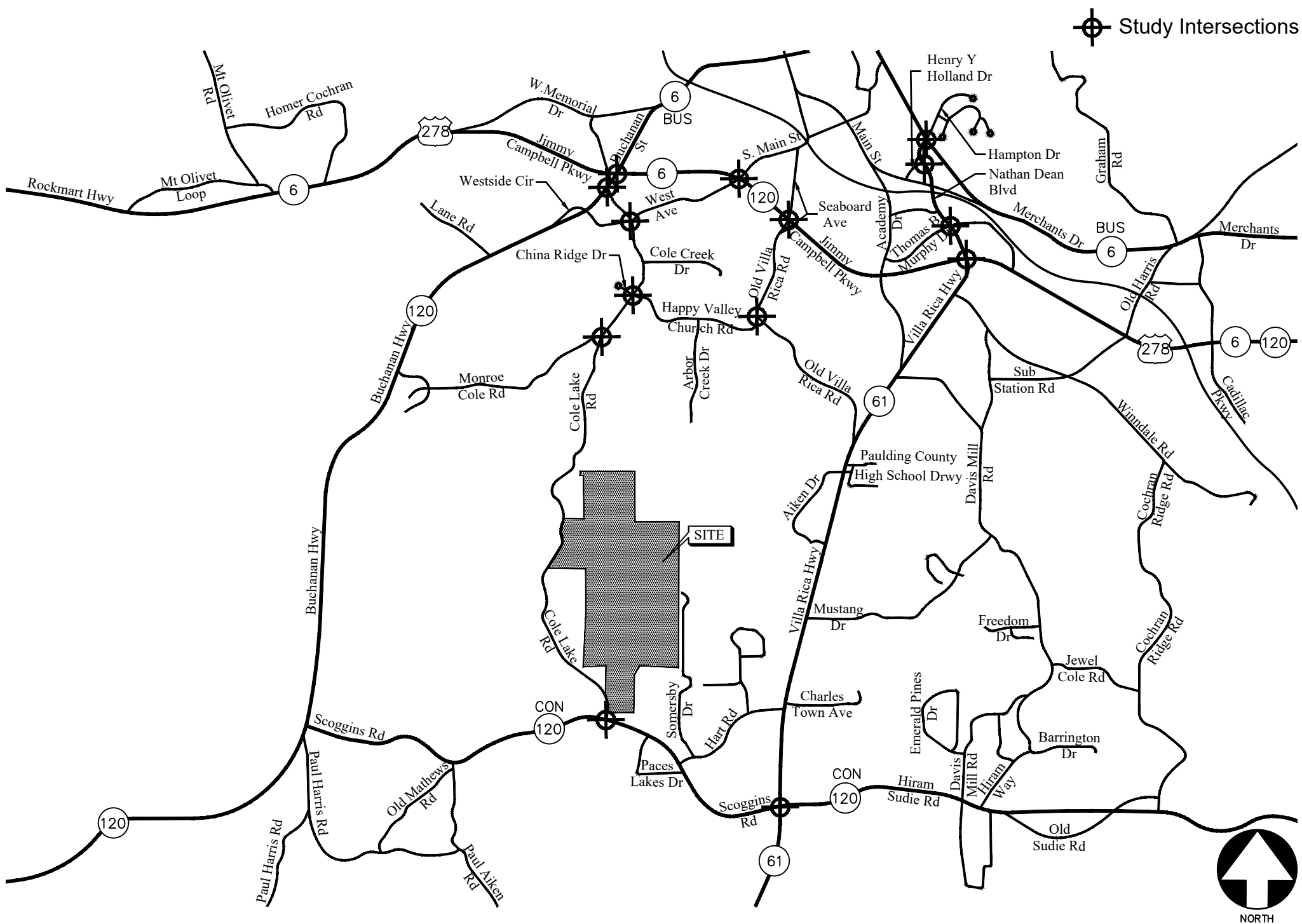
STUDY NETWORK DETERMINATION

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

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

1. Cole Lake Road and SR 120 Connector (Scoggins Road)
2. SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)
3. Cole Lake Road and Monroe Cole Road
4. West Avenue and Cole Lake Road
5. SR 120 (Buchanan Highway) and Cole Lake Road
6. Cole Lake Road and Happy Valley Church Road
7. Happy Valley Church Road and Old Villa Rica Road
8. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and Old Villa Rica Road
9. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and West Avenue/ South Main Street
10. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)/ SR 61 (Nathan Dean Boulevard)
11. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 120 (Buchanan Highway)/ SR 6 Business (Buchanan Street)
12. SR 61 (Nathan Dean Boulevard) and SR 6 Business (Merchants Drive)/ Hampton Drive
13. SR 61 (Nathan Dean Boulevard) and Henry Y Holland Drive
14. SR 61 (Nathan Dean Boulevard) and Thomas B Murphy Drive

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



LOCATION MAP

FIGURE 1
A&R Engineering Inc.

EXISTING ROADWAY FACILITIES

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

US 278/SR 6/SR 120 (Jimmy Campbell Parkway)

US 278/ SR 6/ SR 120/SR 6/ SR 120 (Jimmy Campbell Parkway) is an east-west, four-lane, median-divided roadway with a speed limit of 55 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) (Station ID's 223-0108 & 223-0110) indicate that the daily traffic volume on US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) in 2019 was 24,800 vehicles per day east of SR 6 Business (Buchanan Street) and 28,100 vehicles per day west of SR 61 (Villa Rica Highway). GDOT classifies US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) as a Principal Urban Arterial roadway.

SR 61 (Villa Rica Highway)

SR 61 (Villa Rica Highway) is a north-south, two-lane, undivided roadway with a posted speed limit of 55 mph in the vicinity of the site. GDOT traffic counts (Station ID's 223-0141) indicate that the daily traffic volume on SR 61 (Villa Rica Highway) in 2019 was 17,700 vehicles per day south of US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway). GDOT classifies SR 61 (Villa Rica Highway) as an Urban Minor Arterial roadway.

SR 61 (Nathan Dean Boulevard)

SR 61 (Nathan Dean Boulevard) is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID's 223-0143) indicate that the daily traffic volume on SR 61 (Nathan Dean Boulevard) in 2019 was 8,610 vehicles per day north of US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway). GDOT classifies SR 61 (Nathan Dean Boulevard) as an Urban Minor Arterial roadway.

SR 120 (Buchanan Highway)

SR 120 (Buchanan Highway) is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID's 223-0218) indicate that the daily traffic volume on SR 120 (Buchanan Highway) in 2019 was 7,690 vehicles per day north of McMichen Road. GDOT classifies SR 120 (Buchanan Highway) as an Urban Minor Arterial roadway.

SR 6 Business (Buchanan Street)

SR 6 Business (Buchanan Street) is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. GDOT traffic counts (Station ID's 223-0219) indicate that the daily traffic volume on SR 6 Business (Buchanan Street) in 2019 was 6,630 vehicles per day north of US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway). GDOT classifies SR 6 Business (Buchanan Street) as an Urban Minor Arterial roadway.

SR 120 Connector (Scoggins Road)

SR 120 Connector (Scoggins 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 223-0234) indicate that the daily traffic volume on SR 120 Connector (Scoggins Road) in 2019 was 2,720 vehicles per day west of Cole Lake Road. GDOT classifies SR 120 Connector (Scoggins Road) as an Urban Minor Arterial roadway.

SR 120 Connector (Hiram Sudie Road)

SR 120 Connector (Hiram Sudie 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 223-0236) indicate that the daily traffic volume on SR 120 Connector (Hiram Sudie Road) in 2019 was 10,200 vehicles per day east of SR 61 (Villa Rica Highway). GDOT classifies SR 120 Connector (Hiram Sudie Road) as an Urban Minor Arterial roadway.

SR 6 Business (Merchants Drive)

SR 6 Business (Merchants Drive) 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 223-0118 & 223-0116) indicate that the daily traffic volume on SR 6 Business (Merchants Drive) in 2019 was 9,970 vehicles per day east of SR 61 (Nathan Dean Boulevard) and 20,600 vehicles per day west of SR 61 (Nathan Dean Boulevard). GDOT classifies SR 6 Business (Merchants Drive) as an Urban Minor Arterial roadway.

Cole Lake Road

Cole Lake Road is a north-south, two-lane, undivided roadway with a posted speed limit of 35 mph in the vicinity of the site.

Monroe Cole Road

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

West Avenue

West Avenue is an east-west, two-lane, undivided roadway with a posted speed limit of 25 mph in the vicinity of the site. West Avenue is a one-way roadway between Trailside Drive and Cole Lake Road.

Happy Valley Church Road

Happy Valley Church Road is an east-west, two-lane, undivided roadway with a posted speed limit of 30 mph in the vicinity of the site.

Old Villa Rica Road

Old Villa Rica Road is a north-south, two-lane, undivided roadway with a posted speed limit of 30 mph in the vicinity of the site.

South Main Street

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

Seaboard Drive

Seaboard Drive is a north-south, two-lane, undivided roadway with a posted speed limit of 30 mph in the vicinity of the site.

Thomas B Murphy Drive

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

Henry Y Holland Drive

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

Hampton Drive

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

China Ridge Drive

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

Existing Bicycle and Pedestrian Facilities

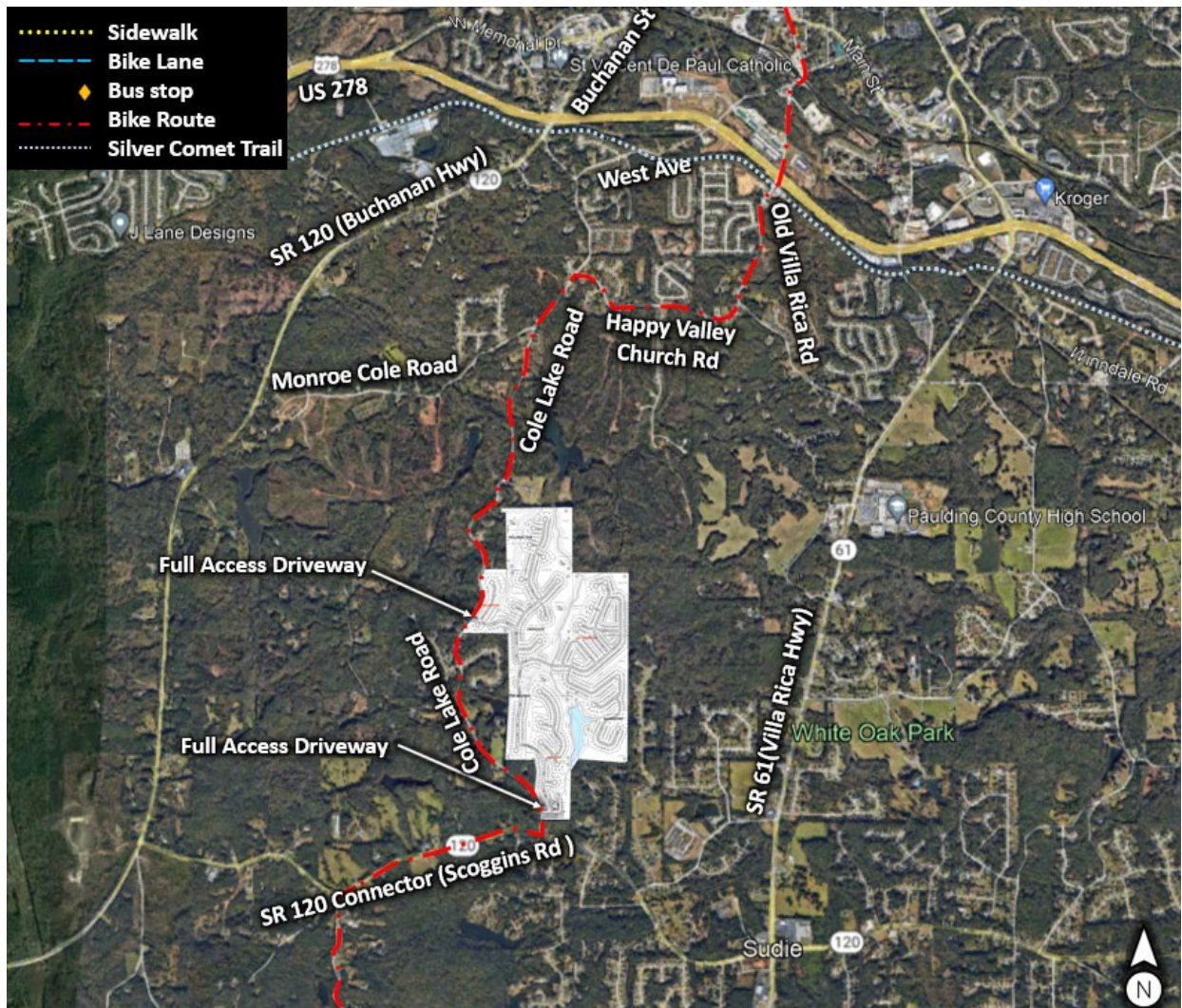
- No sidewalks, bike lanes, or bus stops were identified in the vicinity of the proposed development.
- Crosswalks are not available at the neighboring intersections to the proposed site.
- Silver Comet Trail runs north of the proposed site alongside US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway).
- Cole Lake Road is a regionally designated bike route

Alternative Modes of Access

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

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

Existing Alternative Transportation Map



STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 6th edition (HCM 6). Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

Unsignalized Intersections

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

Control delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Several factors affect the control delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps and follow-up time for a vehicle in the queue.

Level-of-service is assigned a letter designation from "A" through "F". Level-of-service "A" indicates excellent operations with little delay to motorists, while level-of-service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross the main road without experiencing long delays.

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

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

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

Signalized Intersections

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

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

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

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

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

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

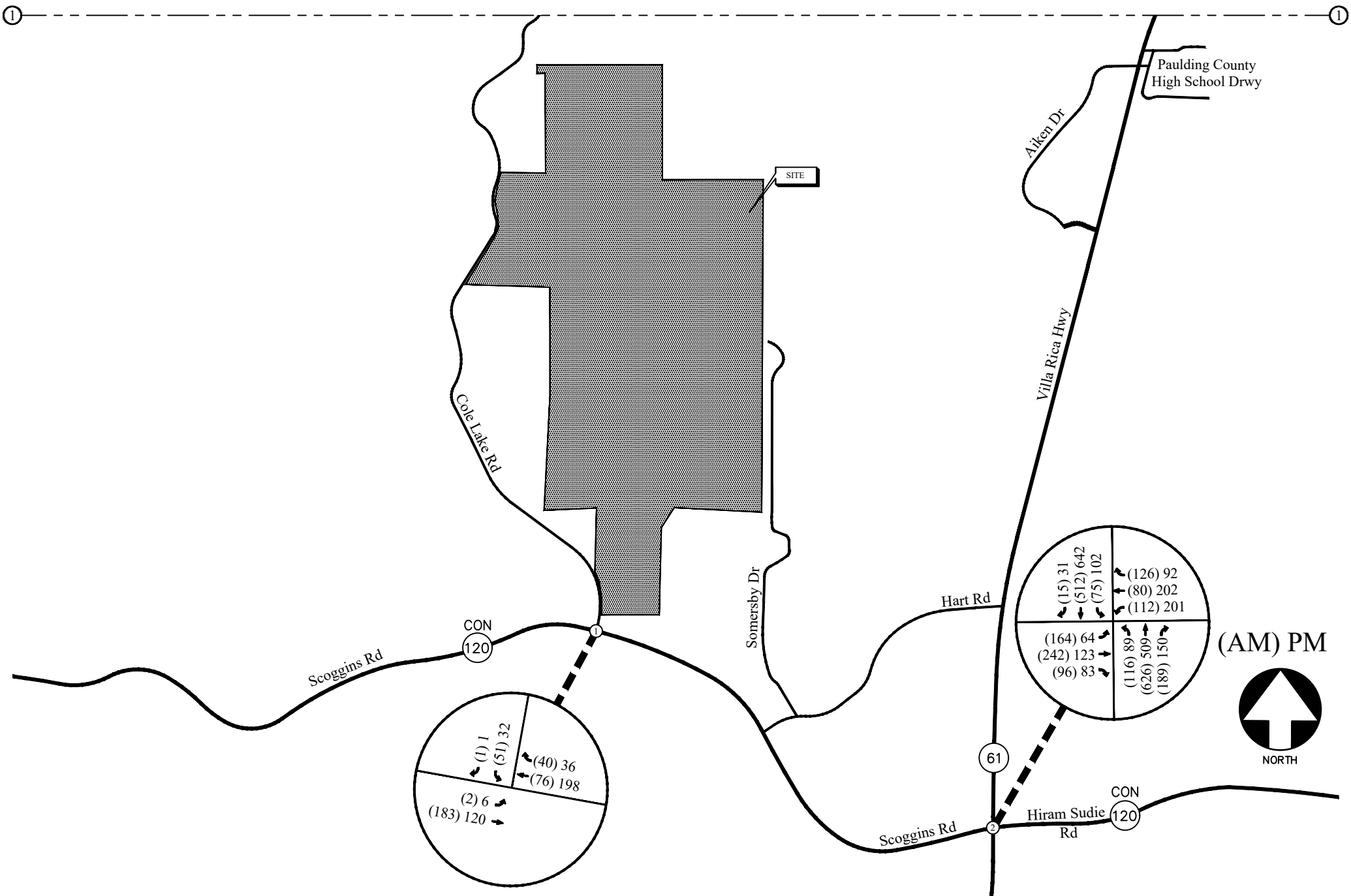
EXISTING 2022 TRAFFIC ANALYSIS

Existing Traffic Volumes

Existing traffic counts were obtained at the following study intersections:

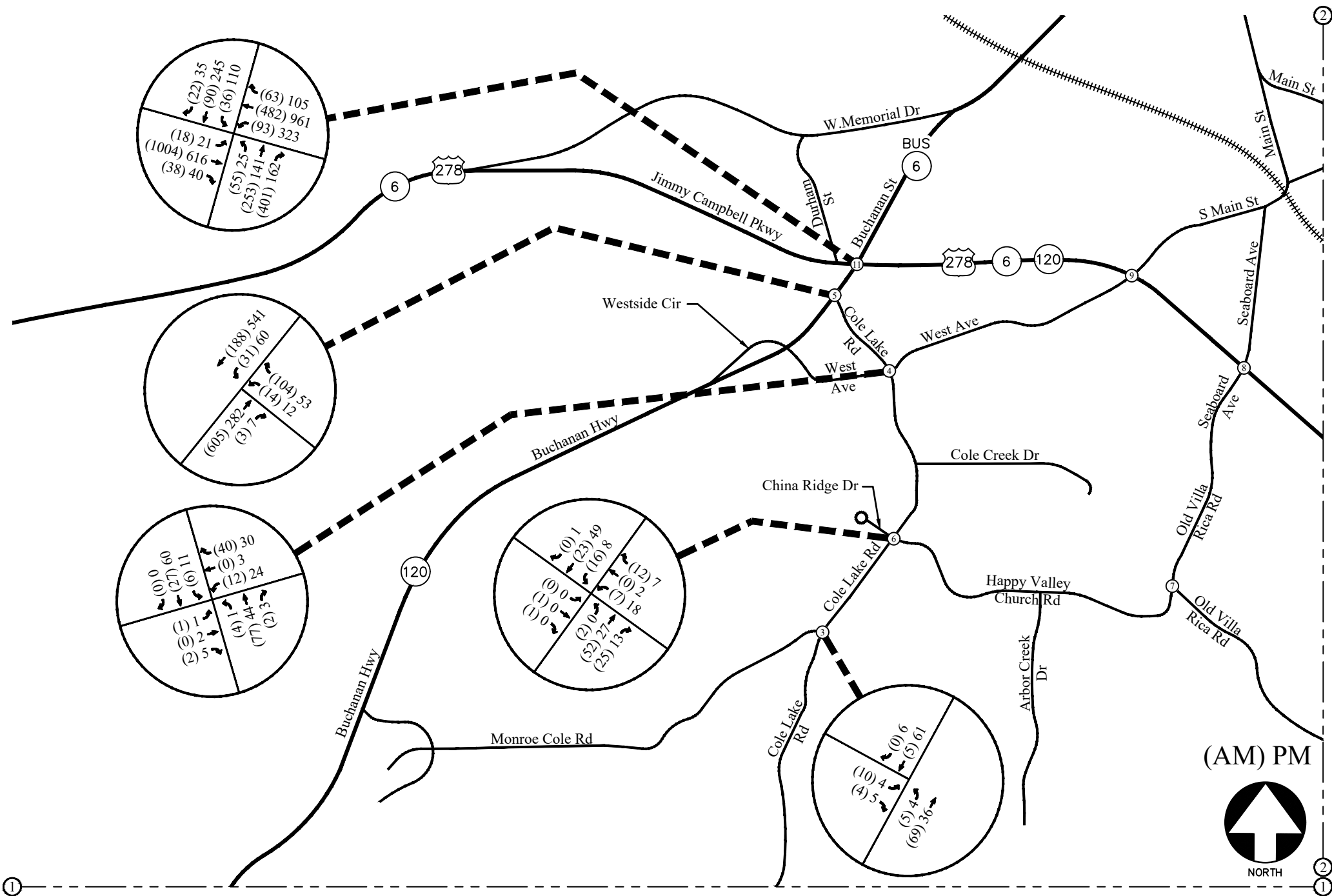
1. Cole Lake Road and SR 120 Connector (Scoggins Road)
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6. Cole Lake Road and Happy Valley Church Road
7. Happy Valley Church Road and Old Villa Rica Road
8. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and Old Villa Rica Road
9. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and West Avenue/ South Main Street
10. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)/ SR 61 (Nathan Dean Boulevard)
11. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 120 (Buchanan Highway)/ SR 6 Business (Buchanan Street)
12. SR 61 (Nathan Dean Boulevard) and SR 6 Business (Merchants Drive)/ Hampton Drive
13. SR 61 (Nathan Dean Boulevard) and Henry Y Holland Drive
14. SR 61 (Nathan Dean Boulevard) and Thomas B Murphy Drive

Turning movement counts were collected on Tuesday, April 12, 2022. All turning movement counts were recorded during the AM and PM peak hours between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2A, 2B and 2C.



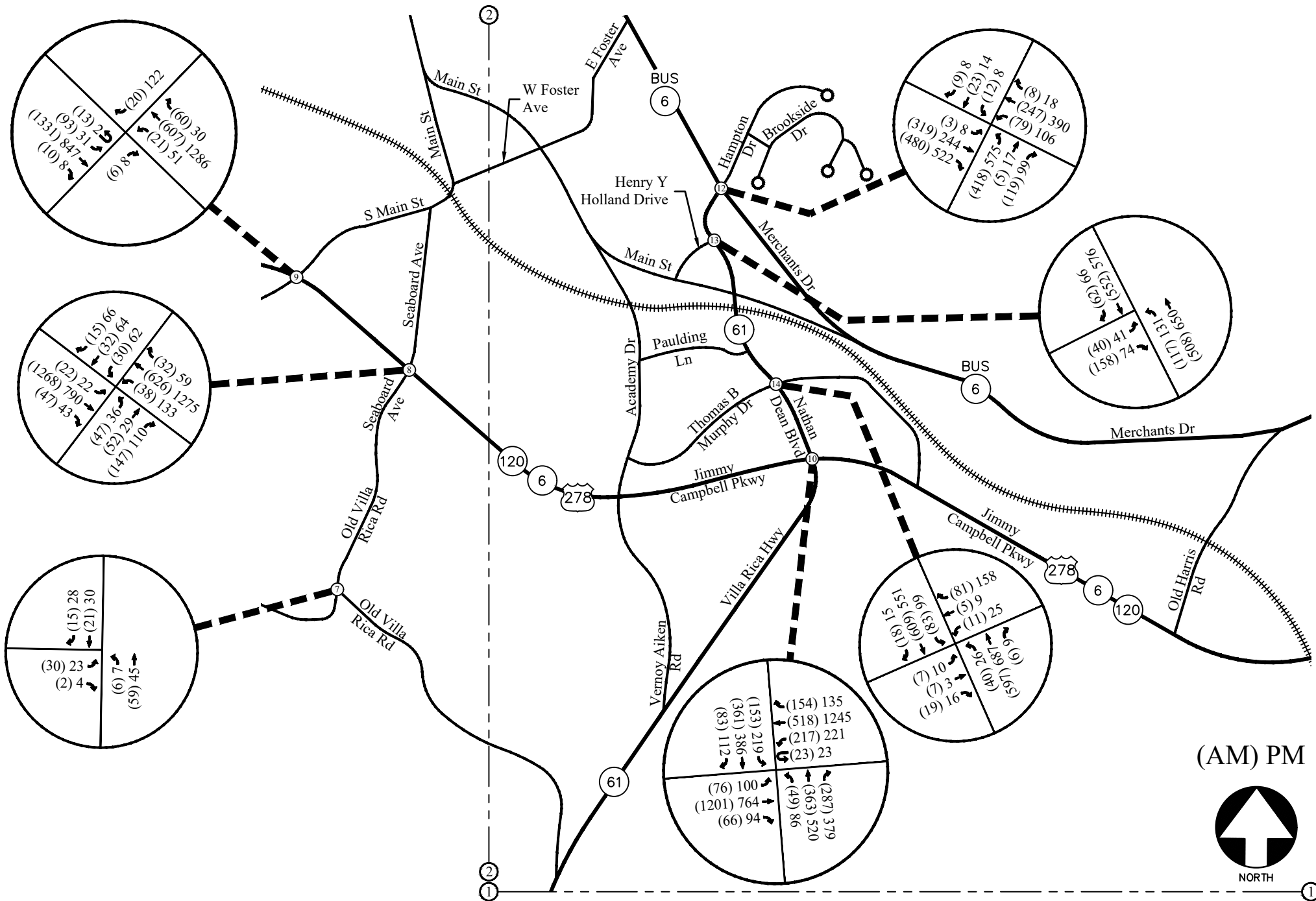
EXISTING WEEKDAY PEAK-HOUR VOLUMES 1 OF 3

FIGURE 2A
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EXISTING WEEKDAY PEAK-HOUR VOLUMES 2 OF 3

FIGURE 2B
A&R Engineering Inc.



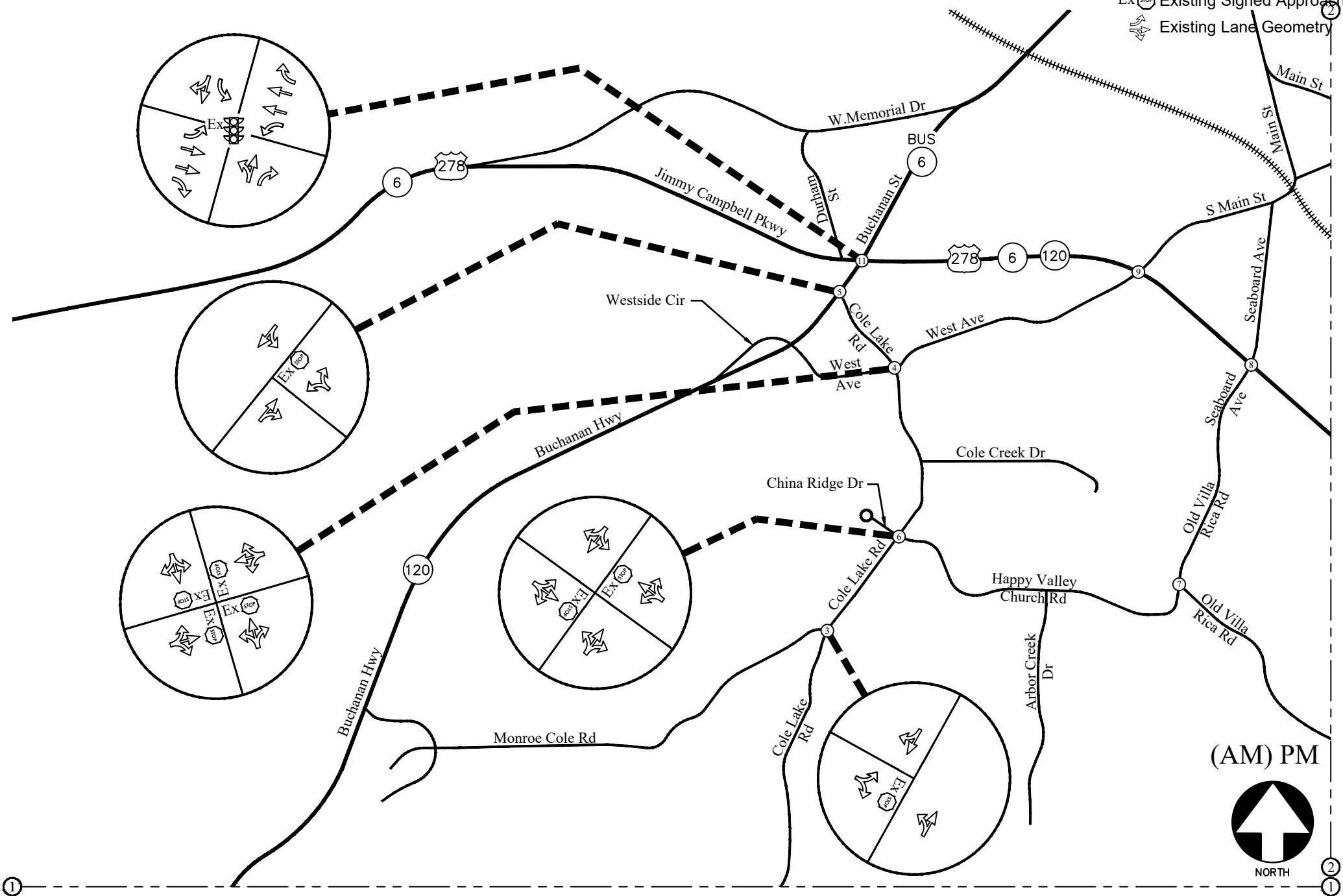
EXISTING WEEKDAY PEAK-HOUR VOLUMES 3 OF 3

FIGURE 2C
A&R Engineering Inc.

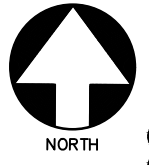
FIGURE 3A
A&R Engineering Inc.

LEGEND

- Ex  Existing Signed Approach
-  Existing Lane Geometry



(AM) PM



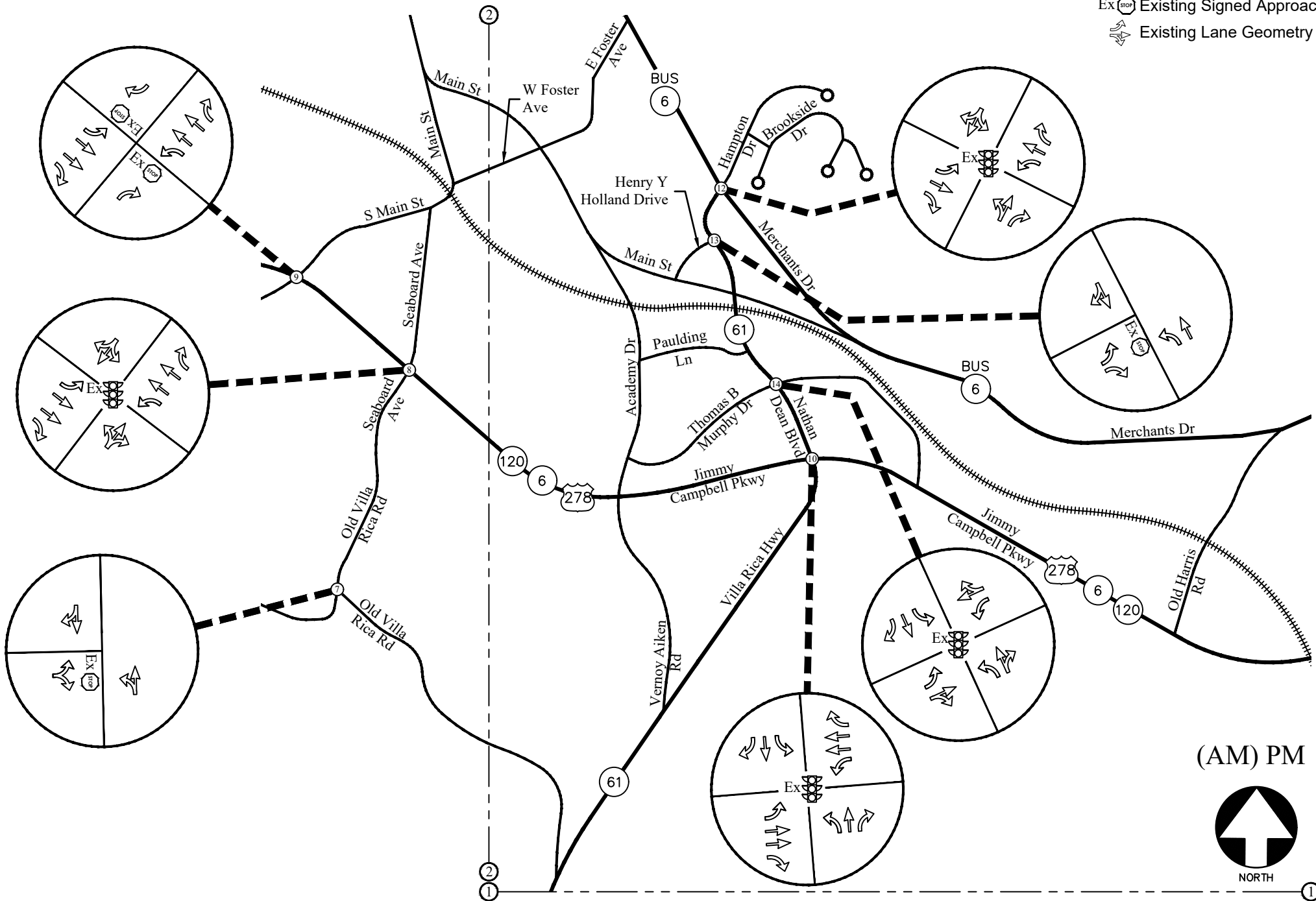
EXISTING TRAFFIC CONTROL AND LANE GEOMETRY 2 OF 3

FIGURE 3B
A&R Engineering Inc.

LEGEND

Ex  Existing Signed Approach

 Existing Lane Geometry



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY 3 OF 3

FIGURE 3C
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. The existing traffic control and lane geometry for the intersections are shown in Figure 3A, 3B and 3C.

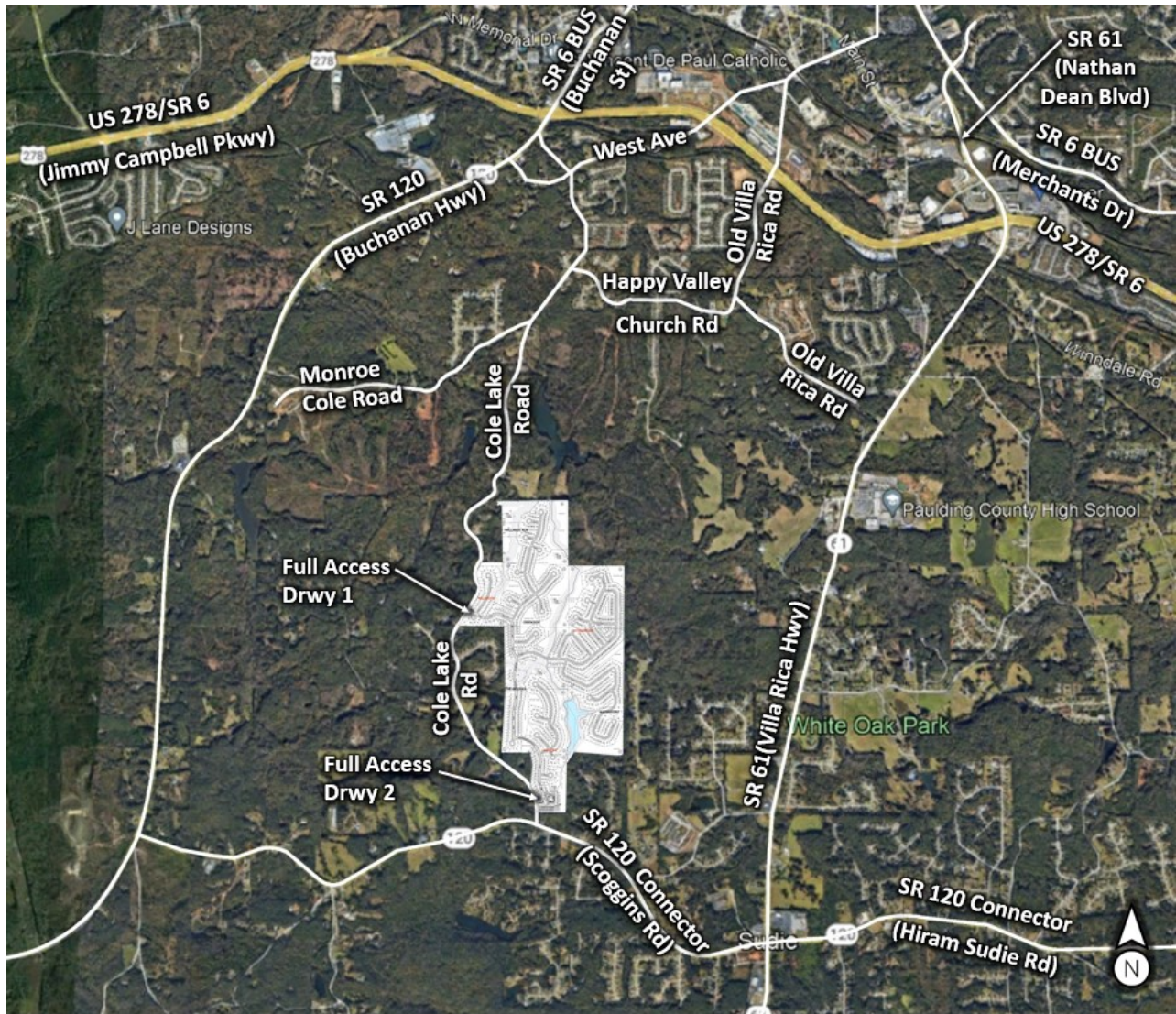
TABLE 3 — EXISTING INTERSECTION OPERATIONS					
	Intersection	Traffic Control	AM Peak	PM Peak	LOS Standard
1	<u>SR 120 Connector (Scoggins Road) @ Cole Lake Road</u> -Eastbound Left -Southbound Approach	Stop Controlled on SB Approach	A (7.5) B (11.5)	A (7.8) B (11.4)	D/D D/D
2	<u>SR 120 Connector (Scoggins Road / Hiram Sudie Road) @ SR 61 (Villa Rica Highway)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>C (25.0)</u> D (43.1) D (47.3) B (16.8) B (15.6)	<u>C (25.4)</u> D (40.9) D (46.7) B (15.8) B (17.8)	<u>D/D</u> D/D D/D D/D D/D
3	<u>Cole Lake Road @ Monroe Cole Road</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	A (8.9) A (7.2)	A (8.9) A (7.4)	D/D D/D
4	<u>Cole Lake Road @ West Avenue</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	All Way Stop Controlled	<u>A (7.4)</u> A (7.0) A (7.1) A (7.6) A (7.4)	<u>A (7.4)</u> A (7.0) A (7.3) A (7.4) A (7.6)	<u>D/D</u> D/D D/D D/D D/D
5	<u>SR 120 (Buchanan Highway) @ Cole Lake Road</u> -Westbound Approach -Southbound Left	Stop Controlled on WB Approach	C (18.5) A (9.2)	B (12.9) A (8.1)	D/D D/D
6	<u>Cole Lake Road @ Happy Valley Church Road / China Ridge Drive</u> -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	Stop Controlled on EB and WB Approaches	A (9.3) A (9.1) A (7.3) A (7.4)	A (0.0) A (9.2) A (0.0) A (7.3)	D/D D/D D/D D/D
7	<u>Old Villa Rica Road @ Happy Valley Church Road</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	A (9.3) A (7.3)	A (9.1) A (7.3)	D/D D/D
8	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ Old Villa Rica Road / Seaboard Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>A (10.0)</u> A (7.7) A (5.0) D (51.7) D (48.9)	<u>B (11.4)</u> A (7.5) A (8.6) D (46.8) D (50.7)	<u>D/D</u> D/D D/D D/D D/D

9	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ South Main Street / West Avenue</u> -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	Stop Controlled on NB and SB Approaches	A (9.7) B (12.7) B (14.5) B (10.5)	B (14.7) B (10.3) B (11.7) C (19.7)	D/D D/D D/D D/D
10	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 61 (Nathan Dean Boulevard)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>D (38.2)</u> C (24.8) D (41.3) D (49.4) E (58.2)	<u>D (48.8)</u> C (28.8) D (42.2) D (46.2) F (96.2)	<u>D/D</u> D/D D/D D/D D/D
11	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 120 (Buchanan Highway) / SR 6 Business (Buchanan Street)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>C (31.6)</u> C (27.6) B (19.9) D (48.0) C (26.6)	<u>C (24.6)</u> B (18.6) B (14.6) D (55.0) D (41.8)	<u>D/D</u> D/D D/D D/D D/D
12	<u>SR 6 Business (Merchants Drive) @ SR 61 (Nathan Dean Boulevard) / Hampton Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>C (34.1)</u> C (22.3) B (17.6) D (53.4) E (60.4)	<u>D (45.2)</u> C (26.7) C (25.0) E (69.8) E (59.4)	<u>D/D</u> D/D D/D D/D D/D
13	<u>SR 61 (Nathan Dean Boulevard) @ Henry Y Holland Drive</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	C (20.0) A (9.3)	E (35.3) A (9.7)	D/D D/D
14	<u>SR 61 (Nathan Dean Boulevard) @ Thomas B Murphy Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<u>A (7.6)</u> D (44.8) D (51.2) A (3.4) A (3.7)	<u>B (11.5)</u> D (41.0) D (46.6) A (6.0) A (6.0)	<u>D/D</u> D/D D/D D/D D/D

The results of existing traffic operations analysis indicate that all the study intersections (signalized) are operating at an overall level-of-service "D" or better in both the AM and PM peak hours. Most of the unsignalized intersections are operating at a level-of-service "C" or better in both the AM and PM peak hours. Approaches that are operating at a level of service "E" and "F" will be addressed in the future traffic operations sections.

PROJECT DESCRIPTION

The proposed residential development will be located to the east of Cole Lake Road and north of SR 120 Connector (Scoggins Road) in the City of Dallas, Georgia. The development will consist of 670 units of single-family detached housing.



The development proposes access at the following locations:

- Site Driveway 1: Full access driveway on Cole Lake Road
- Site Driveway 2: Full access driveway on Cole Lake Road

Site Plan

A site plan is shown in Figure 4.



A MASTER-PLANNED COMMUNITY
BY DAVID PEARSON COMMUNITIES, INC.

7.5 ACRE AMENITY INCLUDING

- DESIGNER COMPLIMENTED 2 STORY CLUBHOUSE WITH LOUNGE AREA, BANQUET ROOM WITH KITCHEN, GYM AND GAME ROOM
- LARGE POOL WITH OVERSIZED SUNDECK
- ZERO ENTRY BEACH POOL
- SPLASH FOUNTAIN FOR KIDS
- 2 LIGHTED REGULATION TENNIS COURTS
- 11 COURT PICKLE BALL TOURNAMENT FACILITY WITH COVERED VIEWING PAVILLION
- BEACH VOLLEY BALL COURT
- FULL SIZE BASKETBALL COURT
- SPACIOUS CHILDRENS PLAY GROUND
- FENCED PARK FOR BOTH LARGE AND SMALL DOGS
- NATURE TRAIL SYSTEM
- LAKE PAVILLION W/ PARKING
- FENCED PARK FOR BOTH LARGE AND SMALL DOGS

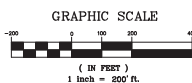
NOTES:
ALL BASEMENTS OF RECORD FOUND ARE SHOWN.
THERE ARE NO KNOWN CEMETARIES, ARCHITECTURAL, OR ARCHAEOLOGICAL LANDMARKS FOUND DURING THE FIELD SURVEY AND RECORDS REVIEW.
ALL PARKING TO BE TO CITY STANDARDS AND SPECIFICATIONS.
ALL PROPOSED RIGHTS OF WAY ARE 50' MINIMUM. ALL ROADS ARE MINIMUM 24' BC-BC WITH MINIMUM 10' PAVED LANES. ALL CUL-DE-SACS ARE 50' RADII. WITH 40' BACK OF CURB RADI.

SITE NOTES

PROPOSED USE: SINGLE FAMILY RESIDENTIAL
CURRENT ZONING - R2
PROPOSED CONDITIONAL ZONING - MASTER PLANNED RESIDENTIAL DISTRICT
TOTAL TRACT ACREAGE - 316.2 AC.
TOTAL LOTS - 670
DENSITY - 212 U/A
MINIMUM LOT SIZE: 6,000 S.F.
MINIMUM LOT FRONTAGE: 50 FT.
MINIMUM LOT WIDTH AT SETBACK - 50 FT.

SETBACKS

FRONT - 25'
SIDE - 10' BETWEEN BLDGS.
MAJOR SIDE - 15'
REAR INTERIOR - 20'
EXTERIOR - 25'



ENTRANCE DRIVEWAY 2

CONCEPTUAL PLAN FOR:
3097 COLE LAKE RD
PARCEL ID: 170.2-3.001.0000
LOCATED IN LAND LOTS 588, 638, 639,
AND LAND LOTS 640, 658, 659, 710 & 712
2ND SECTION, 3RD DISTRICT
DALLAS, GEORGIA 30157
PAULDING COUNTY, GA.

DAVID PEARSON COMMUNITIES, INC.

2000 FIRST DRIVE, STE 400, MARIETTA GA, 30062. PHONE: 770-321-5032

DRAWN BY: MSF/ASC	DATE: 04/6/21
CHECKED BY: DP	DRAWING NO.: CONCEPT
JOB NO.: COLE-LAKE	SHEET 1 OF 1
NO. DATE	REVISION DESCRIPTION
1 4-1-22	REVISED CONCEPT
	BY DP

Planned Bicycle and Pedestrian Facilities

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

Potential Pedestrian and Bicycle Destinations

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

- White Oaks Park
- Veterans Memorial Park
- Silver Comet Trail
- Tara Drummond Trailhead
- Paulding Chamber Trailhead

External Pedestrian Connections will be provided to encourage future connections to Kroger, Paulding High School, and other major sites.

Planned Transit Facilities

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

Consistency with Adopted Comprehensive Plan

The site is currently zoned as R-2 Suburban Residential District and is requesting a rezoning to Conditional Zoning. According to Unified Growth Policy Map the proposed development falls under Developing Suburbs land use area. The future land use map zoning for the site will be community residential. The land use vision and goals of City of Dallas are to coordinate infrastructure expansion with land use to encourage the expansion of infrastructure networks that are guided by the future development map.

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

Future Land Use Map

Future Land Use Map Zoning	Community Residential Character Area
Land Use Vision and Goals for City of Dallas	The land use vision and goal are to coordinate infrastructure expansion with land use to encourage the expansion of infrastructure networks
Relation to Existing Land Use Plans	The proposed residential development is consistent with the land use vision and goals since the proposed development consists of residential

The proposed residential 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 2026.

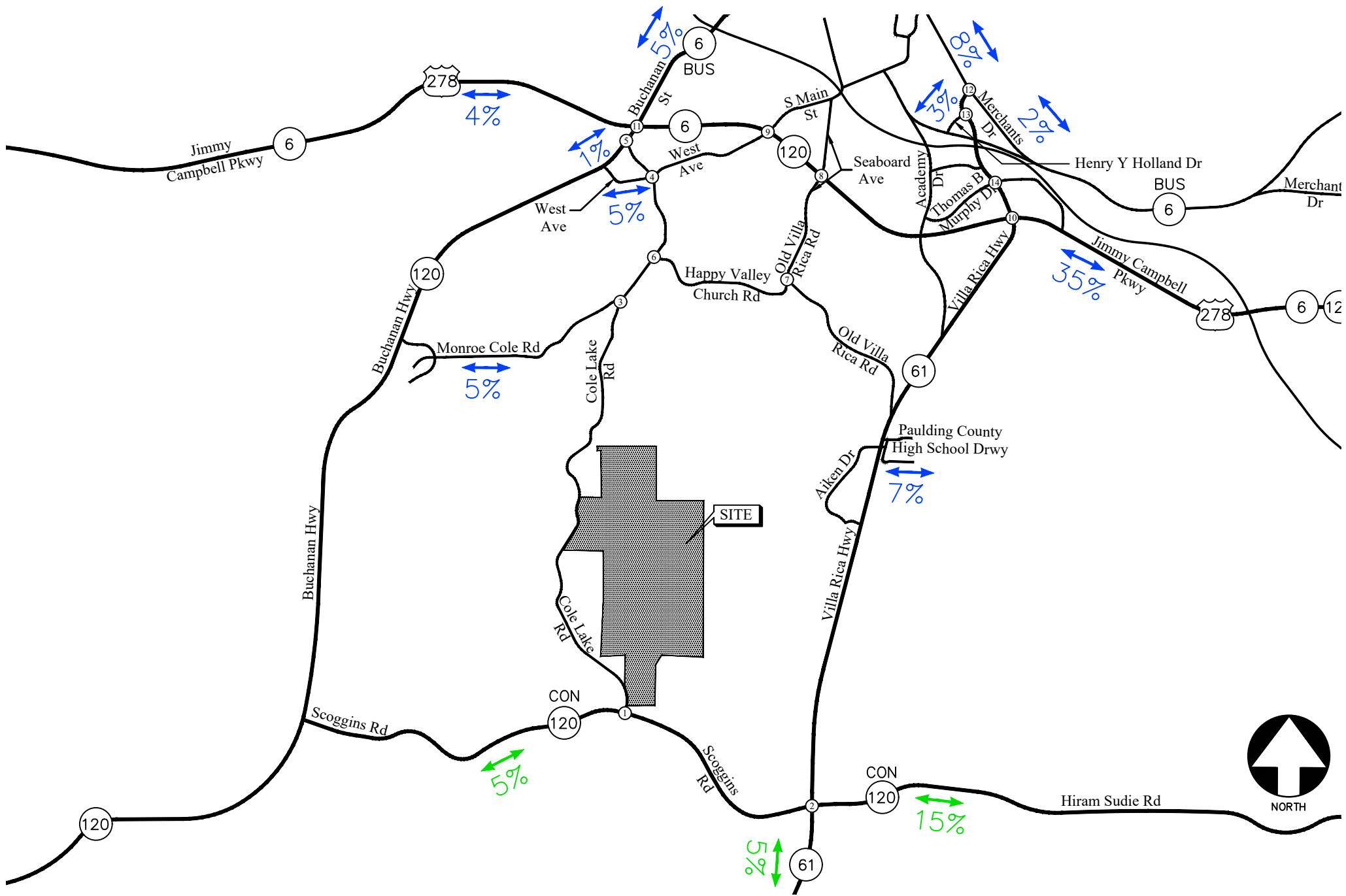
Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 11th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the following ITE Land Use: *210 – Single-Family Detached Housing*. Per GRTA's request, the average rate equation was used for trip generation. The calculated total trip generation for the proposed development is shown in Table 4.

TABLE 4 – TRIP GENERATION								
Land Use	Size	AM Peak Hour			PM Peak Hour			24-Hour
		Enter	Exit	Total	Enter	Exit	Total	2-way
ITE 210 – Single-Family Detached Housing	670 Units	122	347	469	397	233	630	6,318

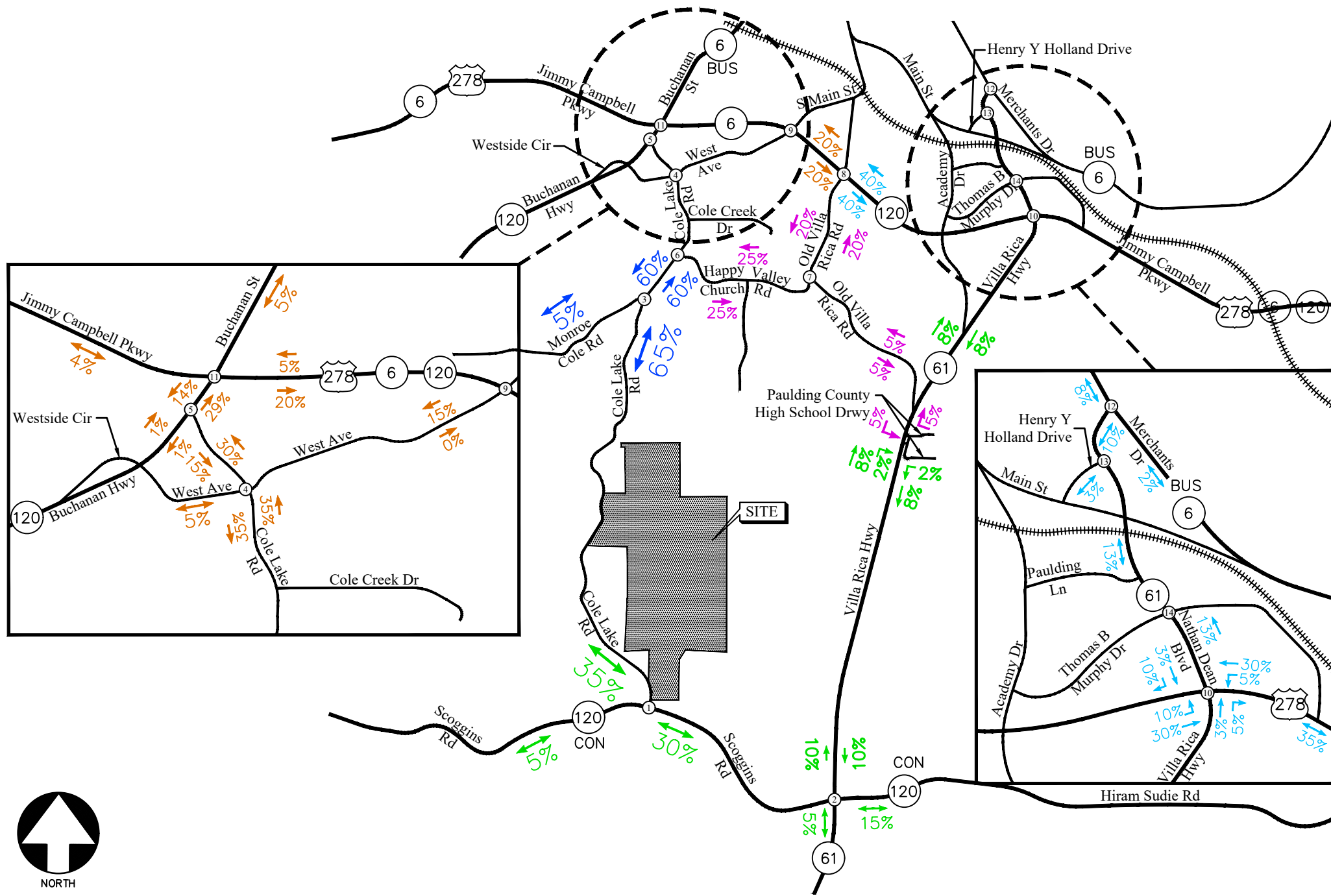
Trip Distribution

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, internal trip distribution and AM and PM peak hour new traffic generated by the site are shown in Figure 5A, 5B, 5C, 5D and 5E.



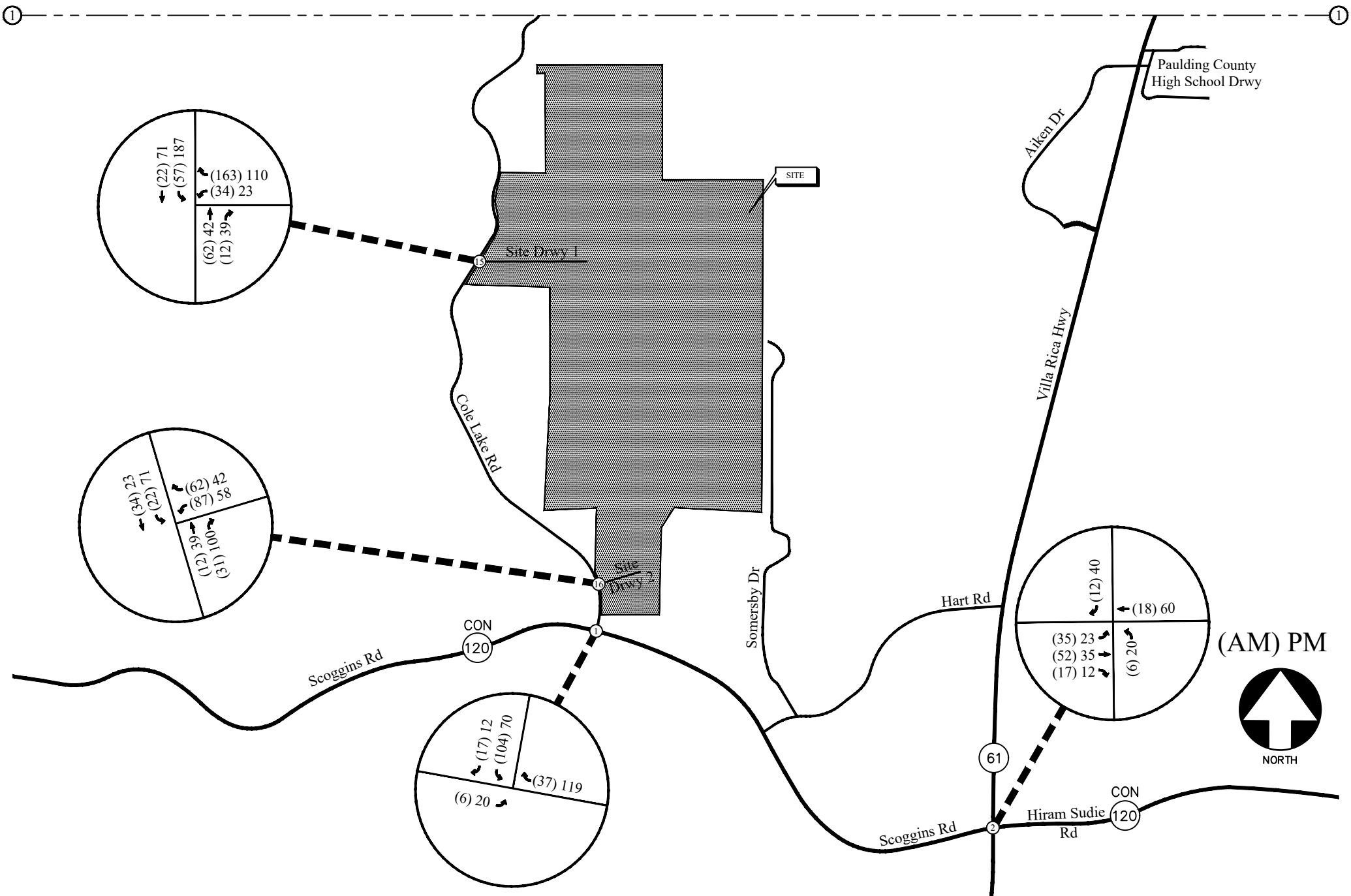
OUTER LEG TRIP DISTRIBUTION

FIGURE 5A
A&R Engineering Inc.



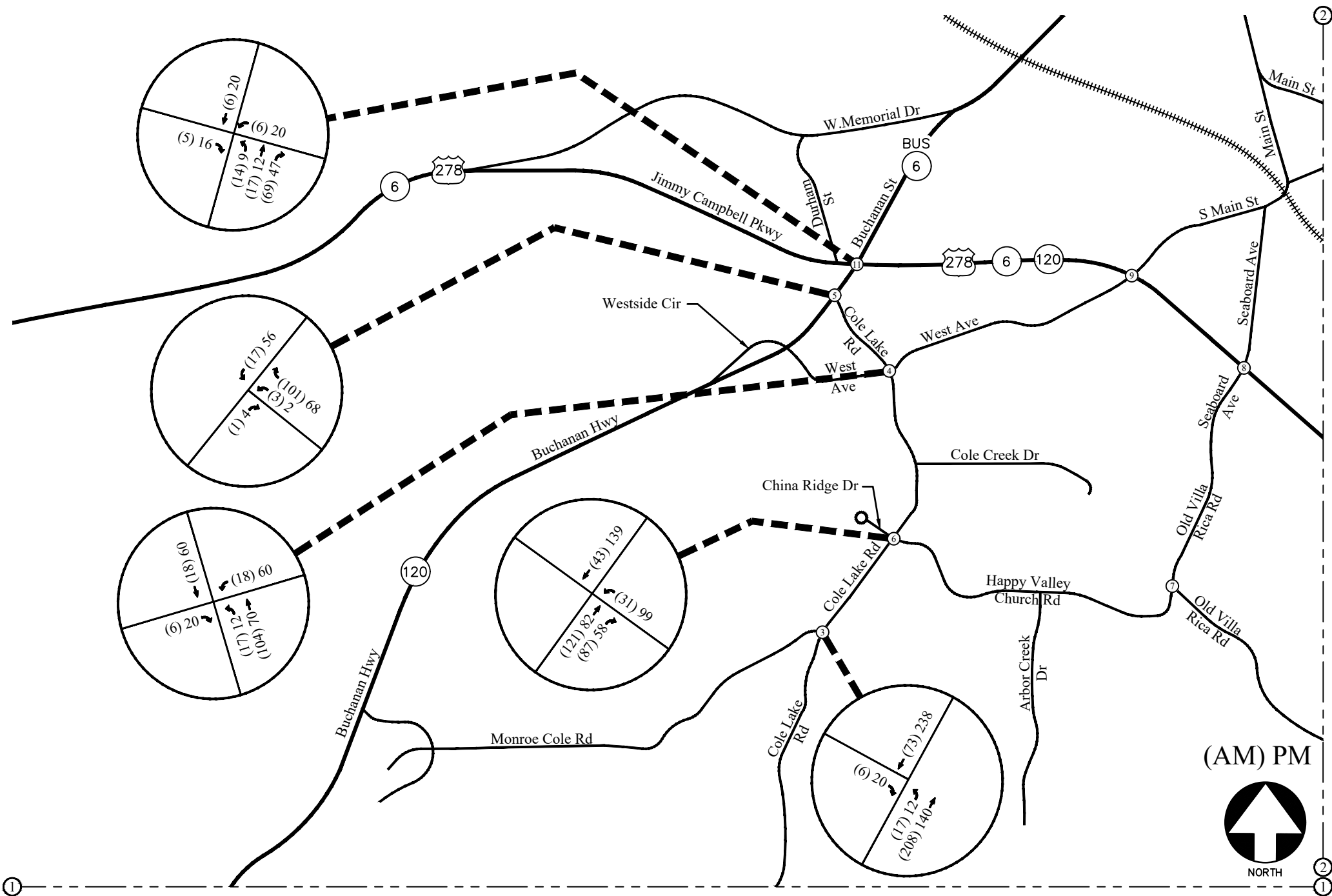
INTERNAL TRIP DISTRIBUTION

FIGURE 5B
A&R Engineering Inc.



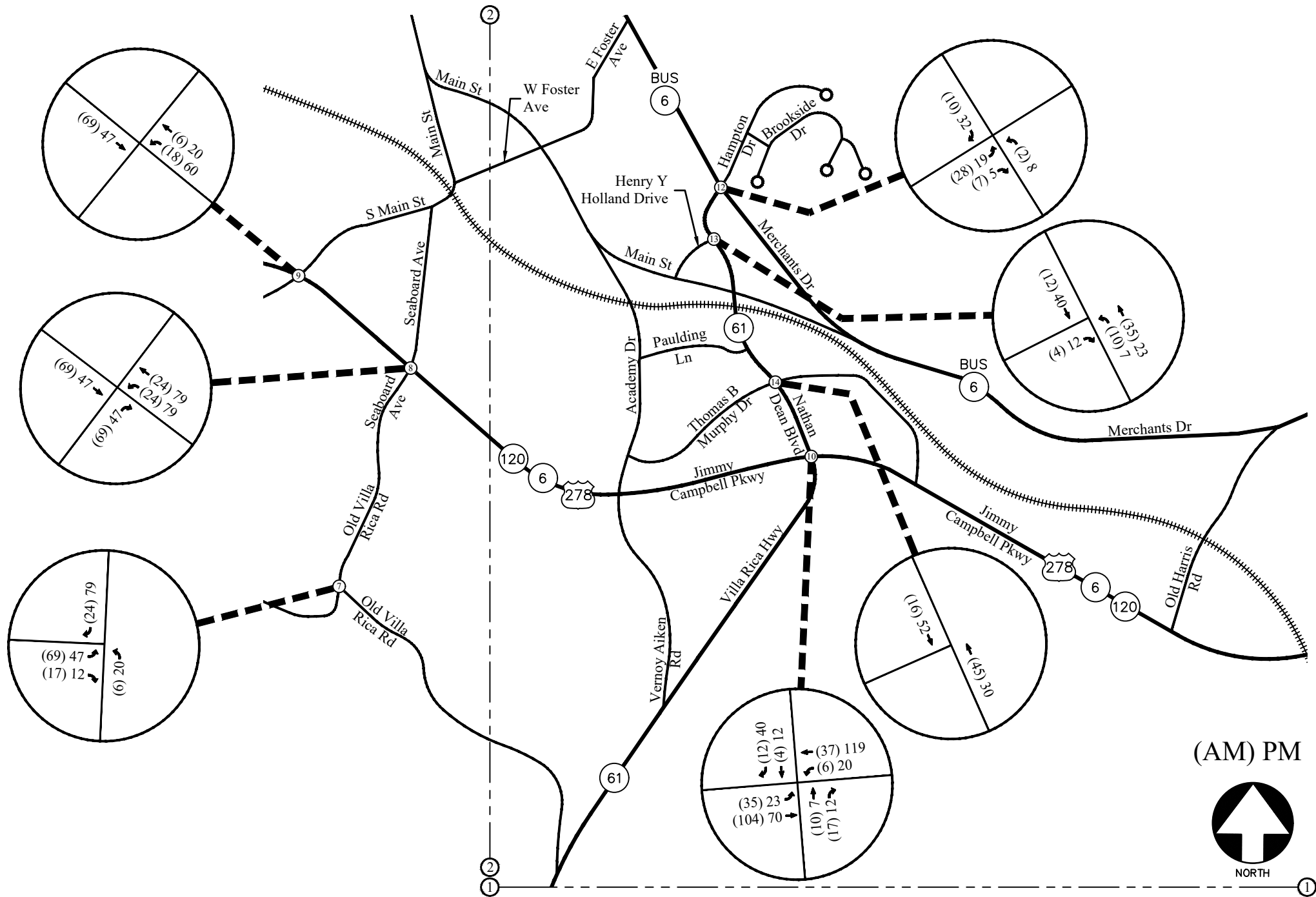
SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES 1 OF 3

FIGURE 5C
A&R Engineering Inc.



SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES 2 OF 3

FIGURE 5D
A&R Engineering Inc.



FUTURE 2026 TRAFFIC ANALYSIS

The future 2026 traffic operations are analyzed for the “Build” and “No-Build” conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic. Note that survey and construction drawings would be needed to verify the feasibility and extent of additional right-of-way required for any recommended improvements.

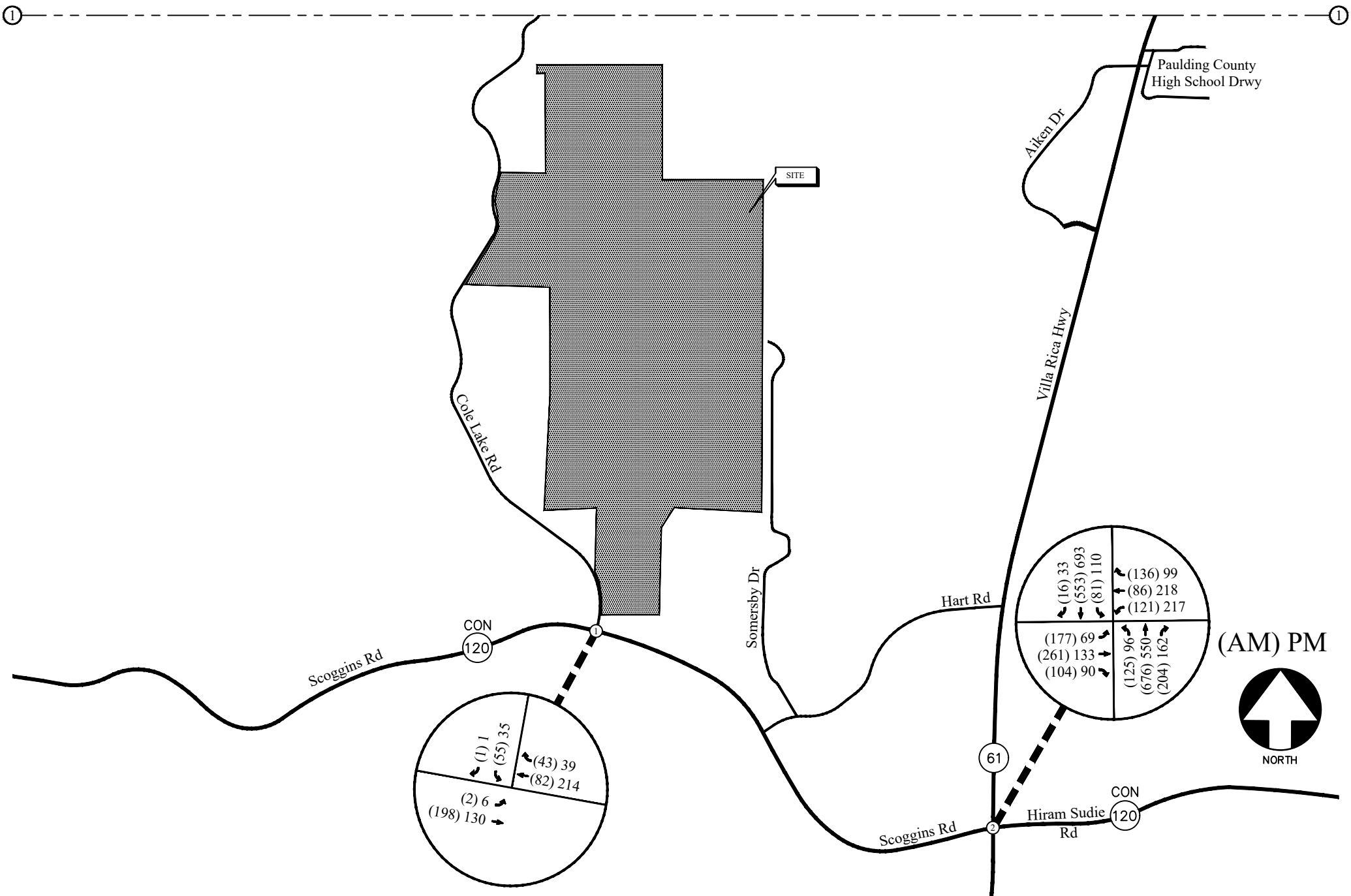
Improvements that are identified as “System Improvements” address deficiencies that are found within the existing road network prior to any impacts from the proposed development’s added traffic. Improvements that are identified as “Site Mitigation Improvements” address further impacts that are a result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

Future “No-Build” Conditions

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

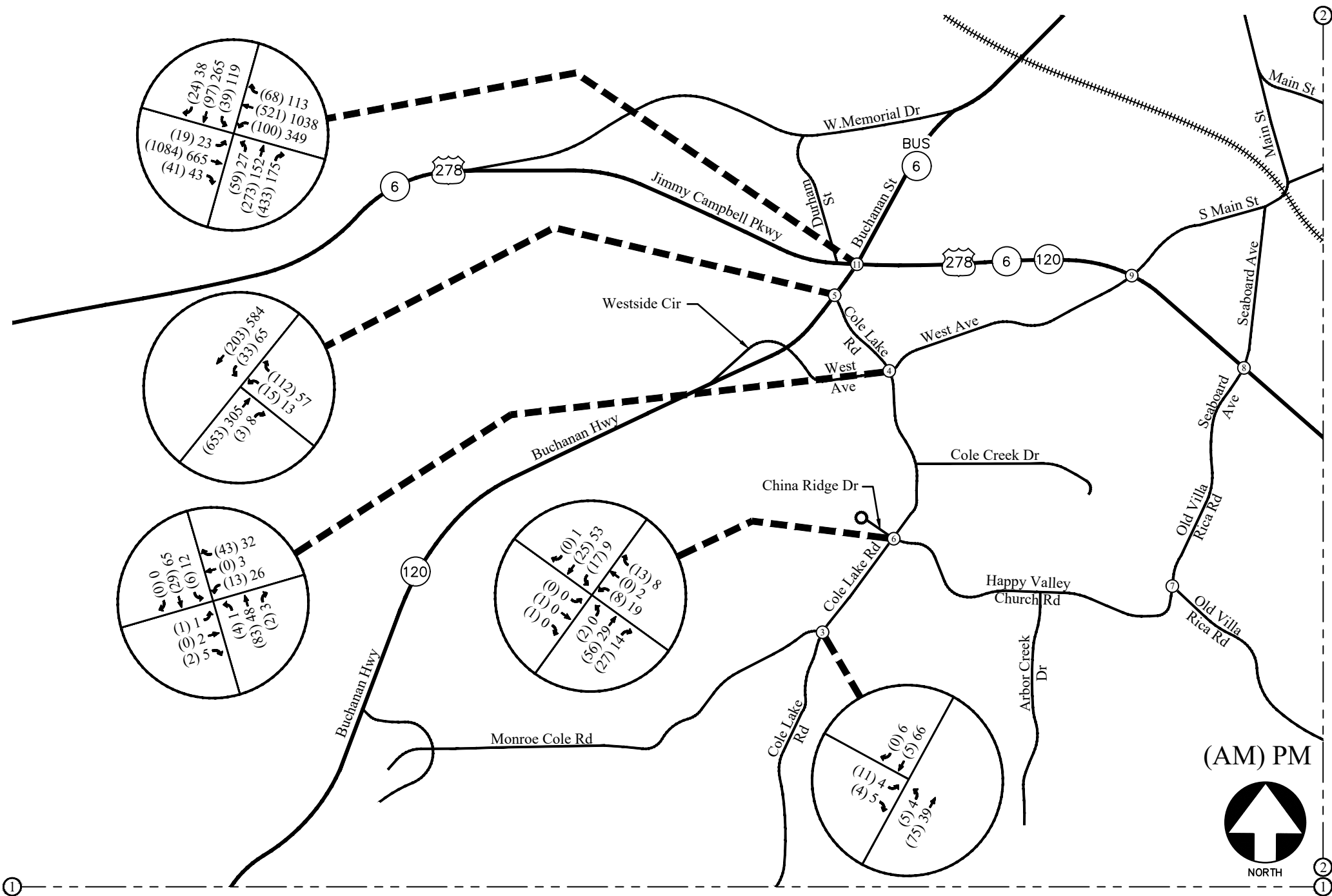
Annual Traffic Growth

In order to evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Reviewing the growth over the last three (2017-2019) years revealed growth of approximately 2.0% in the area. This growth factor was applied to the existing traffic volumes to estimate the future year traffic volumes prior to the addition of site-generated traffic. The resulting Future “No-Build” volumes on the roadway are shown in Figure 6A, 6B and 6C.



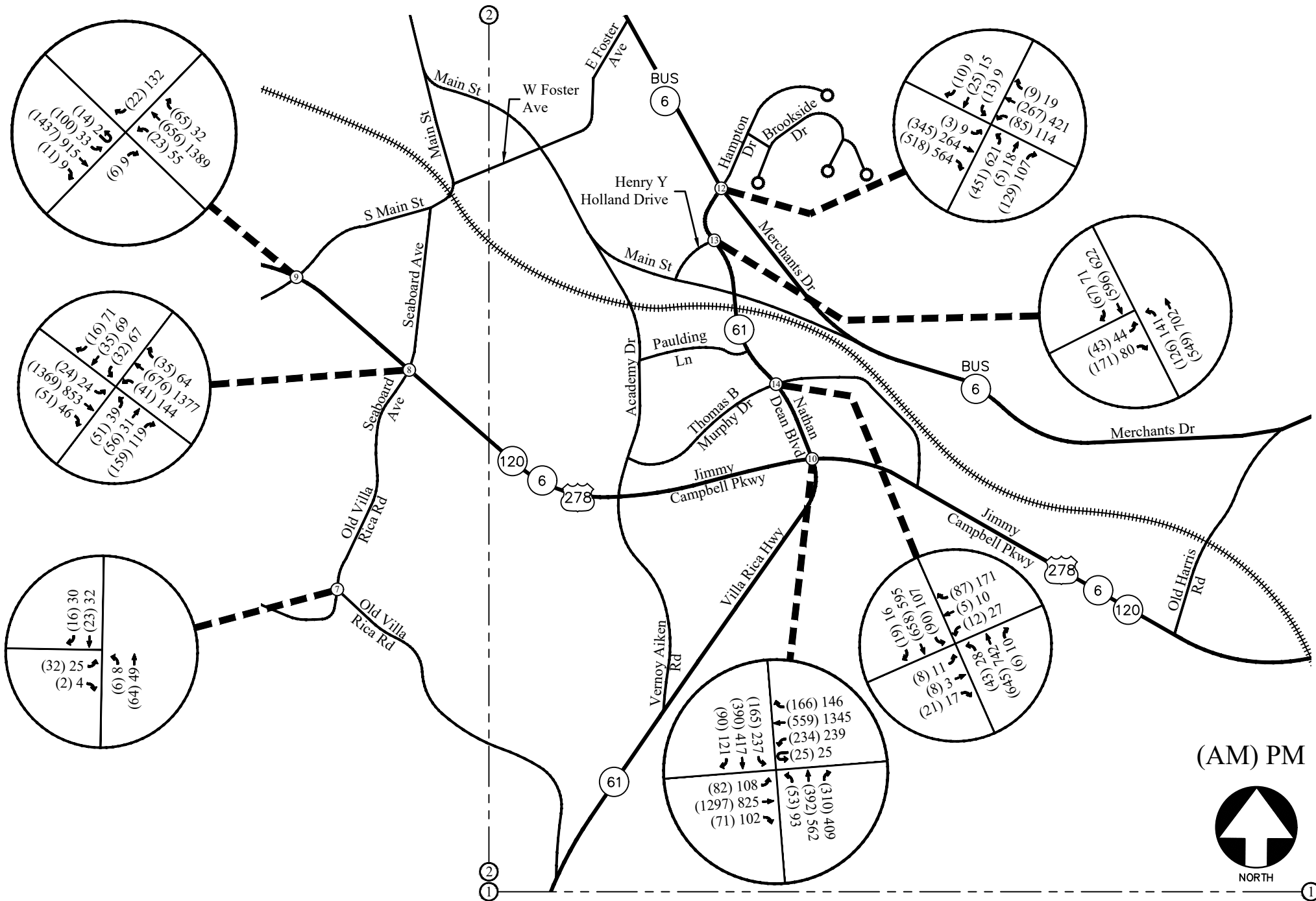
FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES 1 OF 3

FIGURE 6A
A&R Engineering Inc.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES 2 OF 3

FIGURE 6B
A&R Engineering Inc.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES 3 OF 3

FIGURE 6C
A&R Engineering Inc.

Planned and Programmed Improvements in Study Area

TABLE 5 — PLANNED AND PROGRAMMED IMPROVEMENTS

Item #	Project Name	From / To Points	Sponsor	GDOT PI #	ARC ID #	Design FY	ROW / UTL FY	CST FY
1	SR 61 (Villa Rica Highway): Segment 3 – Widening (2 lanes to 4 lanes)	From Dallas Nebo Road to US 278 (Jimmy Campbell Parkway)	GDOT	0013702	PA-061C1	2016	2019/2025	2025

GeoPI #0013702 Design:



GDOT planned improvement project (PI 0013702) was identified as a programmed improvement project that is projected to be completed in 2025. Since the proposed development is planned to be completed in 2026, the overlapping intersections in the study network and improved project that are included in the DRI study network are listed below and the programmed project will be analyzed with and without the widening project in the “No-Build” and “Build” conditions.

The following intersections will be considered with the programmed improvement project lane geometry in the analysis:

- SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)
- US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)/ SR 61 (Nathan Dean Boulevard)

As a part of widening project on SR 61 (Villa Rica Highway), system improvements were considered at the following intersections that are included in the DRI study network.

Intersection 2: SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)

- Addition of a northbound through lane on SR 61 (Villa Rica Highway)
- Addition of a southbound through lane on SR 61 (Villa Rica Highway)

Intersection 10: US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)

- Addition of a northbound through, left and right lane on SR 61 (Villa Rica Highway)
- Addition of a southbound through and left lane on SR 61 (Nathan Dean Boulevard)
- Addition of an eastbound left lane on US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway)
- Addition of a westbound left lane on US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway)

Future “No-Build” Traffic Operations

The future “No-Build” traffic operations were analyzed using the volumes in Figure 6A, 6B and 6C and the results are shown in Table 6.

TABLE 6 — FUTURE “NO-BUILD” INTERSECTION OPERATIONS					
Intersection		No Build Condition: LOS (Delay)			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	<u>SR 120 Connector (Scoggins Road) @ Cole Lake Road</u> -Eastbound Left -Southbound Approach	A (7.6) B (11.8)	A (8.0) B (12.5)	A (7.6) B (11.8)	A (8.0) B (12.5)
2	<u>SR 120 Connector (Scoggins Road / Hiram Sudie Road) @ SR 61 (Villa Rica Highway)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>C (26.6)</u> D (41.8) D (47.3) B (19.6) B (18.1)	<u>C (27.0)</u> D (39.9) D (46.9) B (17.9) C (20.3)	<u>C (22.9)</u> D (41.4) D (46.1) B (13.9) B (13.9)	<u>C (22.8)</u> D (39.3) D (44.0) B (13.8) B (14.3)
3	<u>Cole Lake Road @ Monroe Cole Road</u> -Eastbound Approach -Northbound Left	A (9.0) A (7.2)	A (9.0) A (7.4)	A (9.0) A (7.2)	A (9.0) A (7.4)
4	<u>Cole Lake Road @ West Avenue</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (7.4)</u> A (7.0) A (7.1) A (7.6) A (7.4)	<u>A (7.5)</u> A (7.0) A (7.4) A (7.5) A (7.7)	<u>A (7.4)</u> A (7.0) A (7.1) A (7.6) A (7.4)	<u>A (7.5)</u> A (7.0) A (7.4) A (7.5) A (7.7)
5	<u>SR 120 (Buchanan Highway) @ Cole Lake Road</u> -Westbound Approach -Southbound Left	C (20.9) A (9.4)	B (14.6) A (8.2)	C (20.9) A (9.4)	B (14.6) A (8.2)
6	<u>Cole Lake Road @ Happy Valley Church Road / China Ridge Drive</u> -Eastbound Approach -Westbound Approach -Northbound Left -Southbound Left	A (9.3) A (9.2) A (7.3) A (7.5)	A (0.0) A (9.4) A (0.0) A (7.3)	A (9.3) A (9.2) A (7.3) A (7.5)	A (0.0) A (9.4) A (0.0) A (7.3)

7	<u>Old Villa Rica Road @ Happy Valley Church Road</u> -Eastbound Approach -Northbound Left	A (9.3) A (7.3)	A (9.3) A (7.4)	A (9.3) A (7.3)	A (9.3) A (7.4)
8	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ Old Villa Rica Road / Seaboard Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>B (10.7)</u> A (8.7) A (5.4) D (51.3) D (48.5)	<u>B (11.9)</u> A (8.0) A (9.3) D (46.4) D (50.6)	<u>B (10.7)</u> A (8.7) A (5.4) D (51.3) D (48.5)	<u>B (11.9)</u> A (8.0) A (9.3) D (46.4) D (50.6)
9	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ South Main Street / West Avenue</u> -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	B (10.1) B (13.6) C (15.4) B (10.7)	C (15.1) B (10.5) B (11.9) C (20.5)	B (10.1) B (13.6) C (15.4) B (10.7)	C (15.1) B (10.5) B (11.9) C (20.5)
10	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 61 (Nathan Dean Boulevard)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (48.2)</u> C (28.6) E (71.6) D (48.3) E (62.4)	<u>E (63.7)</u> C (34.3) E (69.4) D (46.1) F (109.4)	<u>C (26.6)</u> B (18.1) B (13.6) D (50.7) D (47.7)	<u>C (29.5)</u> B (18.7) C (22.8) D (46.2) D (44.7)
11	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 120 (Buchanan Highway) / SR 6 Business (Buchanan Street)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>C (34.0)</u> C (32.1) C (22.1) D (48.0) C (25.1)	<u>C (25.6)</u> C (20.3) B (16.2) D (54.4) D (41.2)	<u>C (34.0)</u> C (32.1) C (22.1) D (48.0) C (25.1)	<u>C (25.6)</u> C (20.3) B (16.2) D (54.4) D (41.2)
12	<u>SR 6 Business (Merchants Drive) @ SR 61 (Nathan Dean Boulevard) / Hampton Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (35.9)</u> C (24.9) B (19.3) D (54.7) E (61.4)	<u>E (58.8)</u> C (28.0) C (26.4) F (99.9) E (59.5)	<u>C (27.8)</u> B (14.6) B (11.1) D (47.4) E (61.4)	<u>C (29.3)</u> B (17.1) B (15.9) D (44.6) E (59.5)
13	<u>SR 61 (Nathan Dean Boulevard) @ Henry Y Holland Drive</u> -Eastbound Approach -Northbound Left/Approach -Southbound Approach	C (23.1) A (9.5) -	E (36.9) A (9.8) -	<u>A (6.0)</u> D (53.6) A (2.5) A (6.5)	<u>A (6.1)</u> D (48.1) A (3.2) A (7.1)
14	<u>SR 61 (Nathan Dean Boulevard) @ Thomas B Murphy Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (7.9)</u> D (44.4) D (50.6) A (3.8) A (4.1)	<u>B (12.2)</u> D (40.6) D (46.0) A (6.9) A (7.0)	<u>A (8.0)</u> D (44.4) D (50.6) A (3.9) A (4.1)	<u>B (12.3)</u> D (40.6) D (46.0) A (7.1) A (7.0)

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

- Intersection 10: US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) at SR 61 (Nathan Dean Boulevard)
- Intersection 12: SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive
- Intersection 13: SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive

Recommended System Improvements

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

Intersection 12: SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive

- Convert the existing shared through left turn to a dual left with shared through movement in one lane

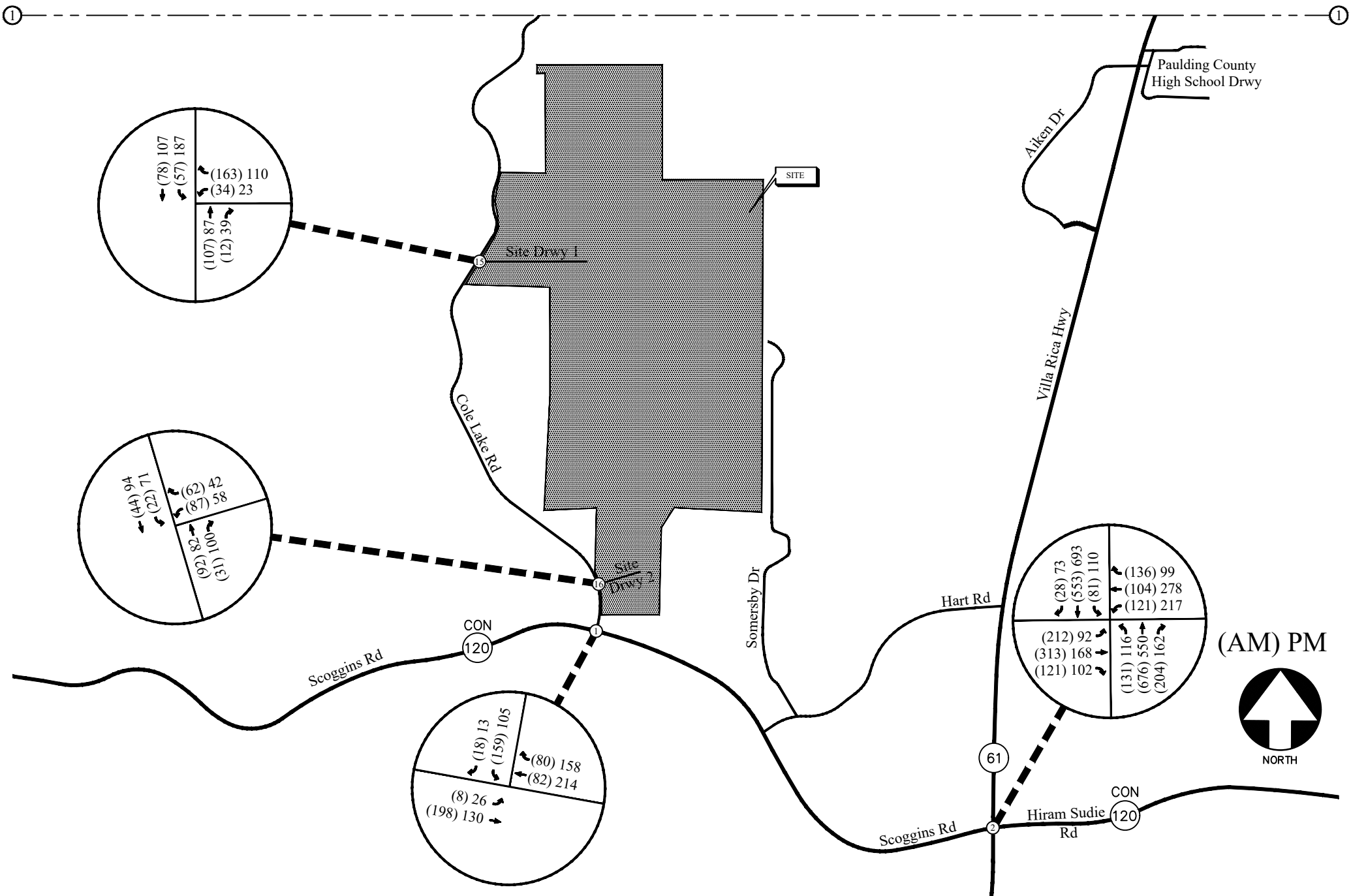
Intersection 13: SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive

- Installation of traffic signal when warranted by MUTCD

After the recommended system improvements are implemented, the intersections listed above 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 5C, 5D and 5E) were added to base traffic volumes (Figure 6A, 6B and 6C) to calculate the future traffic volumes after the construction of the development. These total future traffic volumes are shown in Figure 7A, 7B and 7C.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES 1 OF 3

FIGURE 7A
A&R Engineering Inc.

FIGURE 7C
A&R Engineering Inc.

Auxiliary Lane Analysis

Included below are analyses for left-turn lanes and deceleration lanes for all site driveways per GDOT standards. The analyses below are based off the trip distribution included in the "Trip Distribution" section. According to the trip distribution, the total 24-hour two-way volume entering and exiting the site is 6,318 vehicles. The AADT on Cole Lake Road is assumed to be less than 6,000 vehicles based on the GDOT volumes on the surrounding roadways.

Left Turn Lane Analysis

For two lane roadways with AADT's less than 6,000 vehicles and a posted speed limit of 35 mph, the daily site generated traffic left-turn movements threshold to warrant a left-turn lane is 300 left-turning vehicles a day. The projected left-turn volumes per day for each driveway is included in Table 7.

Intersection	Left turn traffic (% total entering)	Left-turn Volume (vehicles/day)	Roadway Speed/ # lanes / ADT	GDOT Threshold (vehicles/day)	Warrants met?
Cole Lake Rd @ Site Drwy 1	47%	1485 (total trips) ÷ 2 × 0.47 = (6,318) ÷ 2 × 0.47 = 1485	35 mph / 2-Lane / < 6,000	300	Yes
Cole Lake Rd @ Site Drwy 2	18%	569 (total trips) ÷ 2 × 0.18 = (6,318) ÷ 2 × 0.18 = 569	35 mph / 2-Lane / < 6,000	300	Yes

A left turn lane is warranted at Site Driveway 1 and 2 on Cole Lake Road, per GDOT standards.

Deceleration Turn Lane Analysis

The daily site generated traffic right-turn movements threshold to warrant a deceleration lane is 200 right turning vehicles a day for two lane roadways with AADT's less than 6,000 vehicles and a posted speed limit of 35 mph. The projected right-turn volumes per day for each driveway is included in Table 8.

Intersection	Right-turn traffic (% total entering)	Right-turn Volume (vehicles/day)	Roadway Speed/ # lanes / ADT	GDOT Threshold (vehicles/day)	Warrants met?
Cole Lake Rd @ Site Drwy 1	10%	316 (total trips) ÷ 2 × 0.10 = (6,318) ÷ 2 × 0.10 = 316	35 mph / 2-Lane / < 6,000	200	Yes
Cole Lake Rd @ Site Drwy 2	25%	790 (total trips) ÷ 2 × 0.25 = (6,318) ÷ 2 × 0.25 = 790	35 mph / 2-Lane / < 6,000	200	Yes

A deceleration lane is warranted at Site Driveway 1 and 2 on Cole Lake Road, per GDOT standards.

Future “Build” Traffic Operations

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

TABLE 6 — FUTURE “BUILD” INTERSECTION OPERATIONS					
Intersection		Build Condition: LOS (Delay)			
		NO IMPROVEMENTS		SYSTEM IMPROVEMENTS	
		AM Peak	PM Peak	AM Peak	PM Peak
1	<u>SR 120 Connector (Scoggins Road) @ Cole Lake Road</u>				
	-Eastbound Left -Southbound Approach	A (7.7) C (15.3)	A (8.5) C (17.5)	A (7.7) C (15.3)	A (8.5) C (17.5)
2	<u>SR 120 (Scoggins Road / Hiram Sudie Road) @ SR 61 (Villa Rica Highway)</u>	<u>C (28.9)</u>	<u>C (29.2)</u>	<u>C (25.2)</u>	<u>C (25.1)</u>
	-Eastbound Approach	D (41.1)	D (40.3)	D (43.4)	D (40.4)
	-Westbound Approach	D (45.3)	D (45.8)	D (49.2)	D (46.3)
	-Northbound Approach	C (22.6)	B (19.8)	B (14.8)	B (14.8)
	-Southbound Approach	C (21.1)	C (23.1)	B (15.0)	B (15.6)
3	<u>Cole Lake Road @ Monroe Cole Road</u>				
	-Eastbound Approach -Northbound Left	B (10.8) A (7.5)	B (11.3) A (8.2)	B (10.8) A (7.5)	B (11.3) A (8.2)
4	<u>Cole Lake Road @ West Avenue</u>	<u>A (8.5)</u>	<u>A (8.6)</u>	<u>A (8.5)</u>	<u>A (8.6)</u>
	-Eastbound Approach	A (7.3)	A (7.5)	A (7.3)	A (7.5)
	-Westbound Approach	A (7.9)	A (8.7)	A (7.9)	A (8.7)
	-Northbound Approach	A (8.9)	A (8.6)	A (8.9)	A (8.6)
	-Southbound Approach	A (7.8)	A (8.7)	A (7.8)	A (8.7)
5	<u>SR 120 (Buchanan Highway) @ Cole Lake Road</u>				
	-Westbound Approach -Southbound Left	D (34.8) A (9.6)	C (16.3) A (8.4)	D (34.8) A (9.6)	C (16.3) A (8.4)
6	<u>Cole Lake Road @ Happy Valley Church Road / China Ridge Drive</u>				
	-Eastbound Approach	B (10.9)	A (0.0)	B (10.9)	A (0.0)
	-Westbound Approach	B (12.4)	C (15.2)	B (12.4)	C (15.2)
	-Northbound Left	A (7.4)	A (0.0)	A (7.4)	A (0.0)
	-Southbound Left	A (8.1)	A (7.7)	A (8.1)	A (7.7)
7	<u>Old Villa Rica Road @ Happy Valley Church Road</u>				
	-Eastbound Approach -Northbound Left	B (10.0) A (7.4)	B (10.4) A (7.6)	B (10.0) A (7.4)	B (10.4) A (7.6)
8	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ Old Villa Rica Road / Seaboard Drive</u>	<u>B (11.2)</u>	<u>B (12.5)</u>	<u>B (11.2)</u>	<u>B (12.4)</u>
	-Eastbound Approach	A (9.7)	A (9.1)	A (9.7)	A (9.1)
	-Westbound Approach	A (5.7)	A (9.9)	A (5.7)	A (9.9)
	-Northbound Approach	D (51.3)	D (46.4)	D (51.3)	D (46.4)
	-Southbound Approach	D (48.5)	D (50.6)	D (48.5)	D (50.5)

9	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ South Main Street / West Avenue</u> -Eastbound Left -Westbound Left -Northbound Approach -Southbound Approach	B (10.1) B (14.6) C (15.9) B (10.7)	C (15.4) B (11.3) B (12.1) C (20.8)	B (10.1) B (14.6) C (15.9) B (10.7)	C (15.4) B (11.3) B (12.1) C (20.8)
10	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 61 (Nathan Dean Boulevard)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>E (55.7)</u> C (32.0) F (97.8) D (47.9) E (61.4)	<u>F (81.6)</u> D (41.1) F (108.9) D (46.1) F (107.8)	<u>C (27.1)</u> B (19.5) B (15.0) D (50.5) D (47.3)	<u>C (30.4)</u> B (19.8) C (25.4) D (46.1) D (44.5)
11	<u>US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) @ SR 120 (Buchanan Highway) / SR 6 Business (Buchanan Street)</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (38.4)</u> D (39.0) C (25.5) D (49.9) C (22.3)	<u>C (27.8)</u> C (23.9) B (19.2) D (51.8) D (38.2)	<u>D (38.4)</u> D (39.0) C (25.5) D (49.9) C (22.3)	<u>C (27.8)</u> C (23.9) B (19.2) D (51.8) D (38.2)
12	<u>SR 6 Business (Merchants Drive) @ SR 61 (Nathan Dean Boulevard) / Hampton Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>D (37.6)</u> C (26.4) C (20.4) E (56.1) E (61.4)	<u>E (62.0)</u> C (28.8) C (26.8) F (105.8) E (59.5)	<u>C (28.2)</u> B (15.2) B (11.5) D (46.8) E (61.4)	<u>C (29.6)</u> B (17.7) B (16.3) D (44.5) E (59.5)
13	<u>SR 61 (Nathan Dean Boulevard) @ Henry Y Holland Drive</u> -Eastbound Approach -Northbound Left/Approach -Southbound Approach	C (24.9) A (9.7) -	E (42.1) B (10.0) -	<u>A (6.0)</u> D (53.6) A (2.6) A (6.6)	<u>A (6.4)</u> D (48.1) A (3.4) A (7.4)
14	<u>SR 61 (Nathan Dean Boulevard) @ Thomas B Murphy Drive</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	<u>A (7.9)</u> D (44.4) D (50.6) A (4.1) A (4.3)	<u>B (12.3)</u> D (40.6) D (46.0) A (7.2) A (7.4)	<u>A (8.0)</u> D (44.4) D (50.6) A (4.1) A (4.3)	<u>B (12.4)</u> D (40.6) D (46.0) A (7.4) A (7.4)
15	<u>Cole Lake Road @ Site Drwy 1</u> -Westbound Approach -Southbound Left	B (10.5) A (7.6)	B (10.8) A (7.9)	B (10.5) A (7.6)	B (10.8) A (7.9)
16	<u>Cole Lake Road @ Site Drwy 2</u> -Westbound Approach -Southbound Left	A (9.8) A (7.5)	B (10.4) A (7.8)	A (9.8) A (7.5)	B (10.4) A (7.8)

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

- Intersection 12: SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive

- Intersection 13: SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive

After the recommended system improvements are implemented, the following intersections will operate at LOS “C” or better in both the AM and PM peak hours.

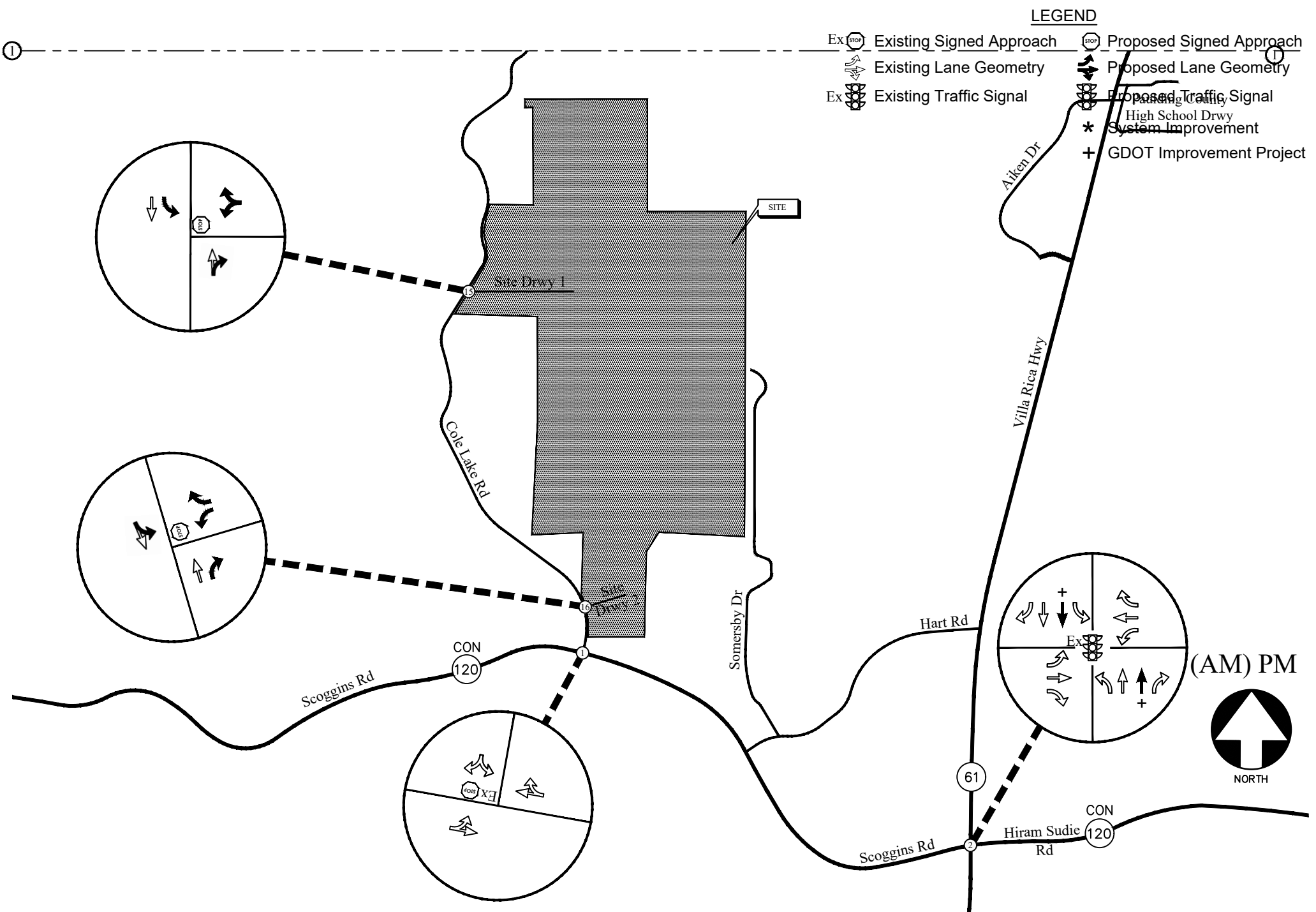
Intersection 12: SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive

The northbound approach to the signalized intersection of SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive will operate at level of service “E” in AM peak hour and “F” in PM peak hour. After the addition of left turn lane to the existing shared through-left lane on SR 61 (Nathan Dean Boulevard) as a system improvement, it will operate at level of service “D” in the AM and PM peak hour.

Intersection 13: SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive

The eastbound approach to the unsignalized intersection of SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive will operate at level of service “E” in PM peak hour. After the installation of traffic signal as a system improvement, the intersection will operate at an overall level of service “A” or better in both AM and PM peak hours.

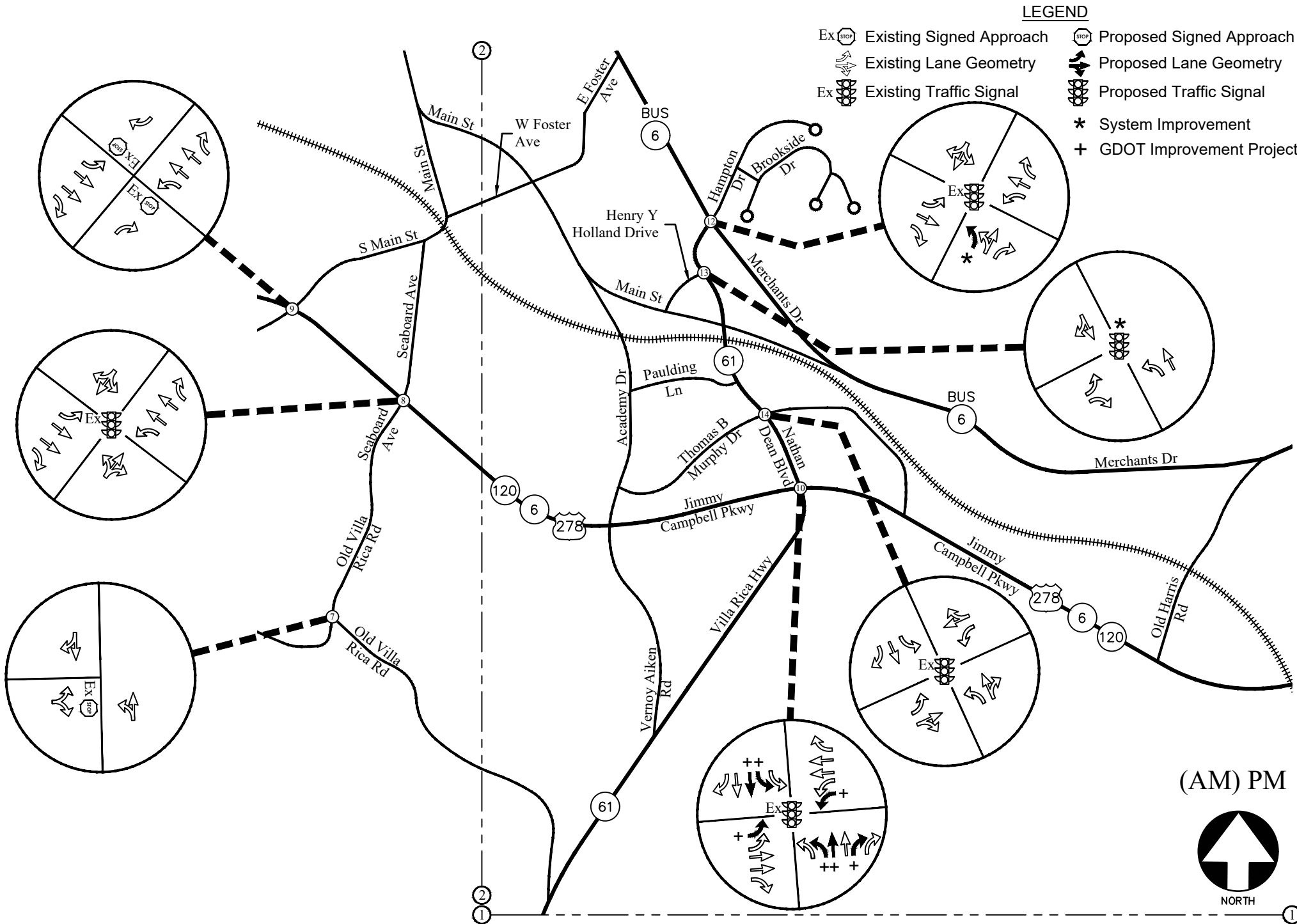
Recommendations for future traffic control and lane geometry are shown in Figure 8A, 8B and 8C.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY 1 OF 3

FIGURE 8A
A&R Engineering Inc.





FUTURE TRAFFIC CONTROL AND LANE GEOMETRY 3 OF 3

FIGURE 8C
A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the proposed residential development located to the east of Cole Lake Road and north of SR 120 Connector (Scoggins Road) in the City of Dallas, Georgia.

The development proposes full access at the following locations:

- Site Driveway 1: Full access driveway on Cole Lake Road
- Site Driveway 2: Full access driveway on Cole Lake 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. Cole Lake Road and SR 120 Connector (Scoggins Road)
2. SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)
3. Cole Lake Road and Monroe Cole Road
4. West Avenue and Cole Lake Road
5. SR 120 (Buchanan Highway) and Cole Lake Road
6. Cole Lake Road and Happy Valley Church Road
7. Happy Valley Church Road and Old Villa Rica Road
8. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and Old Villa Rica Road
9. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and West Avenue/ South Main Street
10. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 61 (Villa Rica Highway)/ SR 61 (Nathan Dean Boulevard)
11. US 278/ SR 6/ SR 120 (Jimmy Campbell Parkway) and SR 120 (Buchanan Highway)/ SR 6 Business (Buchanan Street)
12. SR 61 (Nathan Dean Boulevard) and SR 6 Business (Merchants Drive)/ Hampton Drive
13. SR 61 (Nathan Dean Boulevard) and Henry Y Holland Drive
14. SR 61 (Nathan Dean Boulevard) and Thomas B Murphy 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 “Build” traffic operations showed that the following intersection will operate at level of service “E or F” for one or more approaches in the AM or PM peak hour or both:

- Intersection 12: SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive
- Intersection 13: SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive

After the recommended system improvements are implemented, the following intersections will operate at LOS “C” or better in both the AM and PM peak hours.

Intersection 12: SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive

The northbound approach to the signalized intersection of SR 6 Business (Merchants Drive) at SR 61 (Nathan Dean Boulevard) / Hampton Drive will operate at level of service “E” in AM peak hour and “F” in PM peak hour. After the addition of left turn lane to the existing shared through-left lane on SR 61 (Nathan Dean Boulevard) as a system improvement, it will operate at level of service “D” in the AM and PM peak hour.

Intersection 13: SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive

The eastbound approach to the unsignalized intersection of SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive will operate at level of service “E” in PM peak hour. After the installation of traffic signal as a system improvement, the intersection will operate at an overall level of service “A” or better in both AM and PM peak hours.

Recommended System Improvements

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

Intersection 12: SR 6 Business (Merchants Drive) and SR 61 (Nathan Dean Boulevard) / Hampton Drive

- Convert the existing shared through left turn to a dual left with shared through movement in one lane

Intersection 13: SR 61 (Nathan Dean Boulevard) at Henry Y Holland Drive

- Installation of traffic signal when warranted by MUTCD warrants

Recommended Site Mitigation Improvements

Site Driveway 1: Full Access driveway on Cole Lake Road

- One entering and one exiting lane
- Stop sign controlled on the driveway approach with Cole Lake Road remaining free flow
- Left turn lane and deceleration lane for entering traffic

Site Driveway 2: Full Access driveway on Cole Lake Road

- One entering and two exiting lanes
- Stop sign controlled on the driveway approach with Cole Lake Road remaining free flow
- Left turn lane and deceleration lane for entering traffic

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 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Cole Lake Rd @ SR 120 (Scoggins Rd)
7-9 am | 4-6 pm

File Name : 20220142

Site Code : 20220142

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Northbound				Cole Lake Rd Southbound				SR 120 Connector (Scoggins Rd) Eastbound				SR 120 Connector (Scoggins Rd) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	12	0	0	12	1	47	0	48	0	13	3	16	76
07:15 AM	0	0	0	0	16	0	0	16	0	45	0	45	0	11	5	16	77
07:30 AM	0	0	0	0	12	0	0	12	1	36	0	37	0	16	18	34	83
07:45 AM	0	0	0	0	11	0	1	12	0	55	0	55	0	36	14	50	117
Total	0	0	0	0	51	0	1	52	2	183	0	185	0	76	40	116	353
08:00 AM	0	0	0	0	9	0	0	9	0	41	0	41	0	17	7	24	74
08:15 AM	0	0	0	0	13	0	0	13	0	34	0	34	0	13	10	23	70
08:30 AM	0	0	0	0	0	0	1	1	0	24	0	24	0	16	5	21	46
08:45 AM	0	0	0	0	7	0	0	7	1	30	0	31	0	8	5	13	51
Total	0	0	0	0	29	0	1	30	1	129	0	130	0	54	27	81	241
*** BREAK ***																	
04:00 PM	0	0	0	0	6	0	0	6	0	23	0	23	0	30	13	43	72
04:15 PM	0	0	0	0	6	0	1	7	2	20	0	22	0	55	5	60	89
04:30 PM	0	0	0	0	10	0	0	10	0	27	0	27	0	39	12	51	88
04:45 PM	0	0	0	0	7	0	1	8	4	23	0	27	0	29	13	42	77
Total	0	0	0	0	29	0	2	31	6	93	0	99	0	153	43	196	326
05:00 PM	0	0	0	0	4	0	0	4	0	32	0	32	0	39	7	46	82
05:15 PM	0	0	0	0	8	0	1	9	0	22	0	22	0	52	7	59	90
05:30 PM	0	0	0	0	9	0	0	9	2	32	0	34	0	62	10	72	115
05:45 PM	0	0	0	0	11	0	0	11	4	34	0	38	0	45	12	57	106
Total	0	0	0	0	32	0	1	33	6	120	0	126	0	198	36	234	393
Grand Total	0	0	0	0	141	0	5	146	15	525	0	540	0	481	146	627	1313
Apprch %	0	0	0		96.6	0	3.4		2.8	97.2	0		0	76.7	23.3		
Total %	0	0	0	0	10.7	0	0.4	11.1	1.1	40	0	41.1	0	36.6	11.1	47.8	

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Marietta, GA 30067

TMC DATA

Cole Lake Rd @ SR 120 (Scoggins Rd)
7-9 am | 4-6 pm

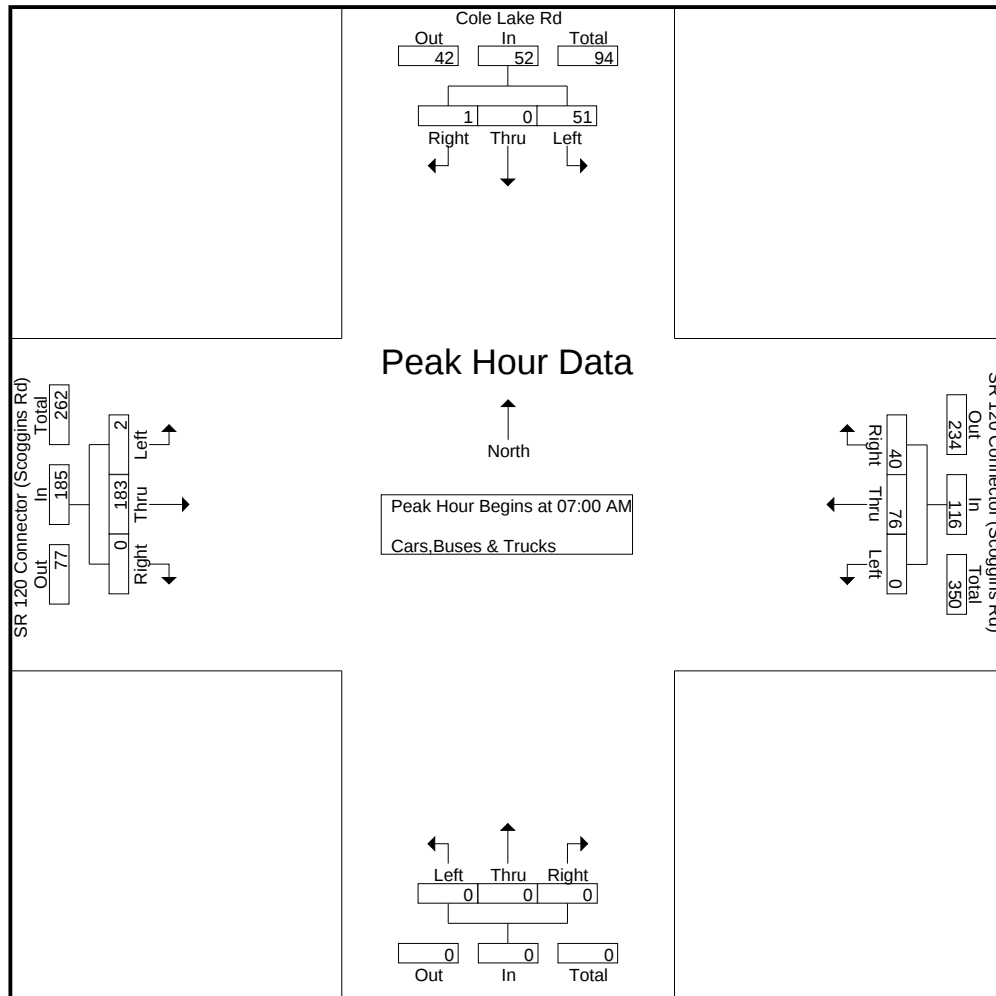
File Name : 20220142

Site Code : 20220142

Start Date : 4/12/2022

Page No : 2

	Northbound				Cole Lake Rd Southbound				SR 120 Connector (Scoggins Rd) Eastbound				SR 120 Connector (Scoggins Rd) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	12	0	0	12	1	47	0	48	0	13	3	16	76
07:15 AM	0	0	0	0	16	0	0	16	0	45	0	45	0	11	5	16	77
07:30 AM	0	0	0	0	12	0	0	12	1	36	0	37	0	16	18	34	83
07:45 AM	0	0	0	0	11	0	1	12	0	55	0	55	0	36	14	50	117
Total Volume	0	0	0	0	51	0	1	52	2	183	0	185	0	76	40	116	353
% App. Total	0	0	0		98.1	0	1.9		1.1	98.9	0		0	65.5	34.5		
PHF	.000	.000	.000	.000	.797	.000	.250	.813	.500	.832	.000	.841	.000	.528	.556	.580	.754



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TMC DATA

Cole Lake Rd @ SR 120 (Scoggins Rd)
7-9 am | 4-6 pm

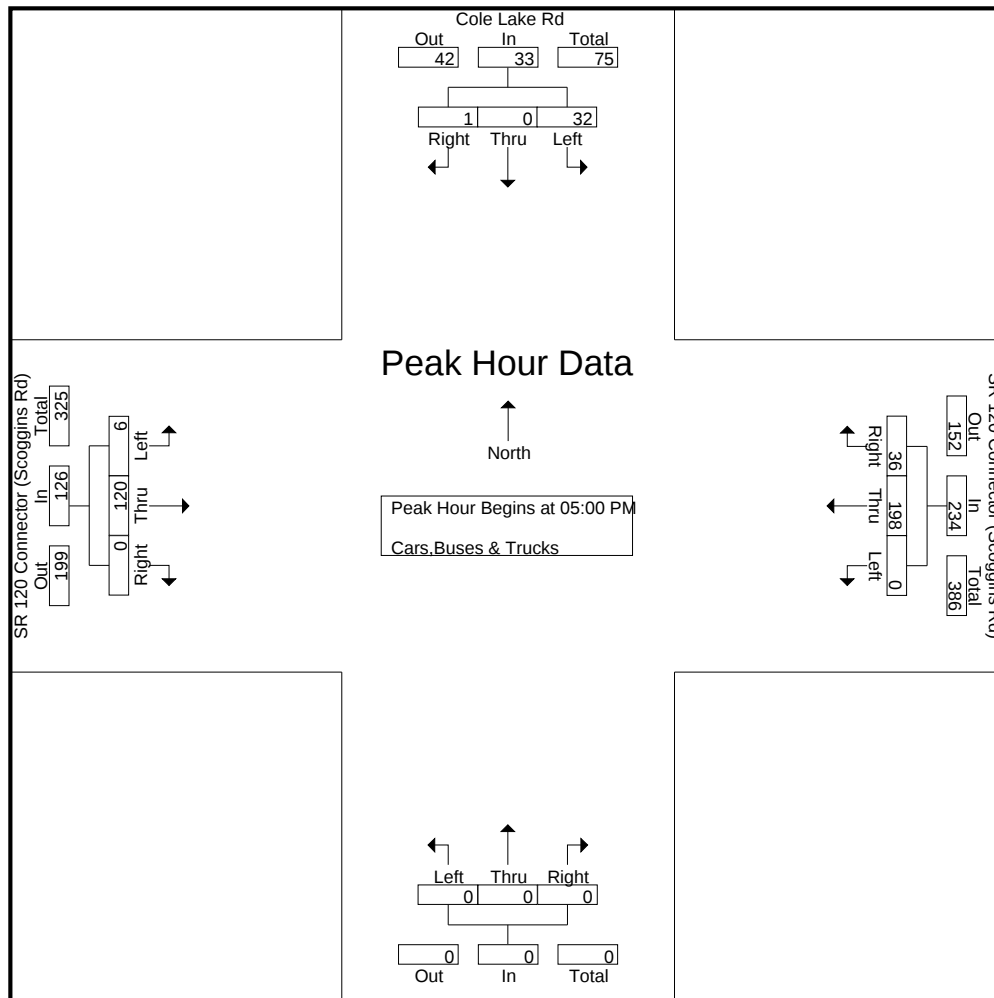
File Name : 20220142

Site Code : 20220142

Start Date : 4/12/2022

Page No : 3

	Northbound				Cole Lake Rd Southbound				SR 120 Connector (Scoggins Rd) Eastbound				SR 120 Connector (Scoggins Rd) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	4	0	0	4	0	32	0	32	0	39	7	46	82
05:15 PM	0	0	0	0	8	0	1	9	0	22	0	22	0	52	7	59	90
05:30 PM	0	0	0	0	9	0	0	9	2	32	0	34	0	62	10	72	115
05:45 PM	0	0	0	0	11	0	0	11	4	34	0	38	0	45	12	57	106
Total Volume	0	0	0	0	32	0	1	33	6	120	0	126	0	198	36	234	393
% App. Total	0	0	0	0	97	0	3		4.8	95.2	0		0	84.6	15.4		
PHF	.000	.000	.000	.000	.727	.000	.250	.750	.375	.882	.000	.829	.000	.798	.750	.813	.854



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Marietta, GA 30067

TMC DATA
SR 120 (Scoggins Rd) @ SR 61
(Villa Rica Hwy)
7-9 am | 4-6 pm

File Name : 20220146
Site Code : 20220146
Start Date : 4/12/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 61 (Villa Rica Hwy) Northbound				SR 61 (Villa Rica Hwy) Southbound				SR 120 Connector (Scoggins Rd) Eastbound				SR 120 Connector (Hiram Sudhie 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	150	33	200	11	96	2	109	19	58	17	94	27	19	16	62	465
07:15 AM	22	147	43	212	17	132	4	153	21	50	18	89	29	21	30	80	534
07:30 AM	29	161	42	232	15	124	5	144	42	63	33	138	36	19	24	79	593
07:45 AM	28	144	48	220	28	122	1	151	51	67	24	142	26	30	37	93	606
Total	96	602	166	864	71	474	12	557	133	238	92	463	118	89	107	314	2198
08:00 AM	30	165	57	252	16	142	4	162	34	58	23	115	21	18	28	67	596
08:15 AM	29	156	42	227	16	124	5	145	37	54	16	107	29	13	37	79	558
08:30 AM	14	121	34	169	16	130	7	153	17	39	16	72	37	16	23	76	470
08:45 AM	12	137	38	187	12	122	3	137	12	32	7	51	20	12	19	51	426
Total	85	579	171	835	60	518	19	597	100	183	62	345	107	59	107	273	2050
*** BREAK ***																	
04:00 PM	35	131	50	216	17	126	7	150	20	30	17	67	47	40	27	114	547
04:15 PM	25	148	41	214	29	154	8	191	19	34	16	69	52	50	22	124	598
04:30 PM	19	120	30	169	27	149	12	188	11	27	29	67	48	58	21	127	551
04:45 PM	21	118	36	175	19	176	4	199	18	31	19	68	54	44	25	123	565
Total	100	517	157	774	92	605	31	728	68	122	81	271	201	192	95	488	2261
05:00 PM	24	123	43	190	27	163	7	197	16	31	19	66	47	50	24	121	574
05:15 PM	20	127	38	185	20	142	9	171	11	29	24	64	54	49	24	127	547
05:30 PM	13	79	20	112	11	85	19	115	17	18	26	61	37	66	29	132	420
05:45 PM	22	119	32	173	10	91	3	104	14	34	41	89	51	65	21	137	503
Total	79	448	133	660	68	481	38	587	58	112	110	280	189	230	98	517	2044
Grand Total	360	2146	627	3133	291	2078	100	2469	359	655	345	1359	615	570	407	1592	8553
Apprch %	11.5	68.5	20		11.8	84.2	4.1		26.4	48.2	25.4		38.6	35.8	25.6		
Total %	4.2	25.1	7.3	36.6	3.4	24.3	1.2	28.9	4.2	7.7	4	15.9	7.2	6.7	4.8	18.6	

A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

SR 120 (Scoggins Rd) @ SR 61

(Villa Rica Hwy)

7-9 am | 4-6 pm

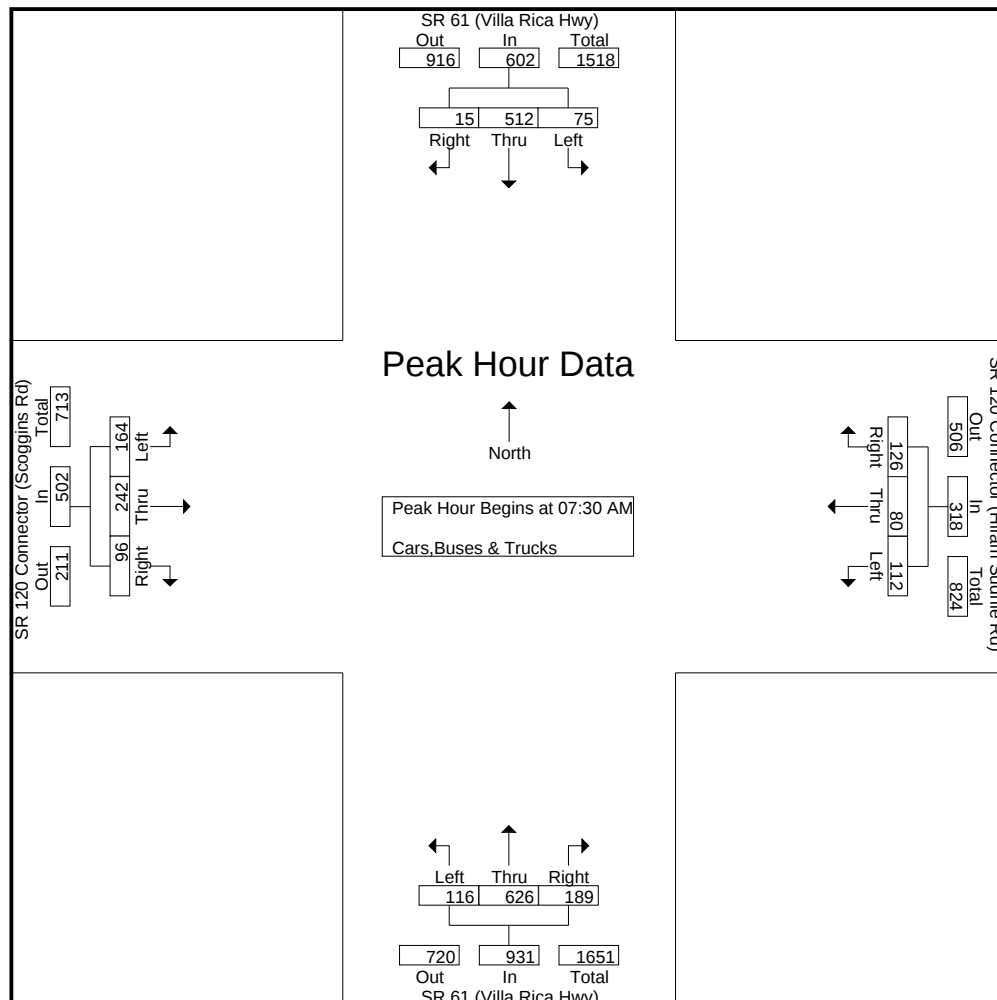
File Name : 20220146

Site Code : 20220146

Start Date : 4/12/2022

Page No : 2

	SR 61 (Villa Rica Hwy) Northbound				SR 61 (Villa Rica Hwy) Southbound				SR 120 Connector (Scoggins Rd) Eastbound				SR 120 Connector (Hiram Sudhie Rd) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	29	161	42	232	15	124	5	144	42	63	33	138	36	19	24	79	593
07:45 AM	28	144	48	220	28	122	1	151	51	67	24	142	26	30	37	93	606
08:00 AM	30	165	57	252	16	142	4	162	34	58	23	115	21	18	28	67	596
08:15 AM	29	156	42	227	16	124	5	145	37	54	16	107	29	13	37	79	558
Total Volume	116	626	189	931	75	512	15	602	164	242	96	502	112	80	126	318	2353
% App. Total	12.5	67.2	20.3		12.5	85	2.5		32.7	48.2	19.1		35.2	25.2	39.6		
PHF	.967	.948	.829	.924	.670	.901	.750	.929	.804	.903	.727	.884	.778	.667	.851	.855	.971



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

SR 120 (Scoggins Rd) @ SR 61
(Villa Rica Hwy)
7-9 am | 4-6 pm

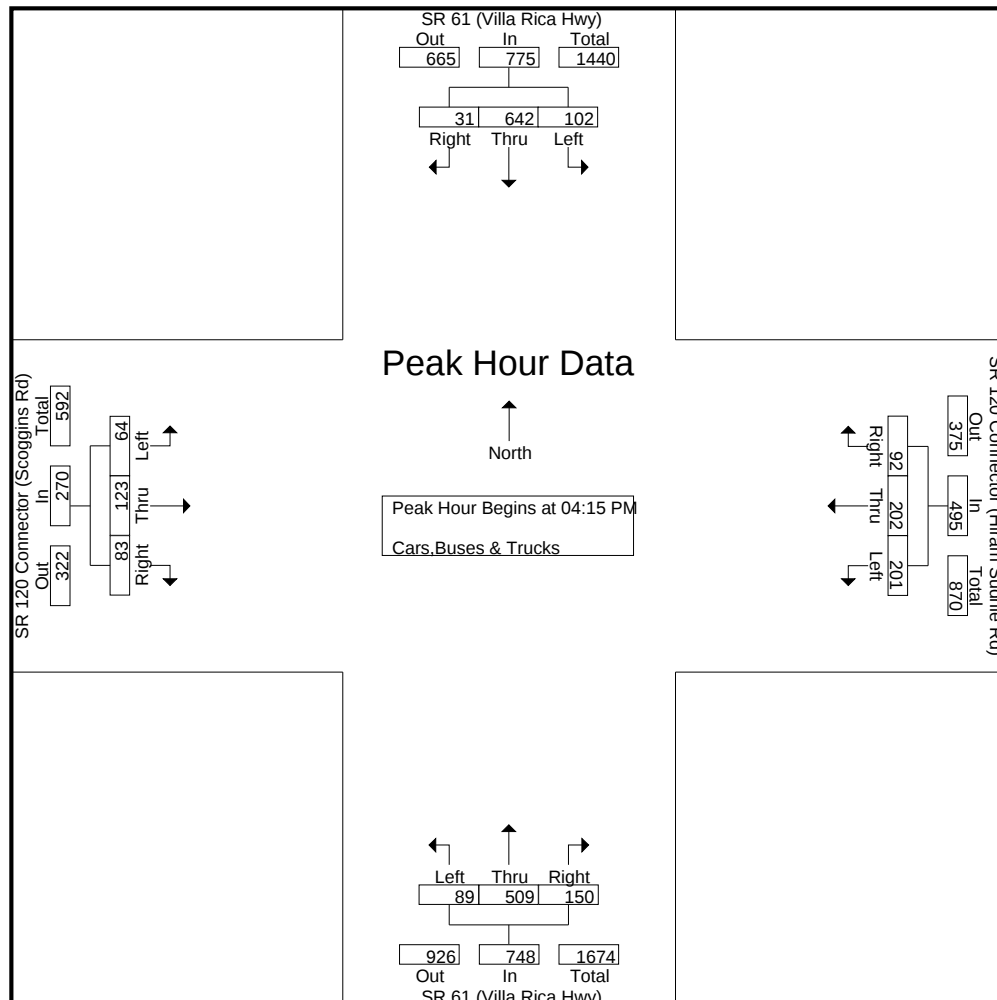
File Name : 20220146

Site Code : 20220146

Start Date : 4/12/2022

Page No : 3

	SR 61 (Villa Rica Hwy) Northbound				SR 61 (Villa Rica Hwy) Southbound				SR 120 Connector (Scoggins Rd) Eastbound				SR 120 Connector (Hiram Sudhie Rd) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	25	148	41	214	29	154	8	191	19	34	16	69	52	50	22	124	598
04:30 PM	19	120	30	169	27	149	12	188	11	27	29	67	48	58	21	127	551
04:45 PM	21	118	36	175	19	176	4	199	18	31	19	68	54	44	25	123	565
05:00 PM	24	123	43	190	27	163	7	197	16	31	19	66	47	50	24	121	574
Total Volume	89	509	150	748	102	642	31	775	64	123	83	270	201	202	92	495	2288
% App. Total	11.9	68	20.1		13.2	82.8	4		23.7	45.6	30.7		40.6	40.8	18.6		
PHF	.890	.860	.872	.874	.879	.912	.646	.974	.842	.904	.716	.978	.931	.871	.920	.974	.957



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Cole Lake Rd @ Monroe Cole Lake Rd
7-9 am | 4-6 pm

File Name : 20220143

Site Code : 20220143

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				Monroe Cole Lake Rd 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	0	10	0	10	0	4	0	4	1	0	1	2	0	0	0	0	16
07:15 AM	1	16	0	17	0	7	3	10	2	0	0	2	0	0	0	0	29
07:30 AM	2	22	0	24	0	8	1	9	4	0	1	5	0	0	0	0	38
07:45 AM	0	19	0	19	0	6	1	7	2	0	2	4	0	0	0	0	30
Total	3	67	0	70	0	25	5	30	9	0	4	13	0	0	0	0	113
08:00 AM	2	12	0	14	0	4	0	4	2	0	1	3	0	0	0	0	21
08:15 AM	0	15	0	15	0	3	1	4	1	0	0	1	0	0	0	0	20
08:30 AM	1	5	0	6	0	2	1	3	1	0	1	2	0	0	0	0	11
08:45 AM	1	6	0	7	0	3	0	3	1	0	0	1	0	0	0	0	11
Total	4	38	0	42	0	12	2	14	5	0	2	7	0	0	0	0	63
*** BREAK ***																	
04:00 PM	1	9	0	10	0	10	2	12	1	0	1	2	0	0	0	0	24
04:15 PM	1	5	0	6	0	10	2	12	1	0	2	3	0	0	0	0	21
04:30 PM	2	7	0	9	0	12	3	15	0	0	1	1	0	0	0	0	25
04:45 PM	1	10	0	11	0	12	1	13	2	0	1	3	0	0	0	0	27
Total	5	31	0	36	0	44	8	52	4	0	5	9	0	0	0	0	97
05:00 PM	0	8	0	8	0	21	2	23	1	0	2	3	0	0	0	0	34
05:15 PM	1	8	0	9	0	13	2	15	0	0	1	1	0	0	0	0	25
05:30 PM	2	10	0	12	0	15	1	16	1	0	1	2	0	0	0	0	30
05:45 PM	1	7	0	8	0	13	3	16	2	0	0	2	0	0	0	0	26
Total	4	33	0	37	0	62	8	70	4	0	4	8	0	0	0	0	115
Grand Total	16	169	0	185	0	143	23	166	22	0	15	37	0	0	0	0	388
Apprch %	8.6	91.4	0		0	86.1	13.9		59.5	0	40.5		0	0	0		
Total %	4.1	43.6	0	47.7	0	36.9	5.9	42.8	5.7	0	3.9	9.5	0	0	0	0	

A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Cole Lake Rd @ Monroe Cole Lake Rd
7-9 am | 4-6 pm

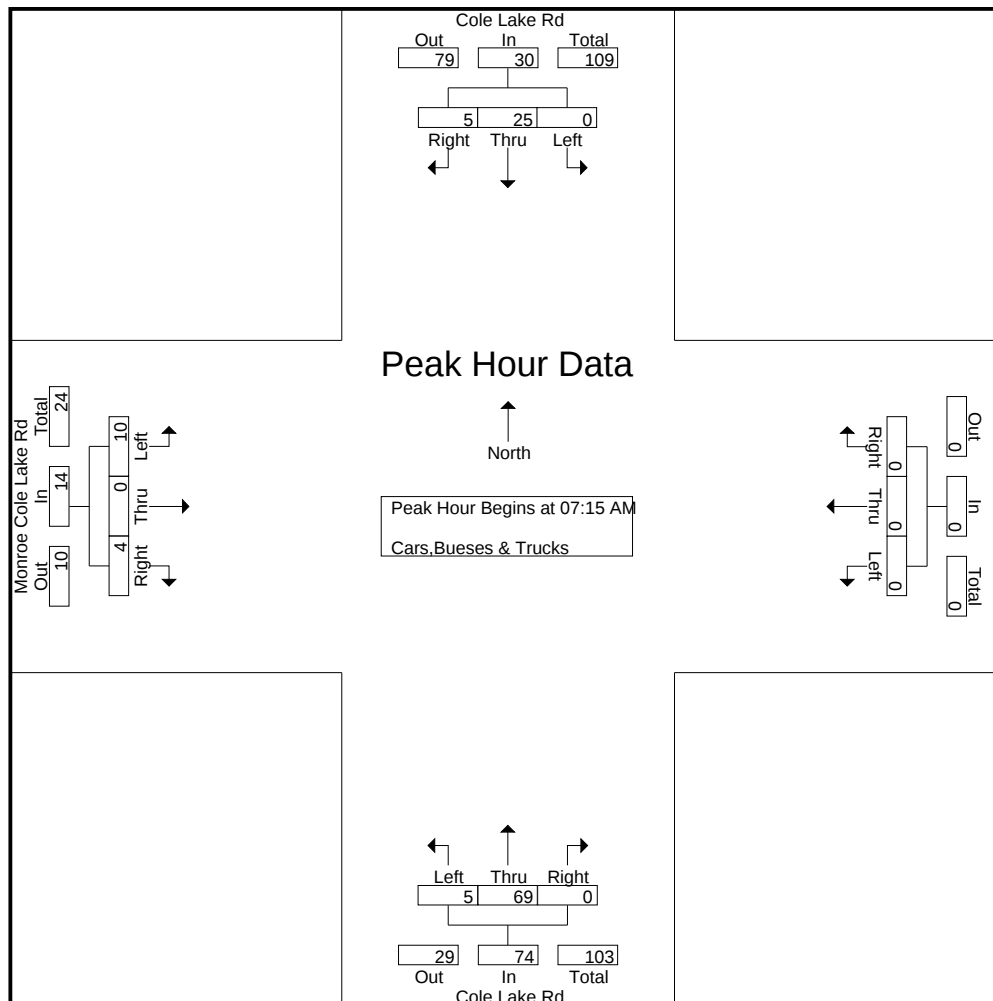
File Name : 20220143

Site Code : 20220143

Start Date : 4/12/2022

Page No : 2

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				Monroe Cole Lake Rd 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	1	16	0	17	0	7	3	10	2	0	0	2	0	0	0	0	29
07:30 AM	2	22	0	24	0	8	1	9	4	0	1	5	0	0	0	0	38
07:45 AM	0	19	0	19	0	6	1	7	2	0	2	4	0	0	0	0	30
08:00 AM	2	12	0	14	0	4	0	4	2	0	1	3	0	0	0	0	21
Total Volume	5	69	0	74	0	25	5	30	10	0	4	14	0	0	0	0	118
% App. Total	6.8	93.2	0		0	83.3	16.7		71.4	0	28.6		0	0	0		
PHF	.625	.784	.000	.771	.000	.781	.417	.750	.625	.000	.500	.700	.000	.000	.000	.000	.776



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Cole Lake Rd @ Monroe Cole Lake Rd
7-9 am | 4-6 pm

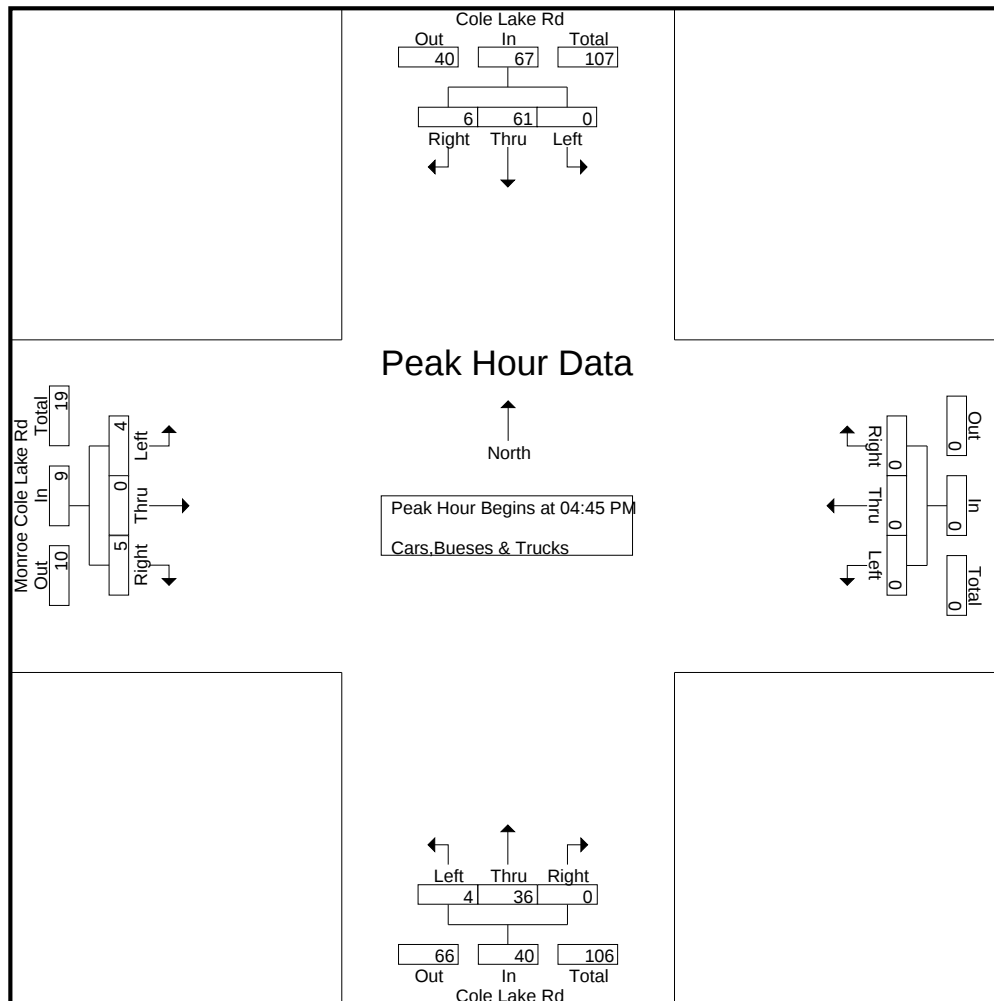
File Name : 20220143

Site Code : 20220143

Start Date : 4/12/2022

Page No : 3

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				Monroe Cole Lake Rd Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	1	10	0	11	0	12	1	13	2	0	1	3	0	0	0	0	27
05:00 PM	0	8	0	8	0	21	2	23	1	0	2	3	0	0	0	0	34
05:15 PM	1	8	0	9	0	13	2	15	0	0	1	1	0	0	0	0	25
05:30 PM	2	10	0	12	0	15	1	16	1	0	1	2	0	0	0	0	30
Total Volume	4	36	0	40	0	61	6	67	4	0	5	9	0	0	0	0	116
% App. Total	10	90	0		0	91	9		44.4	0	55.6		0	0	0		
PHF	.500	.900	.000	.833	.000	.726	.750	.728	.500	.000	.625	.750	.000	.000	.000	.000	.853



A & R Engineering, Inc.

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

TMC DATA

West Ave @ Cole Lake Rd

7-9 am | 4-6 pm

File Name : 20220144

Site Code : 20220144

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				West Ave Eastbound				West Ave 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	14	1	17	1	4	0	5	0	0	0	0	1	0	10	11	33
07:15 AM	1	18	0	19	0	5	0	5	0	0	0	0	3	0	10	13	37
07:30 AM	2	20	1	23	1	7	0	8	0	0	1	1	2	0	7	9	41
07:45 AM	1	22	1	24	3	8	0	11	1	0	0	1	2	0	11	13	49
Total	6	74	3	83	5	24	0	29	1	0	1	2	8	0	38	46	160
08:00 AM	0	17	0	17	2	7	0	9	0	0	1	1	5	0	12	17	44
08:15 AM	0	14	0	14	1	3	0	4	0	0	1	1	1	0	7	8	27
08:30 AM	0	17	0	17	1	9	1	11	0	0	0	0	2	0	5	7	35
08:45 AM	0	15	1	16	0	6	0	6	1	0	0	1	0	0	1	1	24
Total	0	63	1	64	4	25	1	30	1	0	2	3	8	0	25	33	130
*** BREAK ***																	
04:00 PM	1	6	2	9	1	11	1	13	0	1	1	2	5	1	8	14	38
04:15 PM	0	9	1	10	2	17	0	19	0	0	1	1	5	0	7	12	42
04:30 PM	1	8	0	9	3	5	1	9	1	0	1	2	10	0	9	19	39
04:45 PM	0	10	0	10	3	20	0	23	0	0	0	0	5	0	7	12	45
Total	2	33	3	38	9	53	2	64	1	1	3	5	25	1	31	57	164
05:00 PM	1	15	0	16	2	7	0	9	1	0	1	2	5	2	7	14	41
05:15 PM	0	14	2	16	1	18	0	19	0	0	3	3	6	0	7	13	51
05:30 PM	0	9	1	10	1	17	0	18	0	1	0	1	5	1	9	15	44
05:45 PM	0	6	0	6	7	18	0	25	0	1	1	2	8	0	7	15	48
Total	1	44	3	48	11	60	0	71	1	2	5	8	24	3	30	57	184
Grand Total	9	214	10	233	29	162	3	194	4	3	11	18	65	4	124	193	638
Apprch %	3.9	91.8	4.3		14.9	83.5	1.5		22.2	16.7	61.1		33.7	2.1	64.2		
Total %	1.4	33.5	1.6	36.5	4.5	25.4	0.5	30.4	0.6	0.5	1.7	2.8	10.2	0.6	19.4	30.3	

A & R Engineering, Inc.

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

TMC DATA

West Ave @ Cole Lake Rd

7-9 am | 4-6 pm

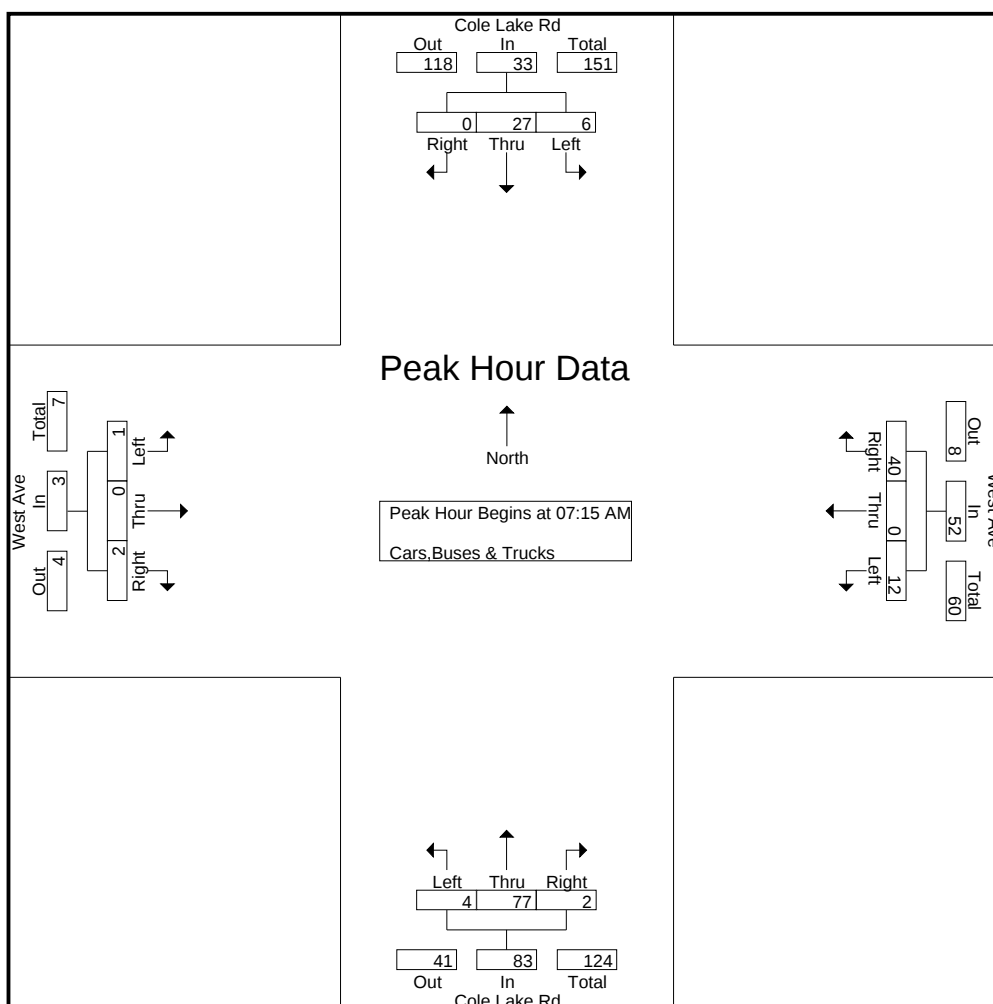
File Name : 20220144

Site Code : 20220144

Start Date : 4/12/2022

Page No : 2

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				West Ave Eastbound				West Ave 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	1	18	0	19	0	5	0	5	0	0	0	0	3	0	10	13	37
07:30 AM	2	20	1	23	1	7	0	8	0	0	1	1	2	0	7	9	41
07:45 AM	1	22	1	24	3	8	0	11	1	0	0	1	2	0	11	13	49
08:00 AM	0	17	0	17	2	7	0	9	0	0	1	1	5	0	12	17	44
Total Volume	4	77	2	83	6	27	0	33	1	0	2	3	12	0	40	52	171
% App. Total	4.8	92.8	2.4		18.2	81.8	0		33.3	0	66.7		23.1	0	76.9		
PHF	.500	.875	.500	.865	.500	.844	.000	.750	.250	.000	.500	.750	.600	.000	.833	.765	.872



A & R Engineering, Inc.

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

TMC DATA

West Ave @ Cole Lake Rd
7-9 am | 4-6 pm

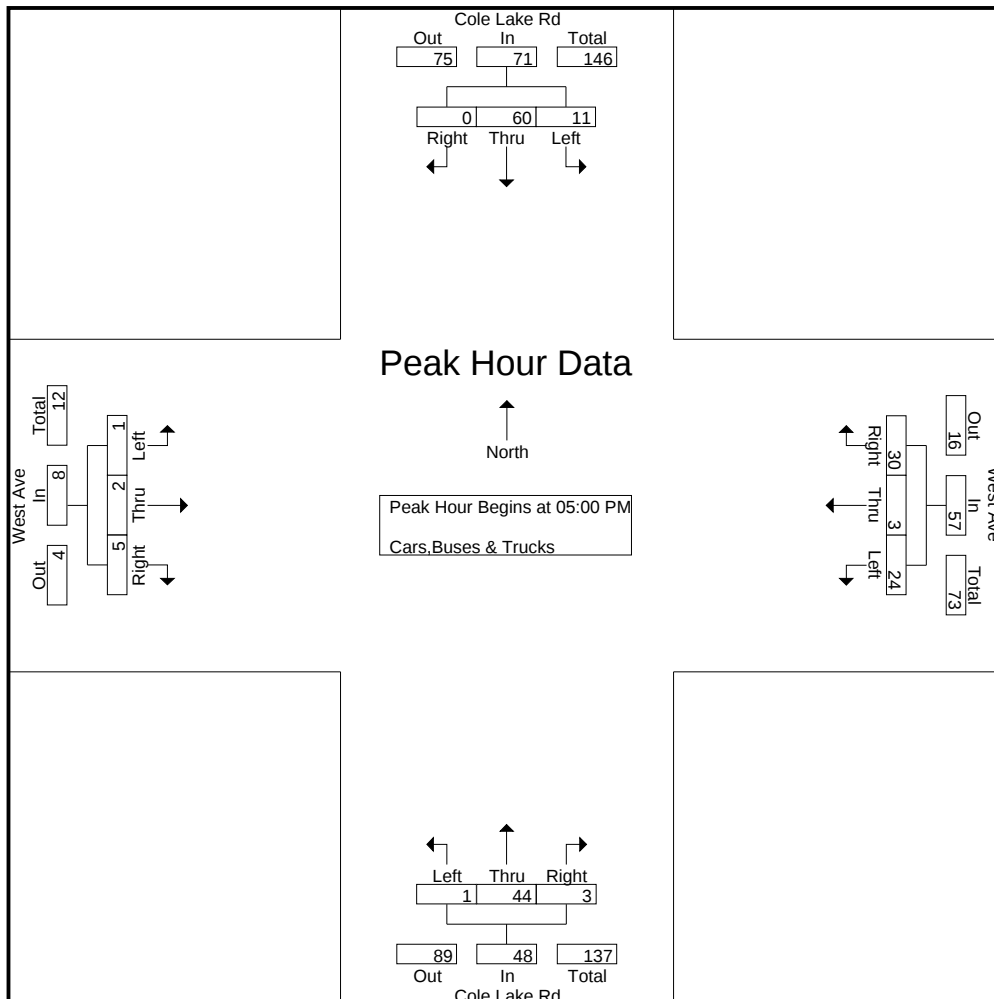
File Name : 20220144

Site Code : 20220144

Start Date : 4/12/2022

Page No : 3

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				West Ave Eastbound				West Ave Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	15	0	16	2	7	0	9	1	0	1	2	5	2	7	14	41
05:15 PM	0	14	2	16	1	18	0	19	0	0	3	3	6	0	7	13	51
05:30 PM	0	9	1	10	1	17	0	18	0	1	0	1	5	1	9	15	44
05:45 PM	0	6	0	6	7	18	0	25	0	1	1	2	8	0	7	15	48
Total Volume	1	44	3	48	11	60	0	71	1	2	5	8	24	3	30	57	184
% App. Total	2.1	91.7	6.2		15.5	84.5	0		12.5	25	62.5		42.1	5.3	52.6		
PHF	.250	.733	.375	.750	.393	.833	.000	.710	.250	.500	.417	.667	.750	.375	.833	.950	.902



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Buchanan St @ Cole Lake Rd
7-9 am | 4-6 pm

File Name : 20220151

Site Code : 20220151

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 120 (Buchanan Hwy) Northbound				SR 120 (Buchanan Hwy) Southbound				Eastbound				Cole Lake 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	118	1	119	4	43	0	47	0	0	0	0	5	0	19	24	190
07:15 AM	0	159	0	159	5	47	0	52	0	0	0	0	4	0	24	28	239
07:30 AM	0	144	1	145	8	43	0	51	0	0	0	0	3	0	24	27	223
07:45 AM	0	180	1	181	10	49	0	59	0	0	0	0	4	0	30	34	274
Total	0	601	3	604	27	182	0	209	0	0	0	0	16	0	97	113	926
08:00 AM	0	122	1	123	8	49	0	57	0	0	0	0	3	0	26	29	209
08:15 AM	0	141	0	141	4	61	0	65	0	0	0	0	3	0	18	21	227
08:30 AM	0	110	1	111	11	48	0	59	0	0	0	0	2	0	20	22	192
08:45 AM	0	91	0	91	6	43	0	49	0	0	0	0	1	0	16	17	157
Total	0	464	2	466	29	201	0	230	0	0	0	0	9	0	80	89	785
*** BREAK ***																	
04:00 PM	0	63	2	65	13	130	0	143	0	0	0	0	3	0	11	14	222
04:15 PM	0	91	3	94	16	135	0	151	0	0	0	0	3	0	13	16	261
04:30 PM	0	73	1	74	13	147	0	160	0	0	0	0	4	0	14	18	252
04:45 PM	0	55	1	56	18	129	0	147	0	0	0	0	2	0	15	17	220
Total	0	282	7	289	60	541	0	601	0	0	0	0	12	0	53	65	955
05:00 PM	0	47	0	47	15	137	0	152	0	0	0	0	3	0	20	23	222
05:15 PM	0	46	1	47	19	128	0	147	0	0	0	0	2	0	19	21	215
05:30 PM	0	51	1	52	18	134	0	152	0	0	0	0	4	0	14	18	222
05:45 PM	0	44	0	44	25	112	0	137	0	0	0	0	1	0	12	13	194
Total	0	188	2	190	77	511	0	588	0	0	0	0	10	0	65	75	853
Grand Total	0	1535	14	1549	193	1435	0	1628	0	0	0	0	47	0	295	342	3519
Apprch %	0	99.1	0.9		11.9	88.1	0		0	0	0		13.7	0	86.3		
Total %	0	43.6	0.4	44	5.5	40.8	0	46.3	0	0	0	0	1.3	0	8.4	9.7	

A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Buchanan St @ Cole Lake Rd
7-9 am | 4-6 pm

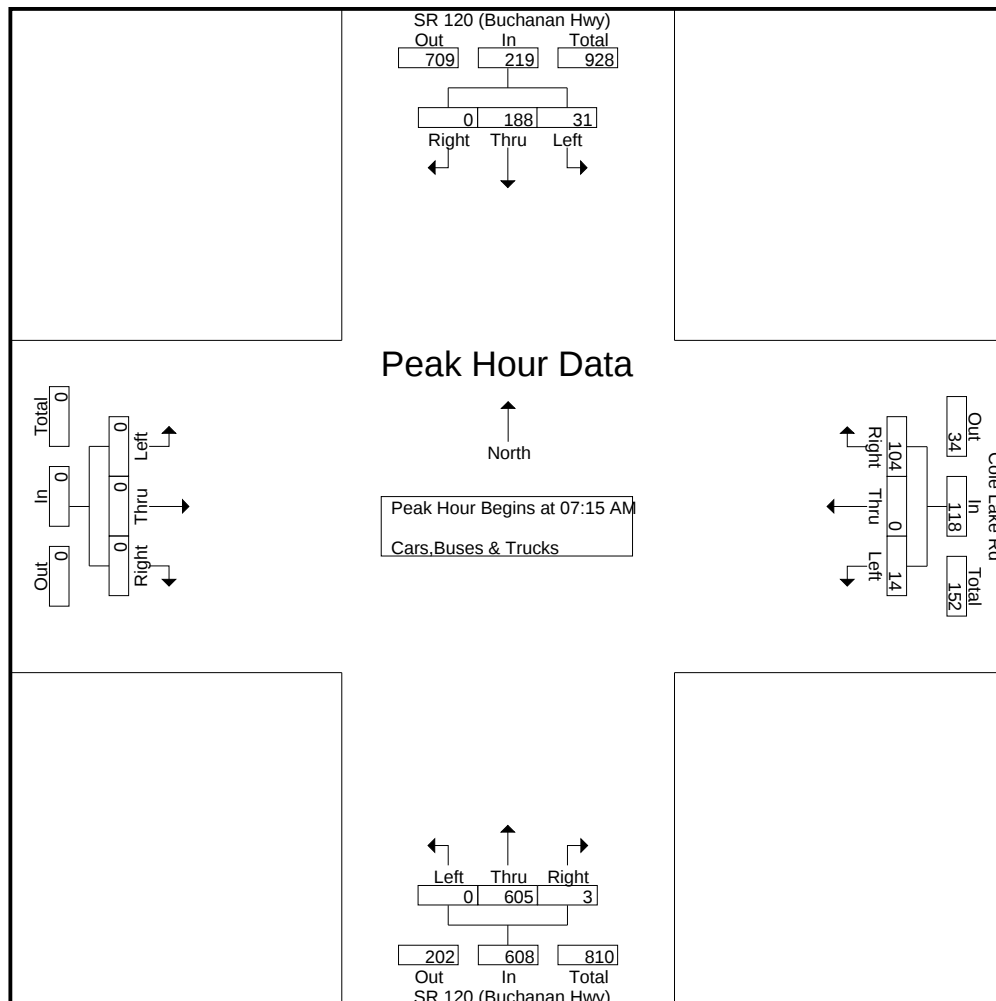
File Name : 20220151

Site Code : 20220151

Start Date : 4/12/2022

Page No : 2

	SR 120 (Buchanan Hwy) Northbound				SR 120 (Buchanan Hwy) Southbound				Eastbound				Cole Lake 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	159	0	159	5	47	0	52	0	0	0	0	4	0	24	28	239
07:30 AM	0	144	1	145	8	43	0	51	0	0	0	0	3	0	24	27	223
07:45 AM	0	180	1	181	10	49	0	59	0	0	0	0	4	0	30	34	274
08:00 AM	0	122	1	123	8	49	0	57	0	0	0	0	3	0	26	29	209
Total Volume	0	605	3	608	31	188	0	219	0	0	0	0	14	0	104	118	945
% App. Total	0	99.5	0.5		14.2	85.8	0		0	0	0		11.9	0	88.1		
PHF	.000	.840	.750	.840	.775	.959	.000	.928	.000	.000	.000	.000	.875	.000	.867	.868	.862



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Buchanan St @ Cole Lake Rd
7-9 am | 4-6 pm

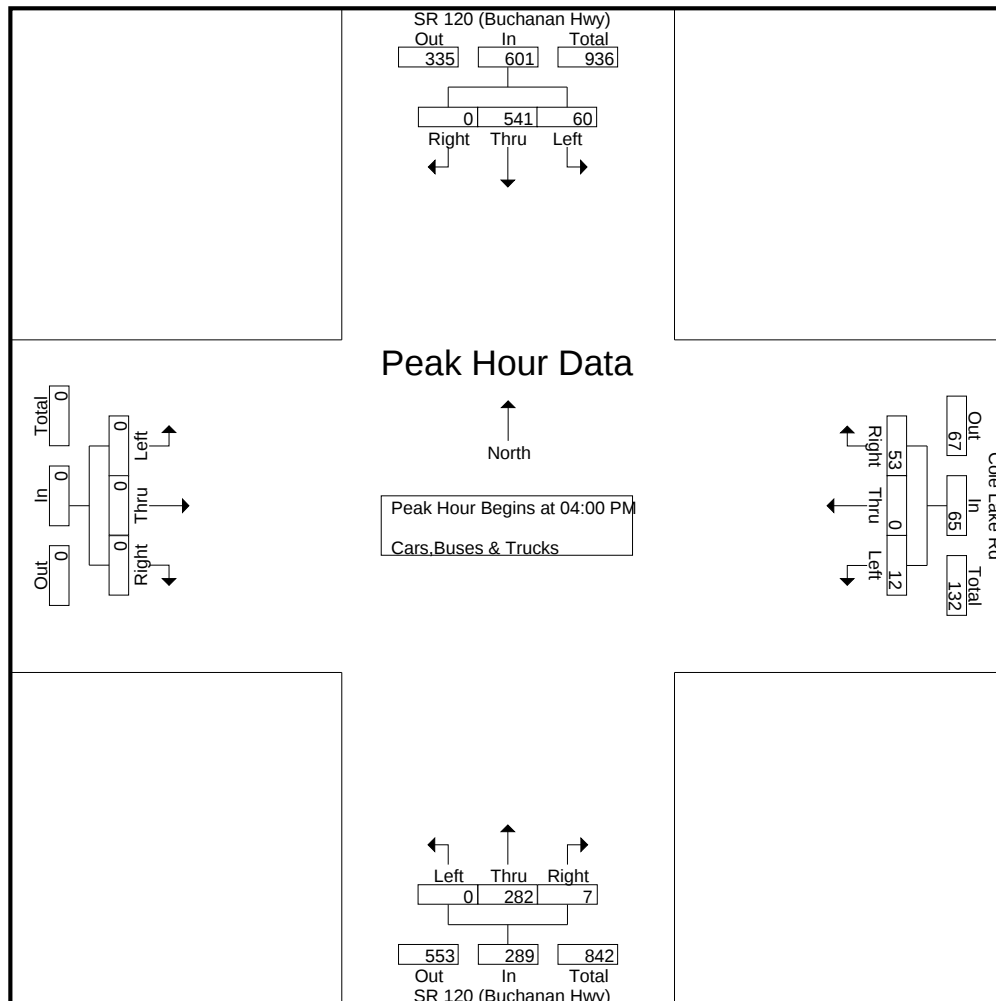
File Name : 20220151

Site Code : 20220151

Start Date : 4/12/2022

Page No : 3

	SR 120 (Buchanan Hwy) Northbound				SR 120 (Buchanan Hwy) Southbound				Eastbound				Cole Lake Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	63	2	65	13	130	0	143	0	0	0	0	3	0	11	14	222
04:15 PM	0	91	3	94	16	135	0	151	0	0	0	0	3	0	13	16	261
04:30 PM	0	73	1	74	13	147	0	160	0	0	0	0	4	0	14	18	252
04:45 PM	0	55	1	56	18	129	0	147	0	0	0	0	2	0	15	17	220
Total Volume	0	282	7	289	60	541	0	601	0	0	0	0	12	0	53	65	955
% App. Total	0	97.6	2.4		10	90	0		0	0	0		18.5	0	81.5		
PHF	.000	.775	.583	.769	.833	.920	.000	.939	.000	.000	.000	.000	.750	.000	.883	.903	.915



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TMC DATA

Cole Lake Rd @ Happy Valley Church Rd
7-9 am | 4-6 pm

File Name : 20220145

Site Code : 20220145

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				China Ridge Dr Eastbound				Happy Valley Church Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	10	1	11	1	4	0	5	0	0	0	0	0	0	2	2	18
07:15 AM	0	15	3	18	0	8	0	8	0	0	0	0	2	0	3	5	31
07:30 AM	0	18	8	26	5	7	0	12	0	0	0	0	2	0	5	7	45
07:45 AM	0	9	12	21	3	6	0	9	0	0	0	0	1	0	1	2	32
Total	0	52	24	76	9	25	0	34	0	0	0	0	5	0	11	16	126
08:00 AM	2	10	2	14	8	2	0	10	0	1	1	2	2	0	3	5	31
08:15 AM	0	12	4	16	2	3	0	5	0	0	0	0	1	0	3	4	25
08:30 AM	0	6	0	6	5	3	0	8	0	0	0	0	0	0	0	0	14
08:45 AM	0	7	0	7	2	2	0	4	1	0	0	1	1	0	2	3	15
Total	2	35	6	43	17	10	0	27	1	1	1	3	4	0	8	12	85
*** BREAK ***																	
04:00 PM	0	9	1	10	1	9	0	10	0	0	0	0	3	1	3	7	27
04:15 PM	0	4	2	6	3	9	1	13	0	1	0	1	3	0	1	4	24
04:30 PM	0	5	2	7	3	12	0	15	0	1	0	1	3	1	0	4	27
04:45 PM	0	9	3	12	1	11	1	13	0	0	0	0	2	0	1	3	28
Total	0	27	8	35	8	41	2	51	0	2	0	2	11	2	5	18	106
05:00 PM	0	7	2	9	2	16	0	18	0	0	0	0	7	1	3	11	38
05:15 PM	0	5	3	8	0	11	0	11	0	0	0	0	4	0	2	6	25
05:30 PM	0	6	5	11	5	11	0	16	0	0	0	0	5	1	1	7	34
05:45 PM	0	4	5	9	1	13	0	14	0	1	0	1	3	0	1	4	28
Total	0	22	15	37	8	51	0	59	0	1	0	1	19	2	7	28	125
Grand Total	2	136	53	191	42	127	2	171	1	4	1	6	39	4	31	74	442
Apprch %	1	71.2	27.7		24.6	74.3	1.2		16.7	66.7	16.7		52.7	5.4	41.9		
Total %	0.5	30.8	12	43.2	9.5	28.7	0.5	38.7	0.2	0.9	0.2	1.4	8.8	0.9	7	16.7	

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TMC DATA

Cole Lake Rd @ Happy Valley Church Rd
7-9 am | 4-6 pm

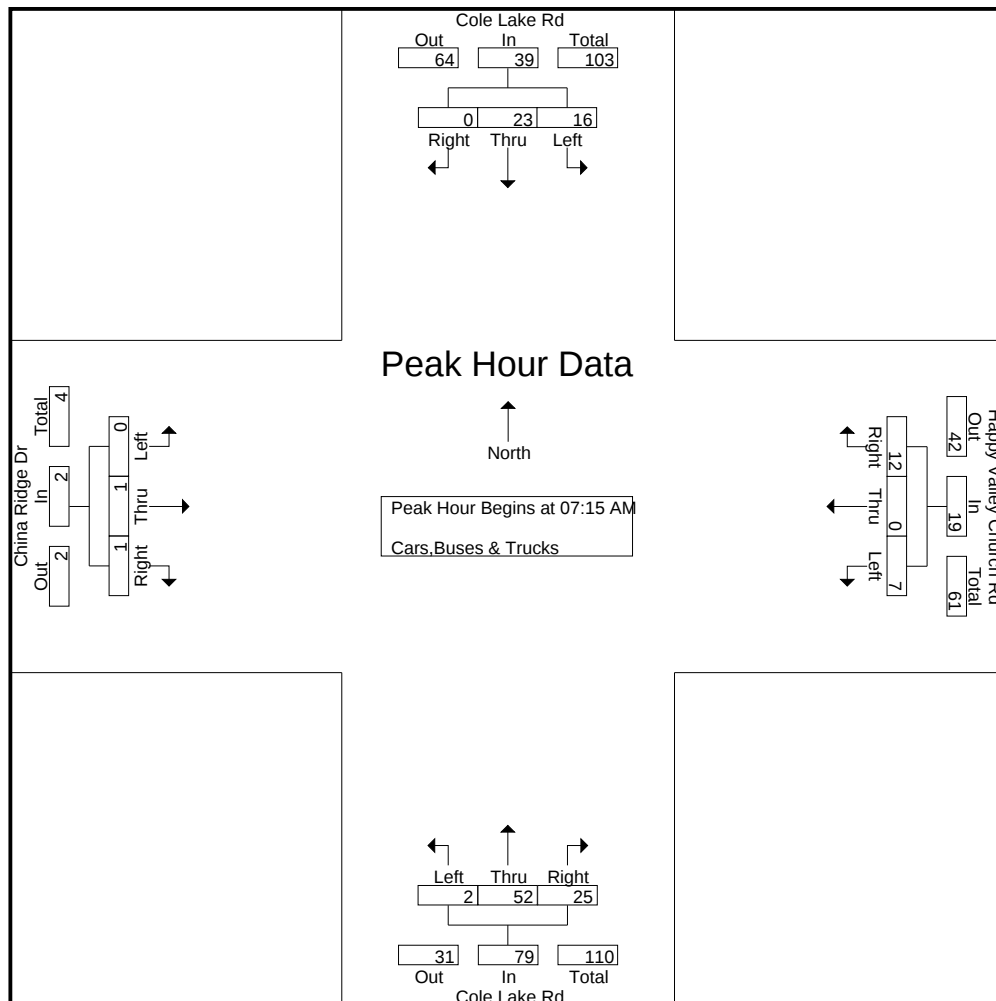
File Name : 20220145

Site Code : 20220145

Start Date : 4/12/2022

Page No : 2

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				China Ridge Dr Eastbound				Happy Valley Church Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	15	3	18	0	8	0	8	0	0	0	0	2	0	3	5	31
07:30 AM	0	18	8	26	5	7	0	12	0	0	0	0	2	0	5	7	45
07:45 AM	0	9	12	21	3	6	0	9	0	0	0	0	1	0	1	2	32
08:00 AM	2	10	2	14	8	2	0	10	0	1	1	2	2	0	3	5	31
Total Volume	2	52	25	79	16	23	0	39	0	1	1	2	7	0	12	19	139
% App. Total	2.5	65.8	31.6		41	59	0		0	50	50		36.8	0	63.2		
PHF	.250	.722	.521	.760	.500	.719	.000	.813	.000	.250	.250	.250	.875	.000	.600	.679	.772



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TMC DATA

Cole Lake Rd @ Happy Valley Church Rd
7-9 am | 4-6 pm

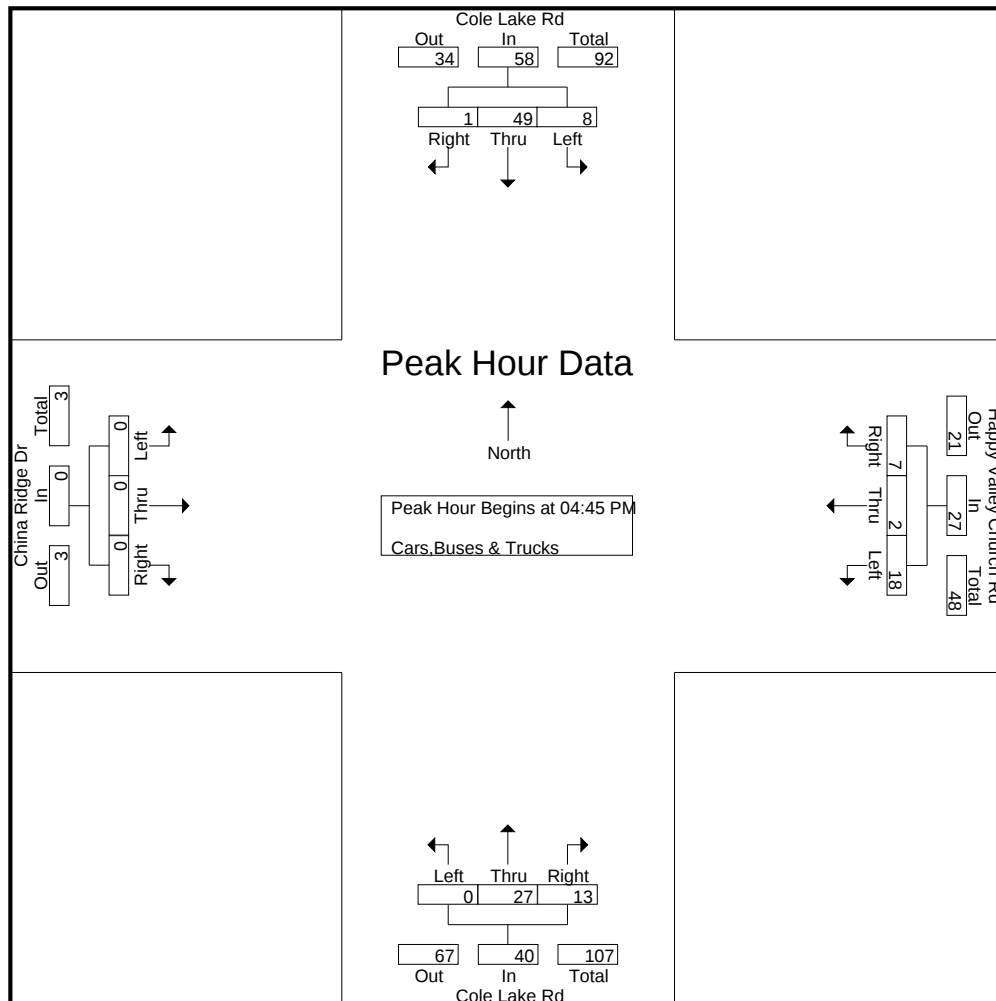
File Name : 20220145

Site Code : 20220145

Start Date : 4/12/2022

Page No : 3

	Cole Lake Rd Northbound				Cole Lake Rd Southbound				China Ridge Dr Eastbound				Happy Valley Church Rd Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	9	3	12	1	11	1	13	0	0	0	0	2	0	1	3	28
05:00 PM	0	7	2	9	2	16	0	18	0	0	0	0	7	1	3	11	38
05:15 PM	0	5	3	8	0	11	0	11	0	0	0	0	4	0	2	6	25
05:30 PM	0	6	5	11	5	11	0	16	0	0	0	0	5	1	1	7	34
Total Volume	0	27	13	40	8	49	1	58	0	0	0	0	18	2	7	27	125
% App. Total	0	67.5	32.5		13.8	84.5	1.7		0	0	0		66.7	7.4	25.9		
PHF	.000	.750	.650	.833	.400	.766	.250	.806	.000	.000	.000	.000	.643	.500	.583	.614	.822



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2160 Kinston Court Suite 'O'
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TMC DATA

Happy Valley Church Rd @ Old Villa Rica
Rd

7-9 am | 4-6 pm

File Name : 20220152

Site Code : 20220152

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	Old Villa Rica Rd Northbound				Old Villa Rica Rd Southbound				Happy Valley Church Rd Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	14	0	15	0	4	3	7	8	0	0	8	0	0	0	0	30
07:15 AM	1	15	0	16	0	3	5	8	6	0	1	7	0	0	0	0	31
07:30 AM	2	19	0	21	0	7	4	11	7	0	0	7	0	0	0	0	39
07:45 AM	1	13	0	14	0	6	3	9	9	0	0	9	0	0	0	0	32
Total	5	61	0	66	0	20	15	35	30	0	1	31	0	0	0	0	132
08:00 AM	2	12	0	14	0	5	3	8	8	0	1	9	0	0	0	0	31
08:15 AM	2	15	0	17	0	3	2	5	7	0	1	8	0	0	0	0	30
08:30 AM	1	11	0	12	0	3	3	6	6	0	1	7	0	0	0	0	25
08:45 AM	3	8	0	11	0	2	2	4	8	0	0	8	0	0	0	0	23
Total	8	46	0	54	0	13	10	23	29	0	3	32	0	0	0	0	109
*** BREAK ***																	
04:00 PM	2	10	0	12	0	9	6	15	6	0	1	7	0	0	0	0	34
04:15 PM	1	9	0	10	0	9	7	16	5	0	1	6	0	0	0	0	32
04:30 PM	1	11	0	12	0	6	6	12	7	0	2	9	0	0	0	0	33
04:45 PM	2	12	0	14	0	8	7	15	5	0	1	6	0	0	0	0	35
Total	6	42	0	48	0	32	26	58	23	0	5	28	0	0	0	0	134
05:00 PM	3	13	0	16	0	7	8	15	6	0	0	6	0	0	0	0	37
05:15 PM	2	10	0	12	0	5	4	9	8	0	1	9	0	0	0	0	30
05:30 PM	1	9	0	10	0	6	5	11	6	0	2	8	0	0	0	0	29
05:45 PM	3	6	0	9	0	4	3	7	5	0	1	6	0	0	0	0	22
Total	9	38	0	47	0	22	20	42	25	0	4	29	0	0	0	0	118
Grand Total	28	187	0	215	0	87	71	158	107	0	13	120	0	0	0	0	493
Apprch %	13	87	0		0	55.1	44.9		89.2	0	10.8		0	0	0		
Total %	5.7	37.9	0	43.6	0	17.6	14.4	32	21.7	0	2.6	24.3	0	0	0	0	

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TMC DATA

Happy Valley Church Rd @ Old Villa Rica
Rd

7-9 am | 4-6 pm

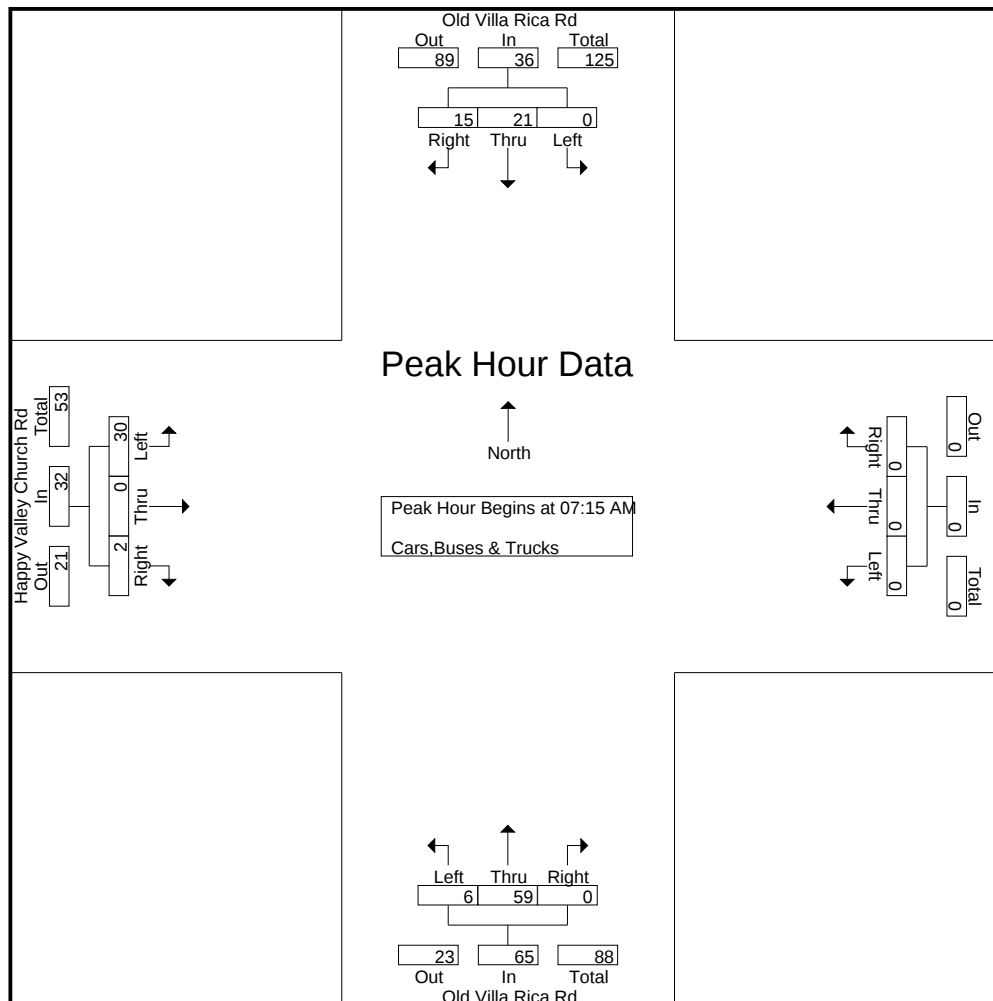
File Name : 20220152

Site Code : 20220152

Start Date : 4/12/2022

Page No : 2

	Old Villa Rica Rd Northbound				Old Villa Rica Rd Southbound				Happy Valley Church Rd 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	1	15	0	16	0	3	5	8	6	0	1	7	0	0	0	0	31
07:30 AM	2	19	0	21	0	7	4	11	7	0	0	7	0	0	0	0	39
07:45 AM	1	13	0	14	0	6	3	9	9	0	0	9	0	0	0	0	32
08:00 AM	2	12	0	14	0	5	3	8	8	0	1	9	0	0	0	0	31
Total Volume	6	59	0	65	0	21	15	36	30	0	2	32	0	0	0	0	133
% App. Total	9.2	90.8	0		0	58.3	41.7		93.8	0	6.2		0	0	0		
PHF	.750	.776	.000	.774	.000	.750	.750	.818	.833	.000	.500	.889	.000	.000	.000	.000	.853



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2160 Kinston Court Suite 'O'
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TMC DATA

Happy Valley Church Rd @ Old Villa Rica
Rd

7-9 am | 4-6 pm

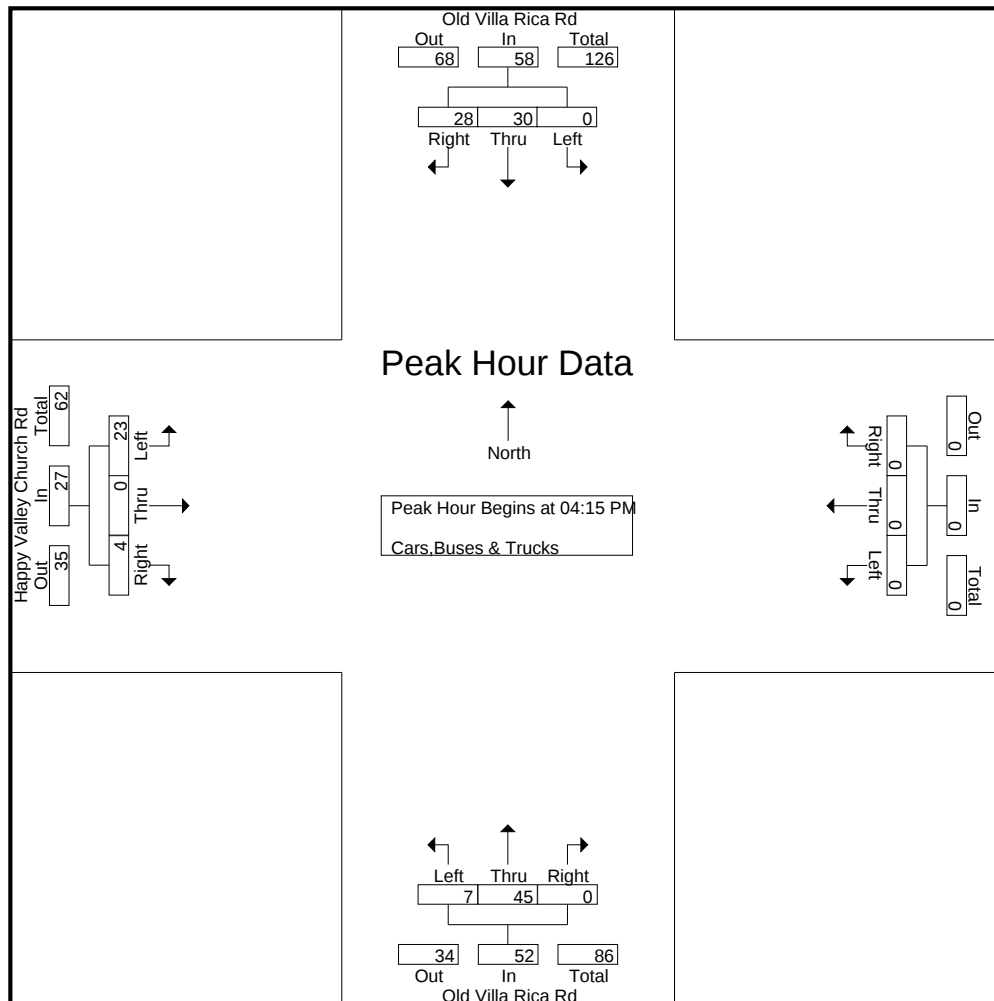
File Name : 20220152

Site Code : 20220152

Start Date : 4/12/2022

Page No : 3

	Old Villa Rica Rd Northbound				Old Villa Rica Rd Southbound				Happy Valley Church Rd 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 04:15 PM																	
04:15 PM	1	9	0	10	0	9	7	16	5	0	1	6	0	0	0	0	32
04:30 PM	1	11	0	12	0	6	6	12	7	0	2	9	0	0	0	0	33
04:45 PM	2	12	0	14	0	8	7	15	5	0	1	6	0	0	0	0	35
05:00 PM	3	13	0	16	0	7	8	15	6	0	0	6	0	0	0	0	37
Total Volume	7	45	0	52	0	30	28	58	23	0	4	27	0	0	0	0	137
% App. Total	13.5	86.5	0		0	51.7	48.3		85.2	0	14.8		0	0	0		
PHF	.583	.865	.000	.813	.000	.833	.875	.906	.821	.000	.500	.750	.000	.000	.000	.000	.926



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TMC DATA
US 278 (Jimmy Campbell Rd) @
Old Villa Rica Rd-Seaboard Dr
7-9 am | 4-6 pm

File Name : 20220147
Site Code : 20220147
Start Date : 4/12/2022
Page No : 1

Groups Printed- Cars,Buses & Trucks

Start Time	Old Villa Rica Rd Northbound				Seaboard Dr Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) 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	11	6	40	57	5	4	3	12	4	316	2	322	6	110	5	121	512
07:15 AM	14	10	37	61	7	4	2	13	4	310	6	320	6	151	4	161	555
07:30 AM	13	23	38	74	3	7	3	13	3	339	7	349	8	166	10	184	620
07:45 AM	10	9	45	64	8	9	6	23	7	308	17	332	14	153	7	174	593
Total	48	48	160	256	23	24	14	61	18	1273	32	1323	34	580	26	640	2280
08:00 AM	10	10	27	47	12	12	4	28	8	311	17	336	10	156	11	177	588
08:15 AM	9	20	32	61	9	6	3	18	4	225	11	240	13	164	14	191	510
08:30 AM	8	10	25	43	11	6	7	24	4	241	5	250	12	182	18	212	529
08:45 AM	5	6	14	25	8	8	6	22	9	220	7	236	9	179	15	203	486
Total	32	46	98	176	40	32	20	92	25	997	40	1062	44	681	58	783	2113
*** BREAK ***																	
04:00 PM	8	11	32	51	7	14	10	31	7	186	7	200	33	322	22	377	659
04:15 PM	5	9	24	38	14	17	17	48	7	177	13	197	30	299	14	343	626
04:30 PM	6	8	30	44	19	12	15	46	2	226	11	239	34	348	27	409	738
04:45 PM	13	6	24	43	17	16	20	53	6	209	11	226	32	291	5	328	650
Total	32	34	110	176	57	59	62	178	22	798	42	862	129	1260	68	1457	2673
05:00 PM	12	6	32	50	12	19	14	45	7	178	8	193	37	337	13	387	675
05:15 PM	8	11	31	50	7	20	5	32	3	177	11	191	18	217	4	239	512
05:30 PM	13	10	18	41	15	13	3	31	6	194	8	208	29	167	6	202	482
05:45 PM	5	5	18	28	14	14	9	37	5	163	8	176	25	233	5	263	504
Total	38	32	99	169	48	66	31	145	21	712	35	768	109	954	28	1091	2173
Grand Total	150	160	467	777	168	181	127	476	86	3780	149	4015	316	3475	180	3971	9239
Apprch %	19.3	20.6	60.1		35.3	38	26.7		2.1	94.1	3.7		8	87.5	4.5		
Total %	1.6	1.7	5.1	8.4	1.8	2	1.4	5.2	0.9	40.9	1.6	43.5	3.4	37.6	1.9	43	

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TMC DATA

US 278 (Jimmy Campbell Rd) @
Old Villa Rica Rd-Seaboard Dr
7-9 am | 4-6 pm

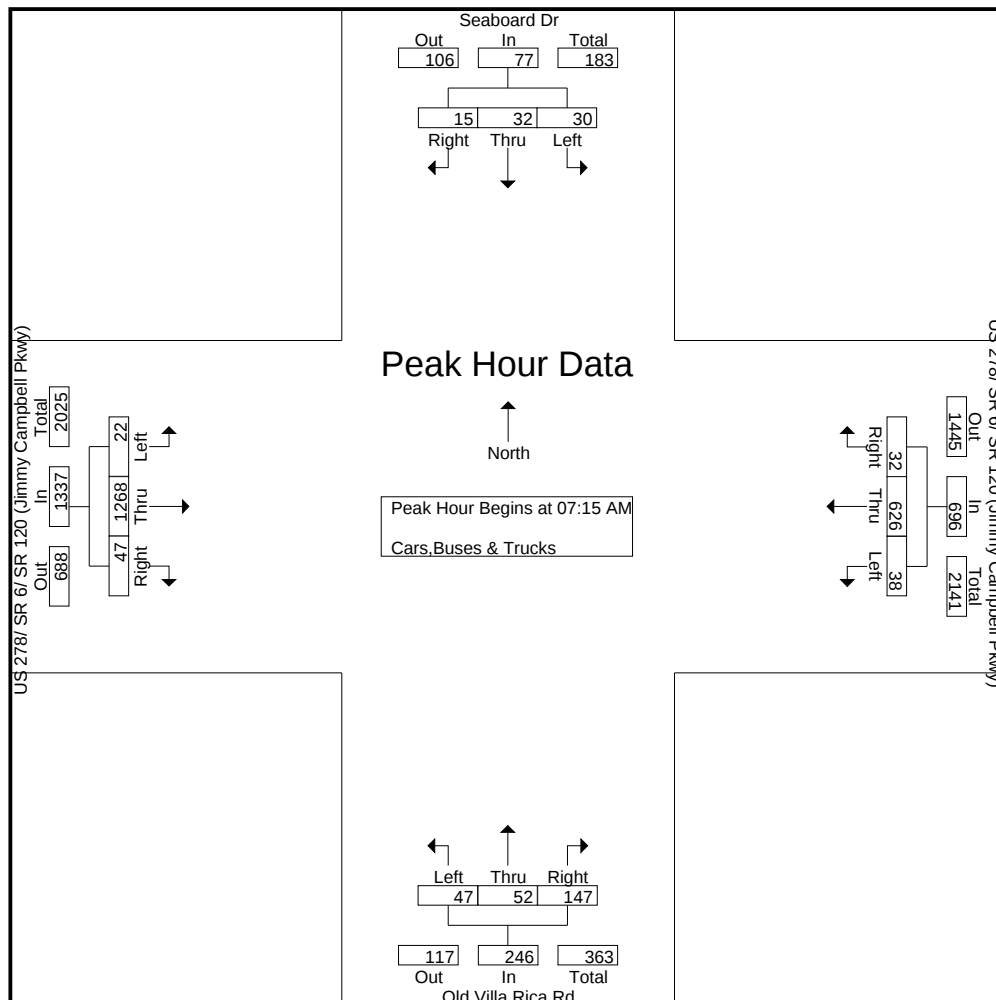
File Name : 20220147

Site Code : 20220147

Start Date : 4/12/2022

Page No : 2

	Old Villa Rica Rd Northbound				Seaboard Dr Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	14	10	37	61	7	4	2	13	4	310	6	320	6	151	4	161	555
07:30 AM	13	23	38	74	3	7	3	13	3	339	7	349	8	166	10	184	620
07:45 AM	10	9	45	64	8	9	6	23	7	308	17	332	14	153	7	174	593
08:00 AM	10	10	27	47	12	12	4	28	8	311	17	336	10	156	11	177	588
Total Volume	47	52	147	246	30	32	15	77	22	1268	47	1337	38	626	32	696	2356
% App. Total	19.1	21.1	59.8		39	41.6	19.5		1.6	94.8	3.5		5.5	89.9	4.6		
PHF	.839	.565	.817	.831	.625	.667	.625	.688	.688	.935	.691	.958	.679	.943	.727	.946	.950



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2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

US 278 (Jimmy Campbell Rd) @
Old Villa Rica Rd-Seaboard Dr
7-9 am | 4-6 pm

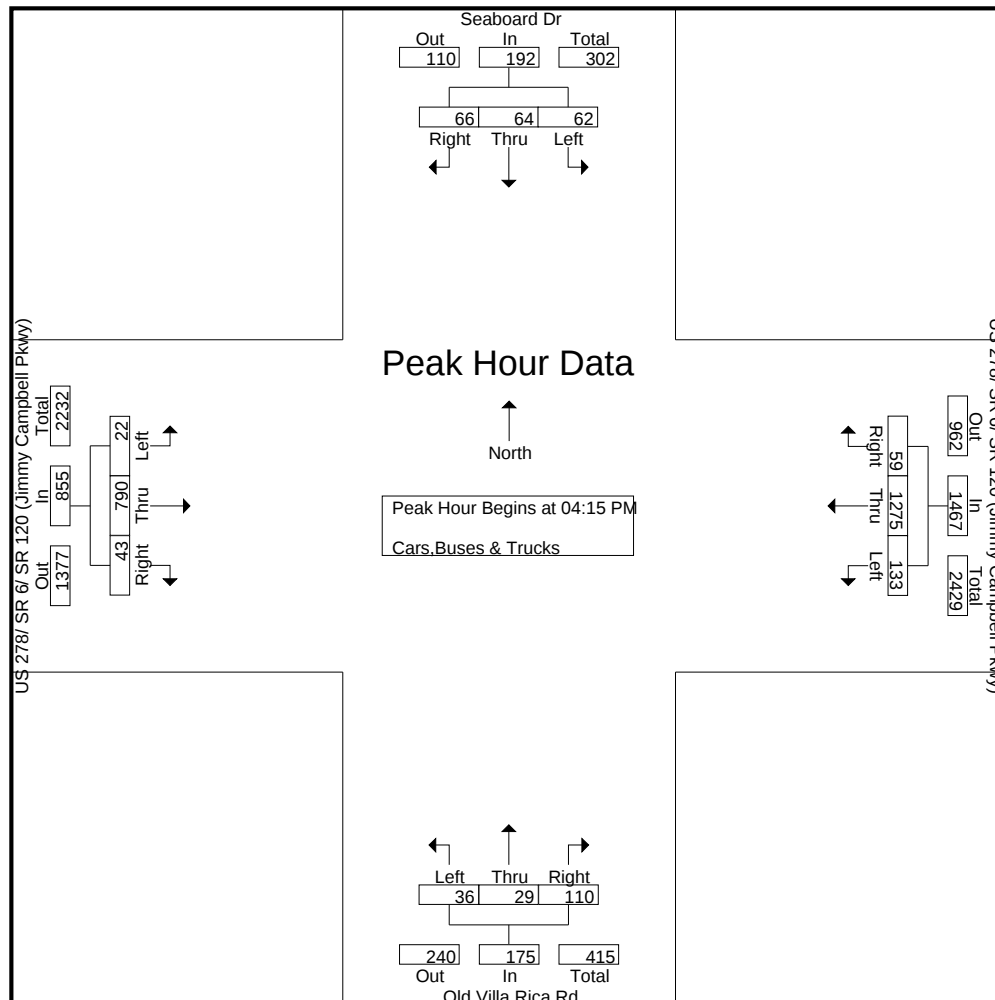
File Name : 20220147

Site Code : 20220147

Start Date : 4/12/2022

Page No : 3

	Old Villa Rica Rd Northbound				Seaboard Dr Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	5	9	24	38	14	17	17	48	7	177	13	197	30	299	14	343	626
04:30 PM	6	8	30	44	19	12	15	46	2	226	11	239	34	348	27	409	738
04:45 PM	13	6	24	43	17	16	20	53	6	209	11	226	32	291	5	328	650
05:00 PM	12	6	32	50	12	19	14	45	7	178	8	193	37	337	13	387	675
Total Volume	36	29	110	175	62	64	66	192	22	790	43	855	133	1275	59	1467	2689
% App. Total	20.6	16.6	62.9		32.3	33.3	34.4		2.6	92.4	5		9.1	86.9	4		
PHF	.692	.806	.859	.875	.816	.842	.825	.906	.786	.874	.827	.894	.899	.916	.546	.897	.911



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

US 278 (Jimmy Campbell Rd) @ West Ave -

S. Main St

7-9 am | 4-6 pm

File Name : 20220148

Site Code : 20220148

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	West Ave Northbound				S. Main St Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound					US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	3	3	13	322	1	1	337	5	112	7	124	464	
07:15 AM	0	0	2	2	0	0	6	6	11	318	0	2	331	5	155	7	167	506	
07:30 AM	0	0	0	0	0	0	4	4	21	349	1	2	373	3	165	14	182	559	
07:45 AM	0	0	2	2	0	0	6	6	26	330	1	2	359	7	141	21	169	536	
Total	0	0	4	4	0	0	19	19	71	1319	3	7	1400	20	573	49	642	2065	
08:00 AM	0	0	2	2	0	0	4	4	35	334	8	7	384	6	146	18	170	560	
08:15 AM	0	0	4	4	0	0	5	5	27	236	0	5	268	7	152	17	176	453	
08:30 AM	0	0	4	4	0	0	18	18	14	246	1	1	262	6	173	18	197	481	
08:45 AM	0	0	6	6	0	0	18	18	13	230	1	2	246	3	166	21	190	460	
Total	0	0	16	16	0	0	45	45	89	1046	10	15	1160	22	637	74	733	1954	
*** BREAK ***																			
04:00 PM	0	0	0	0	0	0	23	23	7	200	0	0	207	16	318	6	340	570	
04:15 PM	0	0	1	1	0	0	16	16	9	196	3	0	208	14	298	9	321	546	
04:30 PM	0	0	1	1	0	0	30	30	11	238	2	1	252	14	344	11	369	652	
04:45 PM	0	0	1	1	0	0	31	31	8	225	2	0	235	13	306	5	324	591	
Total	0	0	3	3	0	0	100	100	35	859	7	1	902	57	1266	31	1354	2359	
05:00 PM	0	0	5	5	0	0	45	45	3	188	1	1	193	10	338	5	353	596	
05:15 PM	0	0	3	3	0	0	26	26	5	188	0	0	193	13	210	7	230	452	
05:30 PM	0	0	1	1	0	0	25	25	4	207	1	1	213	13	163	7	183	422	
05:45 PM	0	0	2	2	0	0	29	29	3	174	0	0	177	14	226	7	247	455	
Total	0	0	11	11	0	0	125	125	15	757	2	2	776	50	937	26	1013	1925	
Grand Total	0	0	34	34	0	0	289	289	210	3981	22	25	4238	149	3413	180	3742	8303	
Apprch %	0	0	100		0	0	100		5	93.9	0.5	0.6		4	91.2	4.8			
Total %	0	0	0.4	0.4	0	0	3.5	3.5	2.5	47.9	0.3	0.3	51	1.8	41.1	2.2	45.1		

A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

US 278 (Jimmy Campbell Rd) @ West Ave -

S. Main St

7-9 am | 4-6 pm

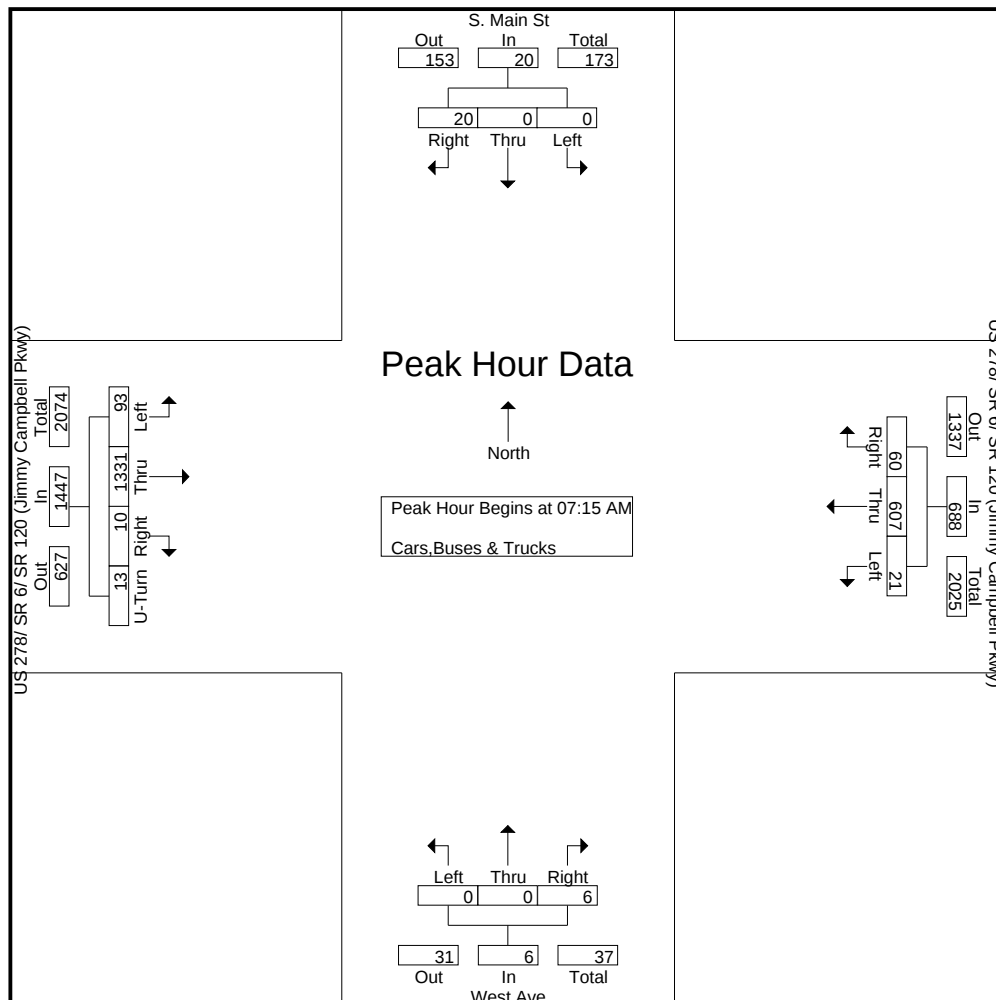
File Name : 20220148

Site Code : 20220148

Start Date : 4/12/2022

Page No : 2

	West Ave Northbound				S. Main St Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound					US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	0	0	2	2	0	0	6	6	11	318	0	2	331	5	155	7	167	506
07:30 AM	0	0	0	0	0	0	4	4	21	349	1	2	373	3	165	14	182	559
07:45 AM	0	0	2	2	0	0	6	6	26	330	1	2	359	7	141	21	169	536
08:00 AM	0	0	2	2	0	0	4	4	35	334	8	7	384	6	146	18	170	560
Total Volume	0	0	6	6	0	0	20	20	93	1331	10	13	1447	21	607	60	688	2161
% App. Total	0	0	100		0	0	100		6.4	92	0.7	0.9		3.1	88.2	8.7		
PHF	.000	.000	.750	.750	.000	.000	.833	.833	.664	.953	.313	.464	.942	.750	.920	.714	.945	.965



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

US 278 (Jimmy Campbell Rd) @ West Ave -

S. Main St

7-9 am | 4-6 pm

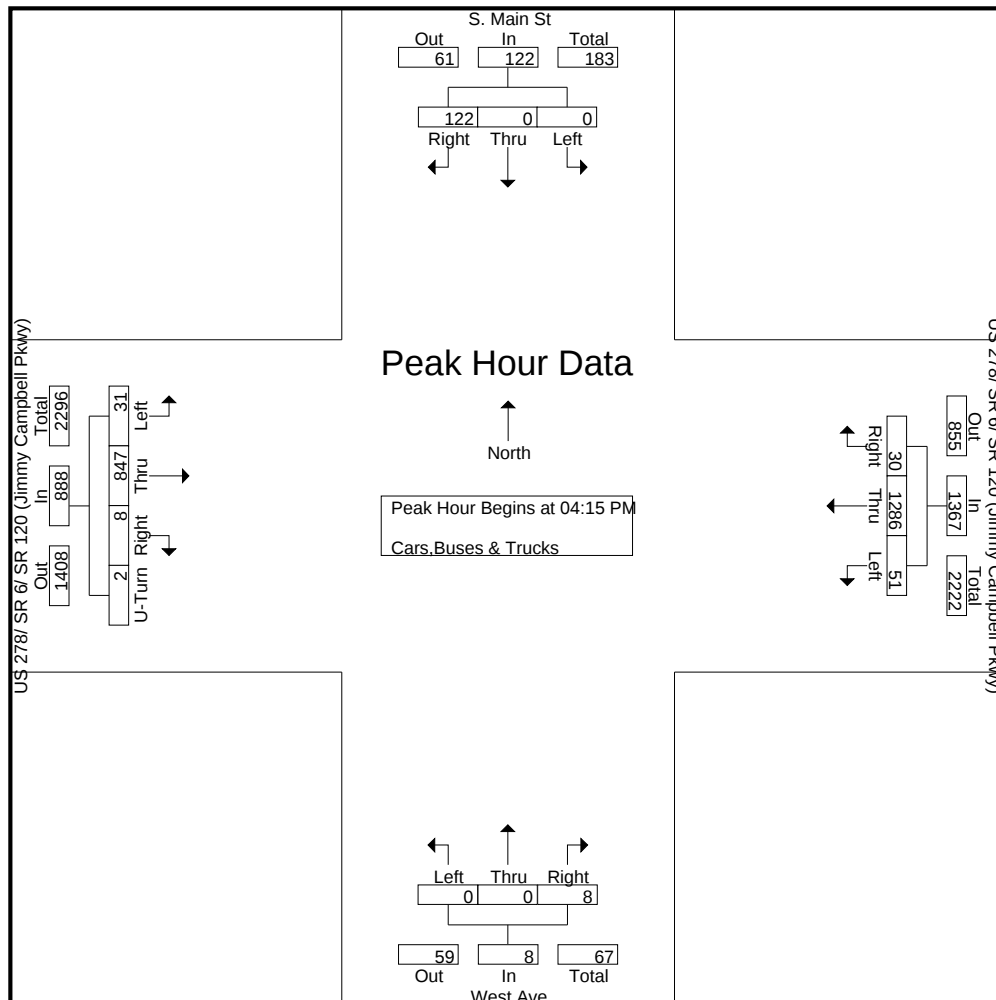
File Name : 20220148

Site Code : 20220148

Start Date : 4/12/2022

Page No : 3

	West Ave Northbound				S. Main St Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound					US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	0	0	1	1	0	0	16	16	9	196	3	0	208	14	298	9	321	546
04:30 PM	0	0	1	1	0	0	30	30	11	238	2	1	252	14	344	11	369	652
04:45 PM	0	0	1	1	0	0	31	31	8	225	2	0	235	13	306	5	324	591
05:00 PM	0	0	5	5	0	0	45	45	3	188	1	1	193	10	338	5	353	596
Total Volume	0	0	8	8	0	0	122	122	31	847	8	2	888	51	1286	30	1367	2385
% App. Total	0	0	100		0	0	100		3.5	95.4	0.9	0.2		3.7	94.1	2.2		
PHF	.000	.000	.400	.400	.000	.000	.678	.678	.705	.890	.667	.500	.881	.911	.935	.682	.926	.914



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC Data
US 278 (Jimmy Campbell Rd) @ Villa Rica
Hwy - Nathan Dean Blvd
7-9 am I 4-6 pm

File Name : 20220149
Site Code : 20220149
Start Date : 4/12/2022
Page No : 1

Groups Printed- Cars, Buses & Trucks

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound						
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total	
07:00 AM	9	110	77	196	39	75	16	130	11	299	6	316	41	86	18	4	149	791	
07:15 AM	11	123	83	217	41	79	19	139	16	311	13	340	39	97	21	6	163	859	
07:30 AM	13	99	84	196	46	81	20	147	12	338	11	361	45	111	29	5	190	894	
07:45 AM	8	103	76	187	39	87	25	151	14	326	16	356	51	132	35	3	221	915	
Total	41	435	320	796	165	322	80	567	53	1274	46	1373	176	426	103	18	723	3459	
08:00 AM	12	78	61	151	36	94	21	151	24	291	20	335	58	129	44	6	237	874	
08:15 AM	16	83	66	165	32	99	17	148	26	246	19	291	63	146	46	9	264	868	
08:30 AM	14	96	58	168	27	85	13	125	21	222	23	266	58	163	40	4	265	824	
08:45 AM	12	91	51	154	24	76	11	111	14	203	17	234	52	172	37	5	266	765	
Total	54	348	236	638	119	354	62	535	85	962	79	1126	231	610	167	24	1032	3331	
*** BREAK ***																			
04:00 PM	13	120	86	219	46	81	21	148	16	196	16	228	45	321	23	6	395	990	
04:15 PM	16	129	84	229	53	86	26	165	19	185	19	223	49	310	26	4	389	1006	
04:30 PM	21	134	93	248	63	92	20	175	22	194	23	239	53	342	29	8	432	1094	
04:45 PM	26	136	99	261	57	99	31	187	27	206	29	262	56	291	39	4	390	1100	
Total	76	519	362	957	219	358	98	675	84	781	87	952	203	1264	117	22	1606	4190	
05:00 PM	23	121	103	247	46	109	35	190	32	179	23	234	63	302	41	7	413	1084	
05:15 PM	16	115	93	224	32	94	26	152	26	163	17	206	58	187	35	9	289	871	
05:30 PM	15	99	81	195	28	86	21	135	21	182	16	219	50	173	24	5	252	801	
05:45 PM	10	86	72	168	25	71	17	113	16	171	12	199	43	222	18	6	289	769	
Total	64	421	349	834	131	360	99	590	95	695	68	858	214	884	118	27	1243	3525	
Grand Total	235	1723	1267	3225	634	1394	339	2367	317	3712	280	4309	824	3184	505	91	4604	14505	
Apprch %	7.3	53.4	39.3		26.8	58.9	14.3		7.4	86.1	6.5		17.9	69.2	11	2			
Total %	1.6	11.9	8.7	22.2	4.4	9.6	2.3	16.3	2.2	25.6	1.9	29.7	5.7	22	3.5	0.6	31.7		

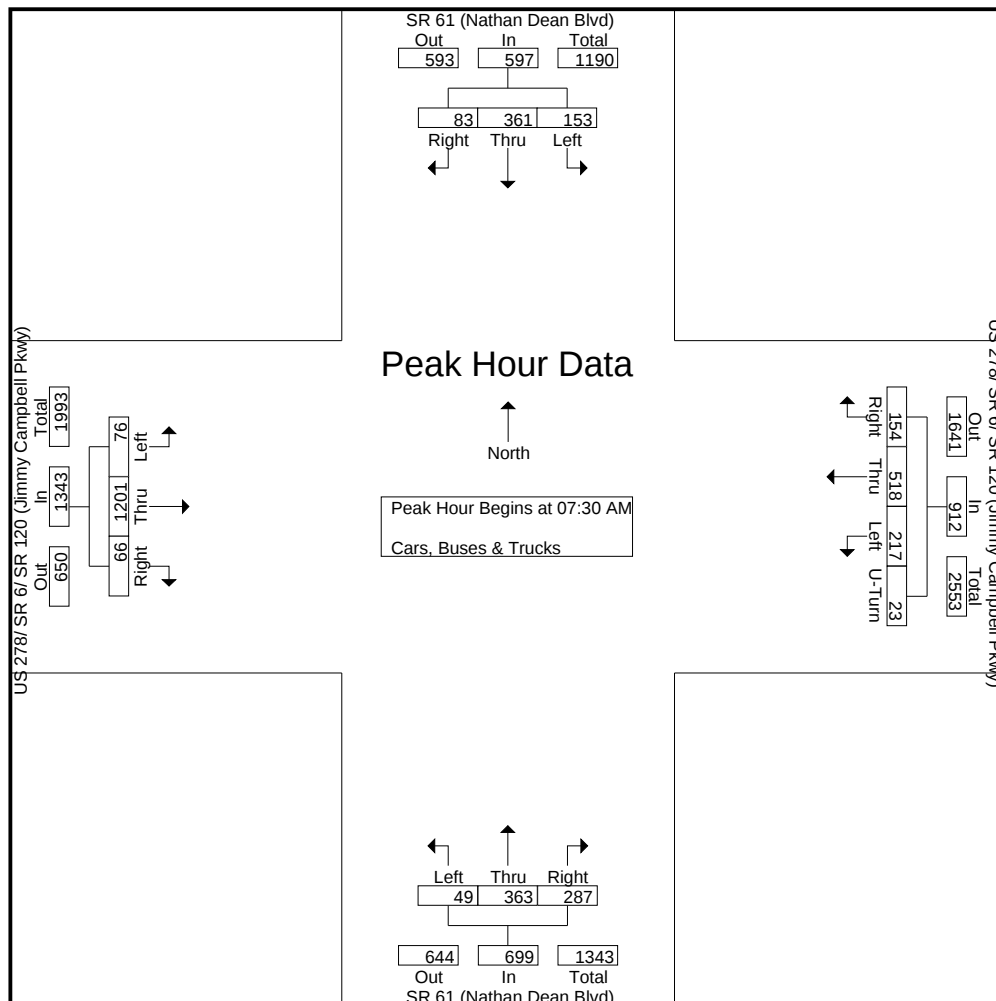
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC Data
US 278 (Jimmy Campbell Rd) @ Villa Rica
Hwy - Nathan Dean Blvd
7-9 am I 4-6 pm

File Name : 20220149
Site Code : 20220149
Start Date : 4/12/2022
Page No : 2

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	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	13	99	84	196	46	81	20	147	12	338	11	361	45	111	29	5	190	894
07:45 AM	8	103	76	187	39	87	25	151	14	326	16	356	51	132	35	3	221	915
08:00 AM	12	78	61	151	36	94	21	151	24	291	20	335	58	129	44	6	237	874
08:15 AM	16	83	66	165	32	99	17	148	26	246	19	291	63	146	46	9	264	868
Total Volume	49	363	287	699	153	361	83	597	76	1201	66	1343	217	518	154	23	912	3551
% App. Total	7	51.9	41.1		25.6	60.5	13.9		5.7	89.4	4.9		23.8	56.8	16.9	2.5		
PHF	.766	.881	.854	.892	.832	.912	.830	.988	.731	.888	.825	.930	.861	.887	.837	.639	.864	.970



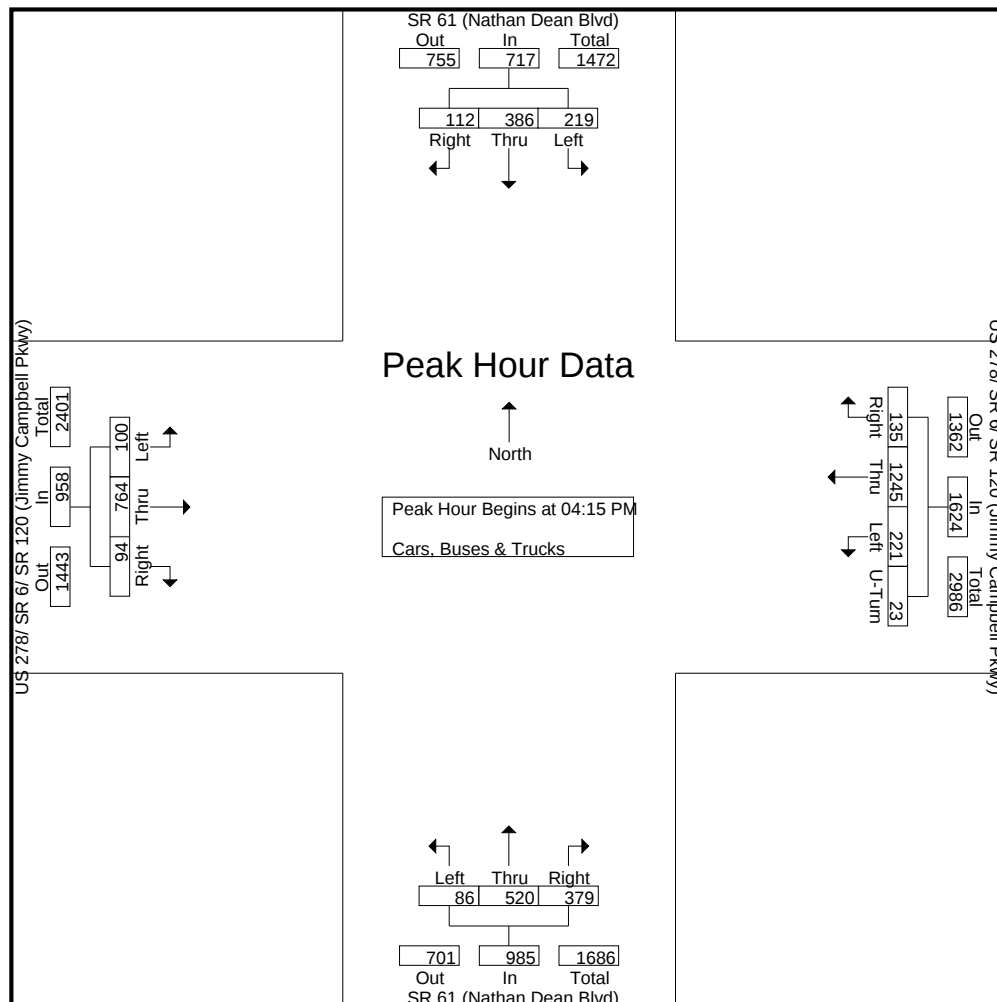
A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC Data
US 278 (Jimmy Campbell Rd) @ Villa Rica
Hwy - Nathan Dean Blvd
7-9 am I 4-6 pm

File Name : 20220149
Site Code : 20220149
Start Date : 4/12/2022
Page No : 3

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	16	129	84	229	53	86	26	165	19	185	19	223	49	310	26	4	389	1006
04:30 PM	21	134	93	248	63	92	20	175	22	194	23	239	53	342	29	8	432	1094
04:45 PM	26	136	99	261	57	99	31	187	27	206	29	262	56	291	39	4	390	1100
05:00 PM	23	121	103	247	46	109	35	190	32	179	23	234	63	302	41	7	413	1084
Total Volume	86	520	379	985	219	386	112	717	100	764	94	958	221	1245	135	23	1624	4284
% App. Total	8.7	52.8	38.5		30.5	53.8	15.6		10.4	79.7	9.8		13.6	76.7	8.3	1.4		
PHF	.827	.956	.920	.943	.869	.885	.800	.943	.781	.927	.810	.914	.877	.910	.823	.719	.940	.974



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

US 278 (Jimmy Campbell Rd) @ Buchanan St
7-9 am | 4-6 pm

File Name : 20220150

Site Code : 20220150

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 120 (Buchanan St) Northbound				SR 6 Bus (Buchanan St) Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	49	81	137	3	23	6	32	5	253	3	261	22	85	9	116	546
07:15 AM	10	64	109	183	8	28	7	43	5	214	6	225	18	132	11	161	612
07:30 AM	15	55	98	168	6	20	3	29	5	263	9	277	22	136	13	171	645
07:45 AM	21	89	100	210	12	21	6	39	4	247	14	265	25	105	19	149	663
Total	53	257	388	698	29	92	22	143	19	977	32	1028	87	458	52	597	2466
08:00 AM	9	45	94	148	10	21	6	37	4	280	9	293	28	109	20	157	635
08:15 AM	10	64	85	159	6	32	2	40	5	183	4	192	29	126	7	162	553
08:30 AM	4	64	62	130	11	29	2	42	7	189	6	202	24	147	10	181	555
08:45 AM	9	39	59	107	9	20	4	33	6	178	5	189	24	151	11	186	515
Total	32	212	300	544	36	102	14	152	22	830	24	876	105	533	48	686	2258
*** BREAK ***																	
04:00 PM	5	37	32	74	12	59	5	76	3	163	6	172	78	238	23	339	661
04:15 PM	9	50	45	104	25	73	7	105	5	138	13	156	68	219	27	314	679
04:30 PM	8	36	43	87	26	62	7	95	4	183	8	195	86	257	24	367	744
04:45 PM	8	26	36	70	30	54	10	94	8	169	10	187	88	224	25	337	688
Total	30	149	156	335	93	248	29	370	20	653	37	710	320	938	99	1357	2772
05:00 PM	0	29	38	67	29	56	11	96	4	126	9	139	81	261	29	371	673
05:15 PM	0	24	41	65	27	59	7	93	6	125	9	140	79	178	24	281	579
05:30 PM	0	28	37	65	26	65	9	100	5	150	11	166	76	101	26	203	534
05:45 PM	0	22	34	56	29	60	8	97	6	114	7	127	70	113	21	204	484
Total	0	103	150	253	111	240	35	386	21	515	36	572	306	653	100	1059	2270
Grand Total	115	721	994	1830	269	682	100	1051	82	2975	129	3186	818	2582	299	3699	9766
Apprch %	6.3	39.4	54.3		25.6	64.9	9.5		2.6	93.4	4		22.1	69.8	8.1		
Total %	1.2	7.4	10.2	18.7	2.8	7	1	10.8	0.8	30.5	1.3	32.6	8.4	26.4	3.1	37.9	

A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

US 278 (Jimmy Campbell Rd) @ Buchanan St
7-9 am | 4-6 pm

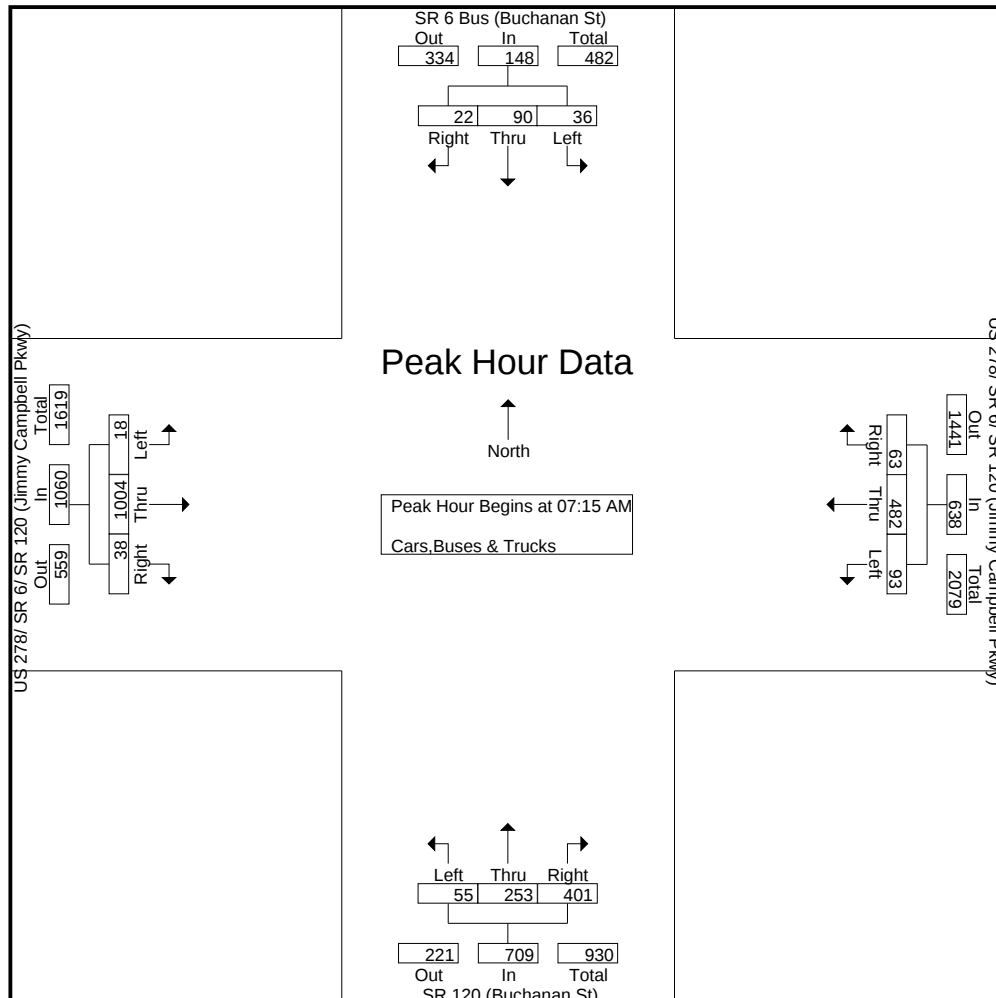
File Name : 20220150

Site Code : 20220150

Start Date : 4/12/2022

Page No : 2

	SR 120 (Buchanan St) Northbound				SR 6 Bus (Buchanan St) Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	10	64	109	183	8	28	7	43	5	214	6	225	18	132	11	161	612
07:30 AM	15	55	98	168	6	20	3	29	5	263	9	277	22	136	13	171	645
07:45 AM	21	89	100	210	12	21	6	39	4	247	14	265	25	105	19	149	663
08:00 AM	9	45	94	148	10	21	6	37	4	280	9	293	28	109	20	157	635
Total Volume	55	253	401	709	36	90	22	148	18	1004	38	1060	93	482	63	638	2555
% App. Total	7.8	35.7	56.6		24.3	60.8	14.9		1.7	94.7	3.6		14.6	75.5	9.9		
PHF	.655	.711	.920	.844	.750	.804	.786	.860	.900	.896	.679	.904	.830	.886	.788	.933	.963



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

US 278 (Jimmy Campbell Rd) @ Buchanan St
7-9 am | 4-6 pm

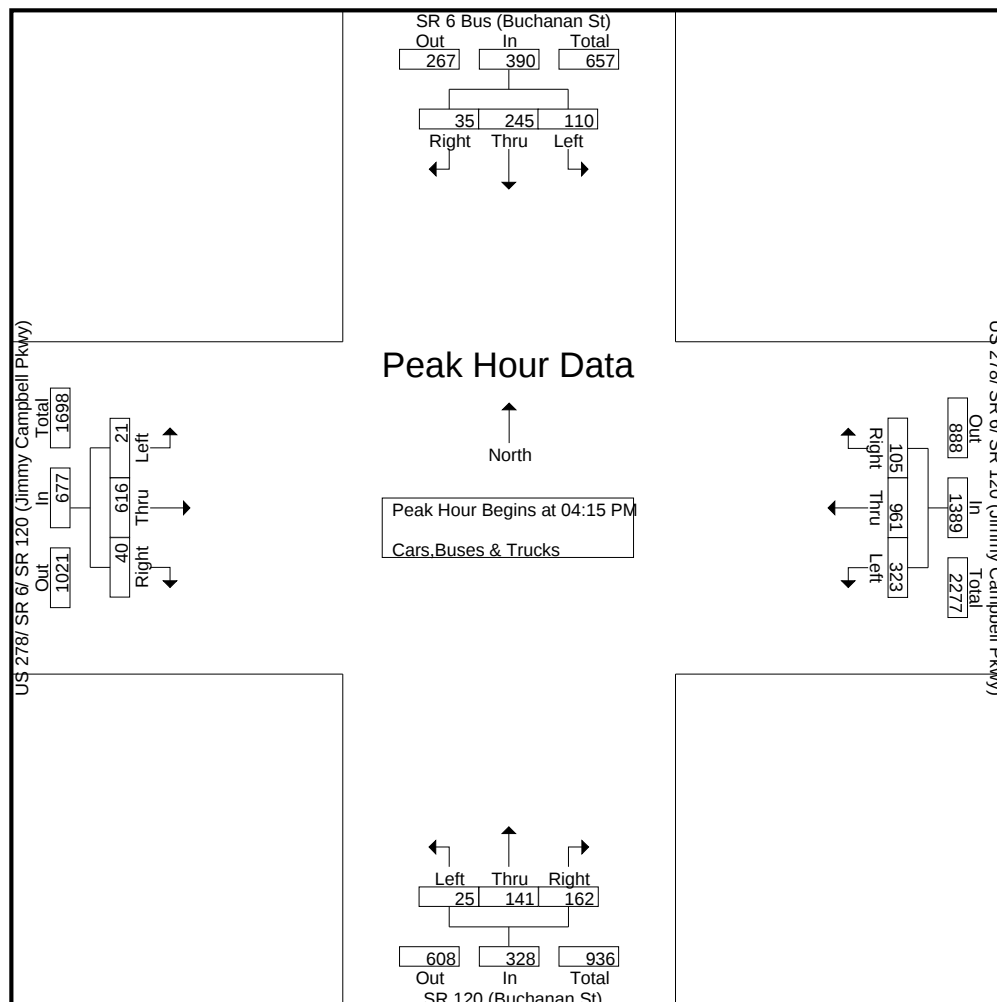
File Name : 20220150

Site Code : 20220150

Start Date : 4/12/2022

Page No : 3

	SR 120 (Buchanan St) Northbound				SR 6 Bus (Buchanan St) Southbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Eastbound				US 278/ SR 6/ SR 120 (Jimmy Campbell Pkwy) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	9	50	45	104	25	73	7	105	5	138	13	156	68	219	27	314	679
04:30 PM	8	36	43	87	26	62	7	95	4	183	8	195	86	257	24	367	744
04:45 PM	8	26	36	70	30	54	10	94	8	169	10	187	88	224	25	337	688
05:00 PM	0	29	38	67	29	56	11	96	4	126	9	139	81	261	29	371	673
Total Volume	25	141	162	328	110	245	35	390	21	616	40	677	323	961	105	1389	2784
% App. Total	7.6	43	49.4		28.2	62.8	9		3.1	91	5.9		23.3	69.2	7.6		
PHF	.694	.705	.900	.788	.917	.839	.795	.929	.656	.842	.769	.868	.918	.920	.905	.936	.935



A & R Engineering, Inc.

2160 Kinston Court Suite 'O'
Marietta, GA 30067

TMC DATA

Nathan Dean Blvd & SR 6 (Merchants Dr)

7-9 am | 4-6 pm

File Name : 20220181

Site Code : 20220181

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 61 (Nathan Dean Blvd) Northbound				Hampton Dr Southbound				SR 6 Bus (Merchants Dr) Eastbound				SR 6 Bus (Merchants Dr) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	107	1	10	118	4	4	6	14	1	72	105	178	7	30	3	40	350
07:15 AM	109	1	21	131	0	4	3	7	1	71	140	212	11	47	1	59	409
07:30 AM	93	0	29	122	2	6	1	9	1	77	133	211	18	71	0	89	431
07:45 AM	111	1	36	148	3	5	3	11	0	86	115	201	19	71	3	93	453
Total	420	3	96	519	9	19	13	41	3	306	493	802	55	219	7	281	1643
08:00 AM	113	0	32	145	5	6	2	13	0	70	109	179	21	48	3	72	409
08:15 AM	101	4	22	127	2	6	3	11	2	86	123	211	21	57	2	80	429
08:30 AM	109	1	18	128	2	1	3	6	1	69	99	169	7	51	3	61	364
08:45 AM	116	1	15	132	2	0	1	3	4	72	79	155	11	56	0	67	357
Total	439	6	87	532	11	13	9	33	7	297	410	714	60	212	8	280	1559
*** BREAK ***																	
04:00 PM	118	1	25	144	1	1	1	3	2	65	116	183	25	91	0	116	446
04:15 PM	141	5	30	176	3	3	1	7	3	58	119	180	18	90	6	114	477
04:30 PM	119	5	20	144	4	1	4	9	1	75	96	172	22	89	4	115	440
04:45 PM	109	2	25	136	2	3	0	5	0	76	106	182	15	102	4	121	444
Total	487	13	100	600	10	8	6	24	6	274	437	717	80	372	14	466	1807
05:00 PM	161	2	30	193	2	2	1	5	1	46	120	167	24	96	2	122	487
05:15 PM	139	3	17	159	2	3	2	7	2	73	120	195	23	102	2	127	488
05:30 PM	122	6	25	153	0	1	1	2	2	72	99	173	36	105	12	153	481
05:45 PM	153	6	27	186	4	8	4	16	3	53	86	142	23	87	2	112	456
Total	575	17	99	691	8	14	8	30	8	244	425	677	106	390	18	514	1912
Grand Total	1921	39	382	2342	38	54	36	128	24	1121	1765	2910	301	1193	47	1541	6921
Apprch %	82	1.7	16.3		29.7	42.2	28.1		0.8	38.5	60.7		19.5	77.4	3		
Total %	27.8	0.6	5.5	33.8	0.5	0.8	0.5	1.8	0.3	16.2	25.5	42	4.3	17.2	0.7	22.3	

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TMC DATA

Nathan Dean Blvd & SR 6 (Merchants Dr)

7-9 am | 4-6 pm

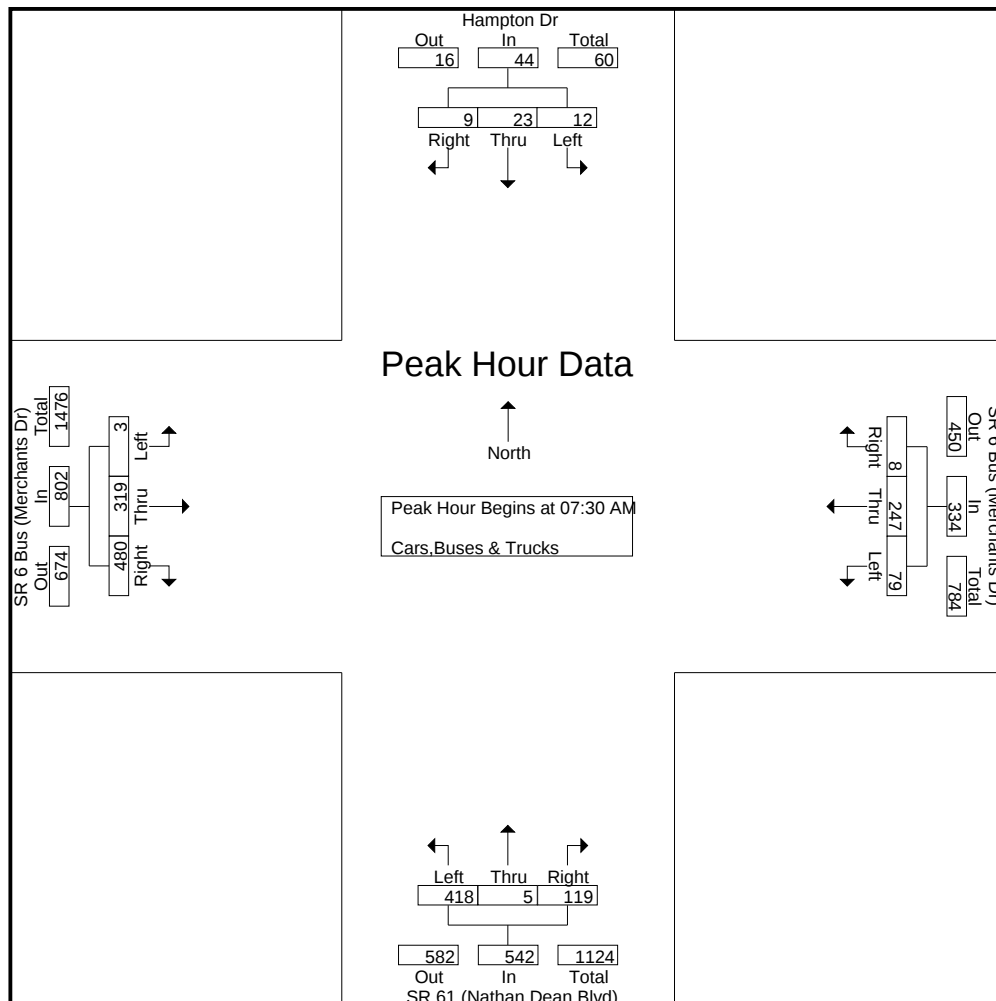
File Name : 20220181

Site Code : 20220181

Start Date : 4/12/2022

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	SR 61 (Nathan Dean Blvd) Northbound				Hampton Dr Southbound				SR 6 Bus (Merchants Dr) Eastbound				SR 6 Bus (Merchants Dr) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	93	0	29	122	2	6	1	9	1	77	133	211	18	71	0	89	431
07:45 AM	111	1	36	148	3	5	3	11	0	86	115	201	19	71	3	93	453
08:00 AM	113	0	32	145	5	6	2	13	0	70	109	179	21	48	3	72	409
08:15 AM	101	4	22	127	2	6	3	11	2	86	123	211	21	57	2	80	429
Total Volume	418	5	119	542	12	23	9	44	3	319	480	802	79	247	8	334	1722
% App. Total	77.1	0.9	22		27.3	52.3	20.5		0.4	39.8	59.9		23.7	74	2.4		
PHF	.925	.313	.826	.916	.600	.958	.750	.846	.375	.927	.902	.950	.940	.870	.667	.898	.950



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TMC DATA

Nathan Dean Blvd & SR 6 (Merchants Dr)

7-9 am | 4-6 pm

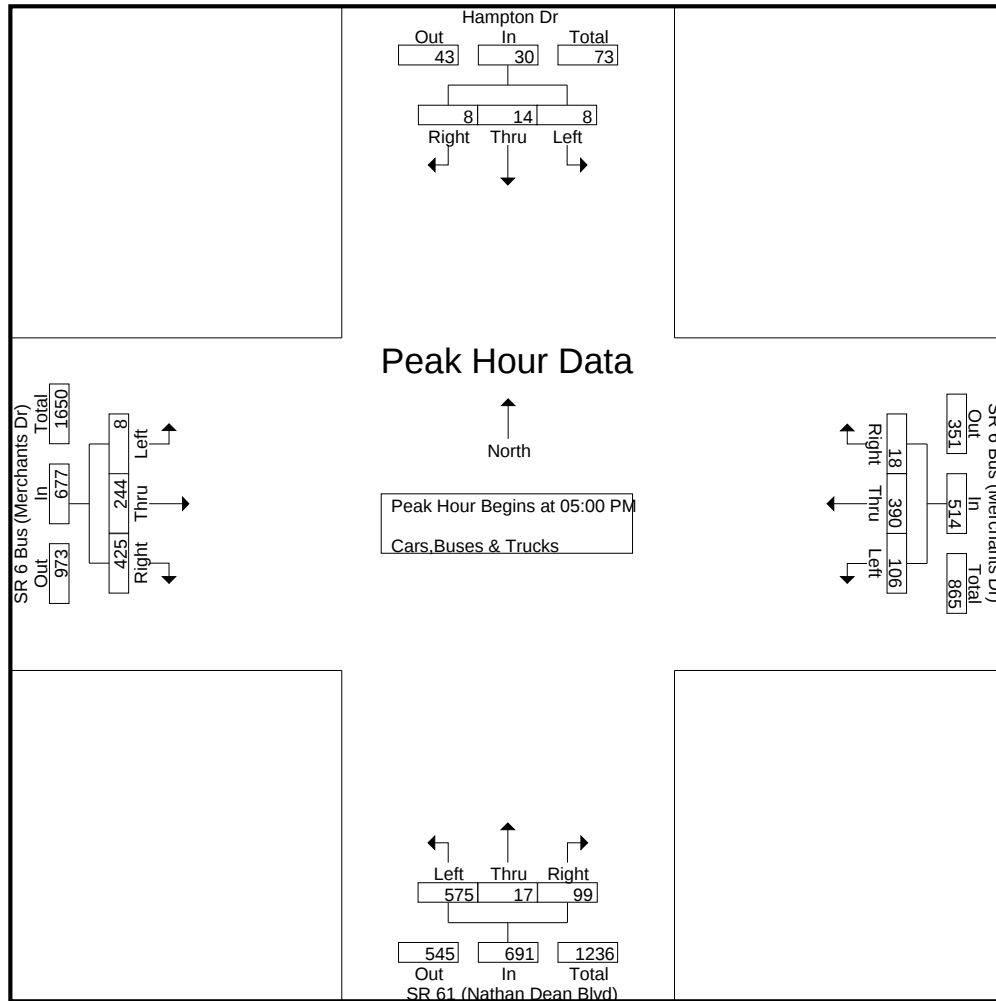
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Start Date : 4/12/2022

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	SR 61 (Nathan Dean Blvd) Northbound				Hampton Dr Southbound				SR 6 Bus (Merchants Dr) Eastbound				SR 6 Bus (Merchants Dr) Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	161	2	30	193	2	2	1	5	1	46	120	167	24	96	2	122	487
05:15 PM	139	3	17	159	2	3	2	7	2	73	120	195	23	102	2	127	488
05:30 PM	122	6	25	153	0	1	1	2	2	72	99	173	36	105	12	153	481
05:45 PM	153	6	27	186	4	8	4	16	3	53	86	142	23	87	2	112	456
Total Volume	575	17	99	691	8	14	8	30	8	244	425	677	106	390	18	514	1912
% App. Total	83.2	2.5	14.3		26.7	46.7	26.7		1.2	36	62.8		20.6	75.9	3.5		
PHF	.893	.708	.825	.895	.500	.438	.500	.469	.667	.836	.885	.868	.736	.929	.375	.840	.980



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TMC DATA

Nathan Dean Blvd @ Thomas B Murphy
7-9 am | 4-6 pm

File Name : 20220183

Site Code : 20220183

Start Date : 4/12/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				Henry Y Holland Dr Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	22	111	0	133	0	99	15	114	7	0	35	42	0	0	0	0	289
07:15 AM	25	123	0	148	0	124	12	136	8	0	38	46	0	0	0	0	330
07:30 AM	21	112	0	133	0	142	16	158	10	0	42	52	0	0	0	0	343
07:45 AM	20	139	0	159	0	131	14	145	9	0	41	50	0	0	0	0	354
Total	88	485	0	573	0	496	57	553	34	0	156	190	0	0	0	0	1316
08:00 AM	33	133	0	166	0	133	13	146	12	0	40	52	0	0	0	0	364
08:15 AM	35	118	0	153	0	145	18	163	9	0	39	48	0	0	0	0	364
08:30 AM	29	118	0	147	0	143	17	160	10	0	38	48	0	0	0	0	355
08:45 AM	28	120	0	148	0	128	15	143	12	0	35	47	0	0	0	0	338
Total	125	489	0	614	0	549	63	612	43	0	152	195	0	0	0	0	1421
*** BREAK ***																	
04:00 PM	31	135	0	166	0	154	18	172	9	0	19	28	0	0	0	0	366
04:15 PM	35	165	0	200	0	145	19	164	11	0	18	29	0	0	0	0	393
04:30 PM	36	134	0	170	0	148	15	163	10	0	21	31	0	0	0	0	364
04:45 PM	38	127	0	165	0	140	14	154	9	0	19	28	0	0	0	0	347
Total	140	561	0	701	0	587	66	653	39	0	77	116	0	0	0	0	1470
05:00 PM	41	181	0	222	0	141	16	157	12	0	21	33	0	0	0	0	412
05:15 PM	28	149	0	177	0	156	18	174	10	0	19	29	0	0	0	0	380
05:30 PM	34	142	0	176	0	147	17	164	11	0	18	29	0	0	0	0	369
05:45 PM	28	178	0	206	0	132	15	147	8	0	16	24	0	0	0	0	377
Total	131	650	0	781	0	576	66	642	41	0	74	115	0	0	0	0	1538
Grand Total	484	2185	0	2669	0	2208	252	2460	157	0	459	616	0	0	0	0	5745
Apprch %	18.1	81.9	0		0	89.8	10.2		25.5	0	74.5		0	0	0		
Total %	8.4	38	0	46.5	0	38.4	4.4	42.8	2.7	0	8	10.7	0	0	0	0	

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TMC DATA

Nathan Dean Blvd @ Thomas B Murphy
7-9 am | 4-6 pm

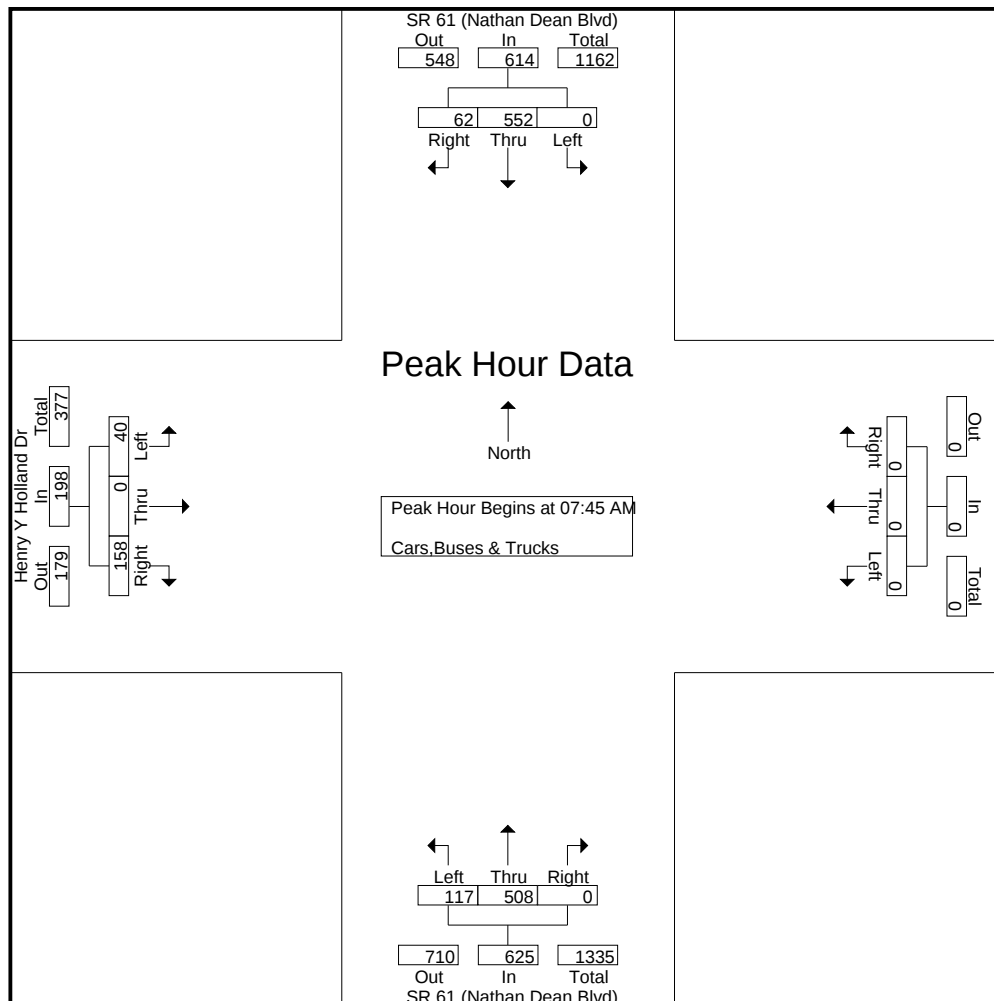
File Name : 20220183

Site Code : 20220183

Start Date : 4/12/2022

Page No : 2

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				Henry Y Holland Dr Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	20	139	0	159	0	131	14	145	9	0	41	50	0	0	0	0	354
08:00 AM	33	133	0	166	0	133	13	146	12	0	40	52	0	0	0	0	364
08:15 AM	35	118	0	153	0	145	18	163	9	0	39	48	0	0	0	0	364
08:30 AM	29	118	0	147	0	143	17	160	10	0	38	48	0	0	0	0	355
Total Volume	117	508	0	625	0	552	62	614	40	0	158	198	0	0	0	0	1437
% App. Total	18.7	81.3	0		0	89.9	10.1		20.2	0	79.8		0	0	0		
PHF	.836	.914	.000	.941	.000	.952	.861	.942	.833	.000	.963	.952	.000	.000	.000	.000	.987



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TMC DATA

Nathan Dean Blvd @ Thomas B Murphy
7-9 am | 4-6 pm

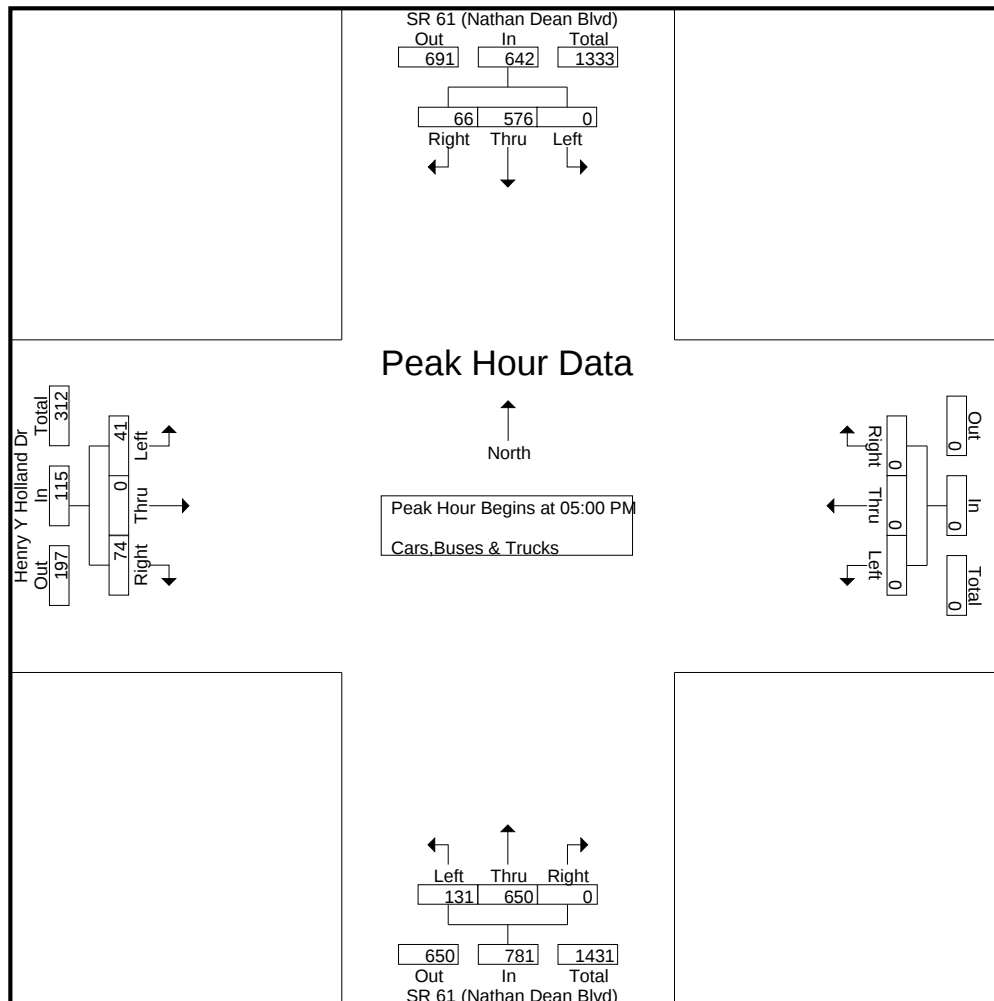
File Name : 20220183

Site Code : 20220183

Start Date : 4/12/2022

Page No : 3

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				Henry Y Holland Dr Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	41	181	0	222	0	141	16	157	12	0	21	33	0	0	0	0	412
05:15 PM	28	149	0	177	0	156	18	174	10	0	19	29	0	0	0	0	380
05:30 PM	34	142	0	176	0	147	17	164	11	0	18	29	0	0	0	0	369
05:45 PM	28	178	0	206	0	132	15	147	8	0	16	24	0	0	0	0	377
Total Volume	131	650	0	781	0	576	66	642	41	0	74	115	0	0	0	0	1538
% App. Total	16.8	83.2	0		0	89.7	10.3		35.7	0	64.3		0	0	0		
PHF	.799	.898	.000	.880	.000	.923	.917	.922	.854	.000	.881	.871	.000	.000	.000	.000	.933



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TMC DATA

Nathan Dean Blvd @ Thomas B Murphy
7-9 am | 4-6 pm

File Name : 20220180

Site Code : 20220180

Start Date : 4/21/2022

Page No : 1

Groups Printed- Cars,Buses & Trucks

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				Thomas B Murphy Eastbound				Thomas B Murphy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	121	1	126	9	125	0	134	3	1	10	14	0	0	7	7	281
07:15 AM	3	142	4	149	22	140	0	162	0	0	2	2	4	2	10	16	329
07:30 AM	4	134	1	139	20	161	3	184	2	0	7	9	4	0	22	26	358
07:45 AM	9	154	1	164	19	148	5	172	0	4	5	9	2	1	18	21	366
Total	20	551	7	578	70	574	8	652	5	5	24	34	10	3	57	70	1334
08:00 AM	11	143	1	155	18	149	6	173	3	1	6	10	4	1	18	23	361
08:15 AM	9	154	0	163	28	152	4	184	1	0	6	7	4	0	26	30	384
08:30 AM	11	146	4	161	18	160	3	181	3	2	2	7	1	3	19	23	372
08:45 AM	18	139	2	159	9	149	5	163	2	1	2	5	6	2	21	29	356
Total	49	582	7	638	73	610	18	701	9	4	16	29	15	6	84	105	1473
*** BREAK ***																	
04:00 PM	7	151	3	161	28	143	2	173	2	1	4	7	5	2	31	38	379
04:15 PM	6	159	2	167	20	140	3	163	3	1	3	7	5	3	41	49	386
04:30 PM	4	167	0	171	25	141	3	169	2	1	6	9	7	4	47	58	407
04:45 PM	7	164	6	177	19	134	6	159	1	0	5	6	6	1	35	42	384
Total	24	641	11	676	92	558	14	664	8	3	18	29	23	10	154	187	1556
05:00 PM	8	171	1	180	24	135	3	162	3	1	4	8	7	1	39	47	397
05:15 PM	7	185	2	194	31	141	3	175	4	1	1	6	5	3	37	45	420
05:30 PM	9	173	0	182	27	136	2	165	2	1	6	9	6	4	37	47	403
05:45 PM	8	163	2	173	19	129	0	148	1	0	2	3	3	2	31	36	360
Total	32	692	5	729	101	541	8	650	10	3	13	26	21	10	144	175	1580
Grand Total	125	2466	30	2621	336	2283	48	2667	32	15	71	118	69	29	439	537	5943
Apprch %	4.8	94.1	1.1		12.6	85.6	1.8		27.1	12.7	60.2		12.8	5.4	81.8		
Total %	2.1	41.5	0.5	44.1	5.7	38.4	0.8	44.9	0.5	0.3	1.2	2	1.2	0.5	7.4	9	

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TMC DATA

Nathan Dean Blvd @ Thomas B Murphy
7-9 am | 4-6 pm

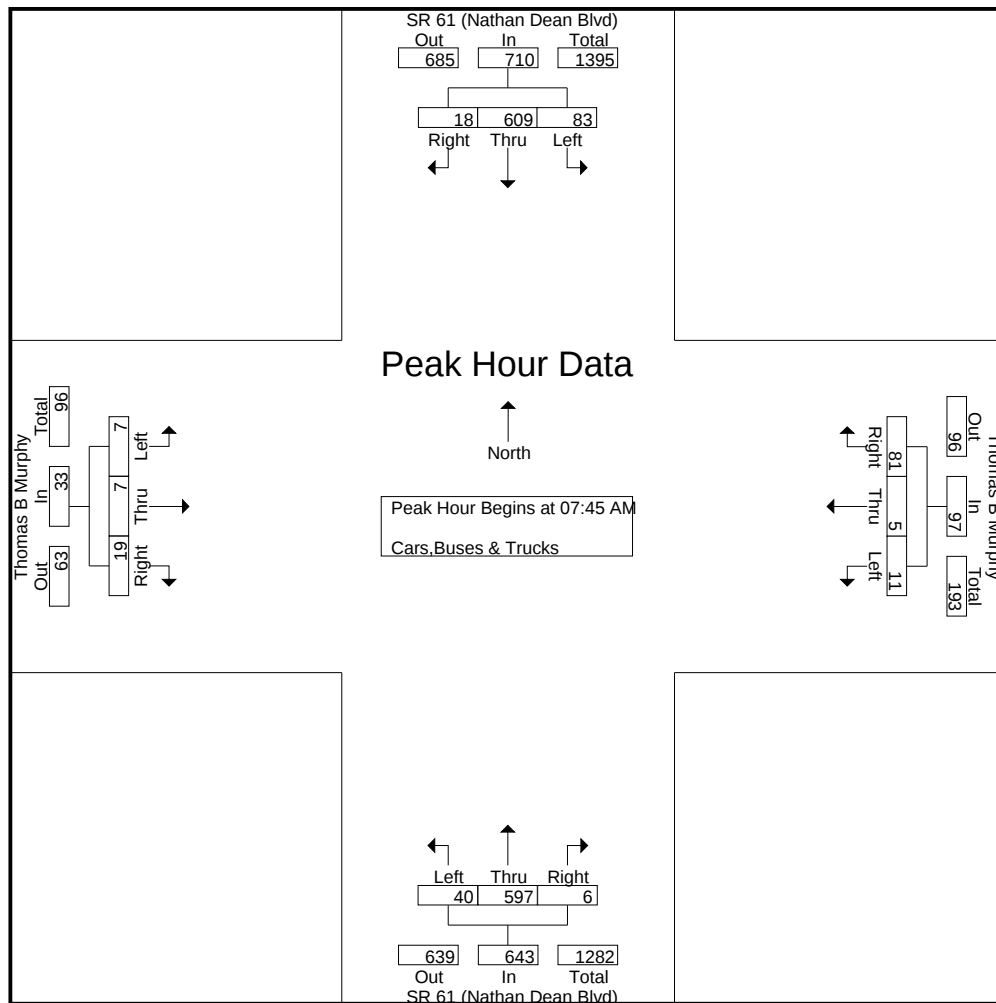
File Name : 20220180

Site Code : 20220180

Start Date : 4/21/2022

Page No : 2

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				Thomas B Murphy Eastbound				Thomas B Murphy 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	9	154	1	164	19	148	5	172	0	4	5	9	2	1	18	21	366
08:00 AM	11	143	1	155	18	149	6	173	3	1	6	10	4	1	18	23	361
08:15 AM	9	154	0	163	28	152	4	184	1	0	6	7	4	0	26	30	384
08:30 AM	11	146	4	161	18	160	3	181	3	2	2	7	1	3	19	23	372
Total Volume	40	597	6	643	83	609	18	710	7	7	19	33	11	5	81	97	1483
% App. Total	6.2	92.8	0.9		11.7	85.8	2.5		21.2	21.2	57.6		11.3	5.2	83.5		
PHF	.909	.969	.375	.980	.741	.952	.750	.965	.583	.438	.792	.825	.688	.417	.779	.808	.965



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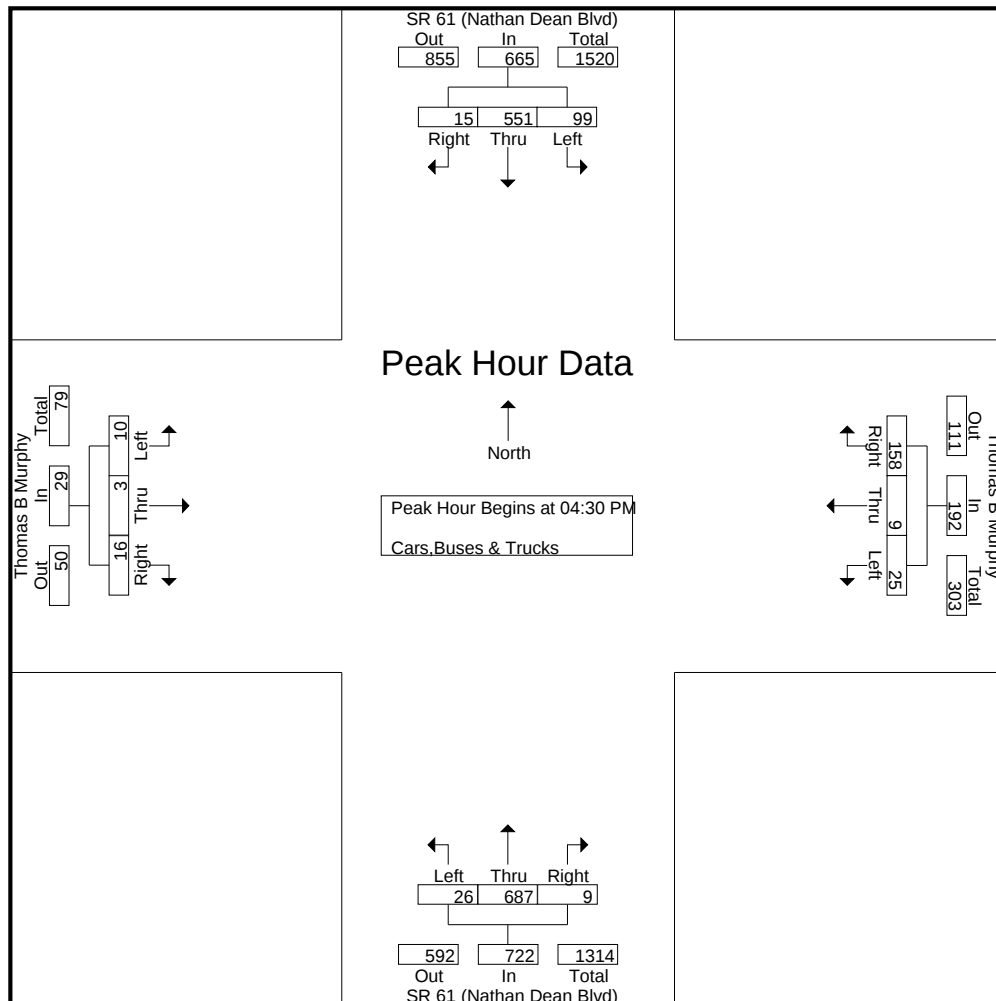
File Name : 20220180

Site Code : 20220180

Start Date : 4/21/2022

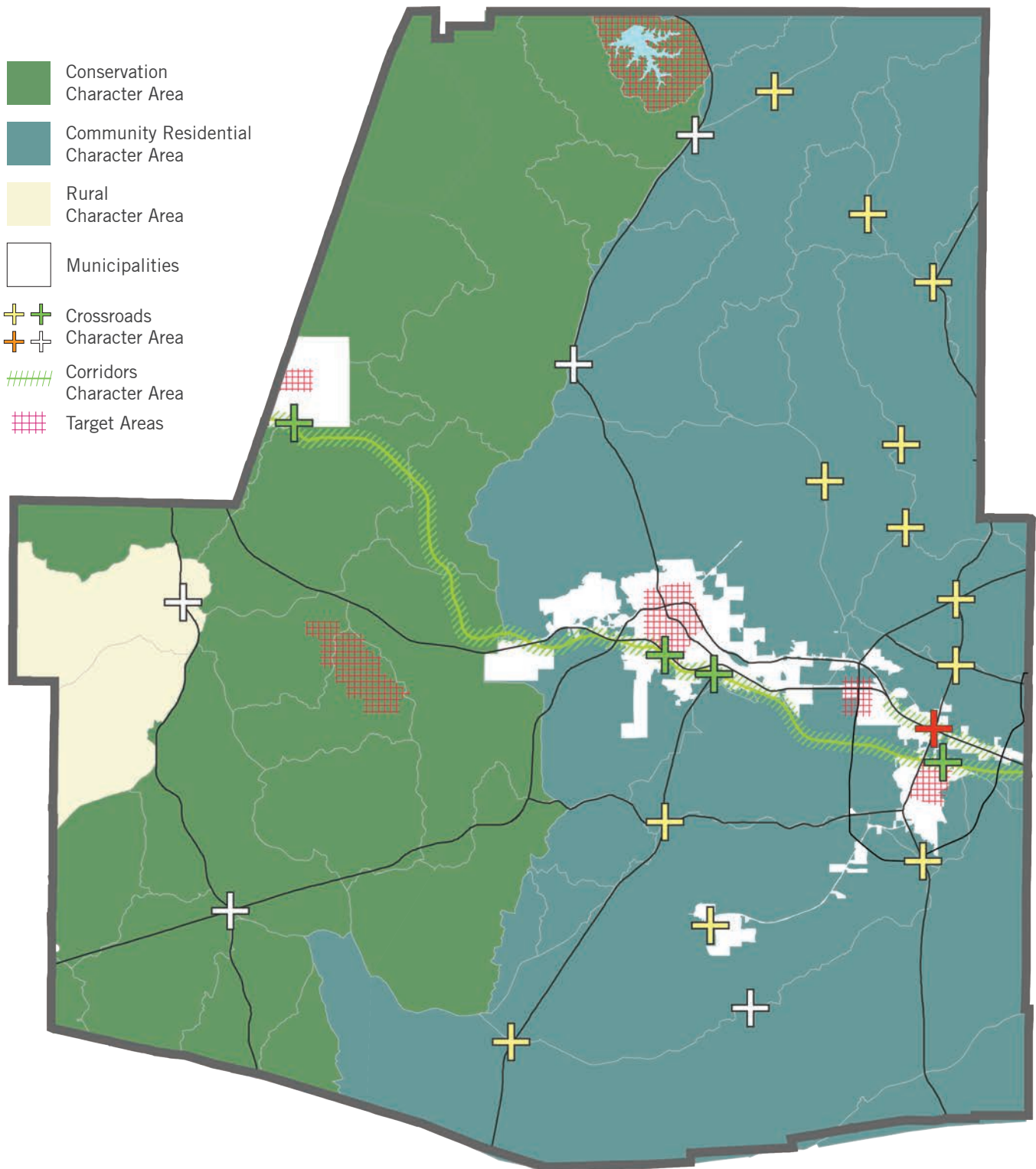
Page No : 3

	SR 61 (Nathan Dean Blvd) Northbound				SR 61 (Nathan Dean Blvd) Southbound				Thomas B Murphy Eastbound				Thomas B Murphy 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	4	167	0	171	25	141	3	169	2	1	6	9	7	4	47	58	407
04:45 PM	7	164	6	177	19	134	6	159	1	0	5	6	6	1	35	42	384
05:00 PM	8	171	1	180	24	135	3	162	3	1	4	8	7	1	39	47	397
05:15 PM	7	185	2	194	31	141	3	175	4	1	1	6	5	3	37	45	420
Total Volume	26	687	9	722	99	551	15	665	10	3	16	29	25	9	158	192	1608
% App. Total	3.6	95.2	1.2		14.9	82.9	2.3		34.5	10.3	55.2		13	4.7	82.3		
PHF	.813	.928	.375	.930	.798	.977	.625	.950	.625	.750	.667	.806	.893	.563	.840	.828	.957



Character Areas

FUTURE DEVELOPMENT MAP



GRTA Letter of Understanding



LETTER OF UNDERSTANDING

11 April, 2022

Doug Patten
David Pearson Communities, LLC
2000 First Dr, Suite 400
Marietta, GA 30062

RE: **Canebreak West (DRI#: 3599)**

Dear Doug Patten:

The purpose of this Letter of Understanding is to document the discussions during the Methodology Meeting held virtually on March 14, 2022 regarding **Canebreak West** 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 to the east of Cole Lake Road and north of SR 120 (Scoggins Road).
- The proposed development includes 670 units of single family detached housing.
- The projected build-out is one phase to be completed by 2026.
- The proposed development includes (2) site accesses along Cole Lake Road.
- The DRI trigger for this development is an annexation and rezoning.
- The vehicular trip generation is estimated to be 6,318 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. Cole Lake Road (South) and SR 120 Connector (Scoggins Road)
2. SR 120 Connector (Scoggins Road) and SR 61 (Villa Rica Highway)
3. Cole Lake Road and Monroe Cole Road
4. West Avenue and Cole Lake Road
5. SR 120 (Buchanan Highway) and Cole Lake Road
6. Happy Valley Church Road and Cole Lake Road
7. Happy Valley Church Road and Old Villa Rica Road
8. US 278 (Jimmy Campbell Road) and Old Villa Rica Road
9. West Avenue and US 278 (Jimmy Campbell Road)
10. US 278 (Jimmy Campbell Road) and Nathan Dean Boulevard / Villa Rica Highway
11. US 278 (Jimmy Campbell Road) and Buchanan Street
12. Nathan Dean Boulevard and SR 6 (Merchants Drive)
13. Nathan Dean Boulevard and Henry Y Holland Drive
14. Nathan Dean Boulevard and Thomas B Murphy 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 2026.
- The Level of Service (LOS) standard for all analysis shall be LOS D unless specified otherwise in Section 3.2.2.1. For example, a LOS E standard is allowed if the existing LOS for the intersection or approach is a LOS F.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account as required in Section 3.2.2.
- The trip generation calculations in the revised Methodology Meeting Packet shall be used in the Transportation Study. Mixed-use and pass-by reductions are not 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 2.0% 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.

ADDITIONAL REQUIREMENTS

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

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

PM, Build condition AM, Build condition PM. If improvements are modeled, those PDFs shall be labeled as such and follow the appropriate condition's applicable peak period.

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

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

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

DRI REVIEW PACKAGE SUBMITTAL

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

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

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

Sincerely,

Elizabeth Davis
Senior Transit and Transportation Planner

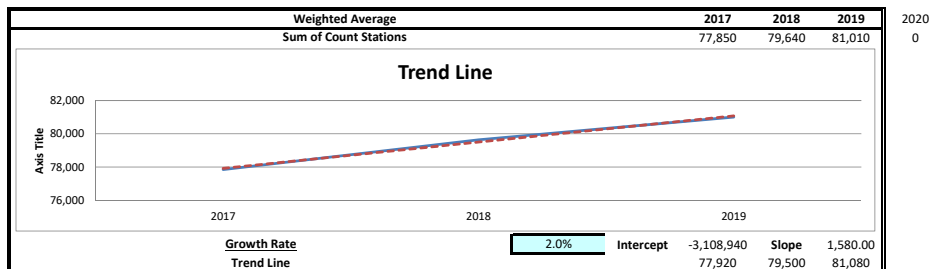
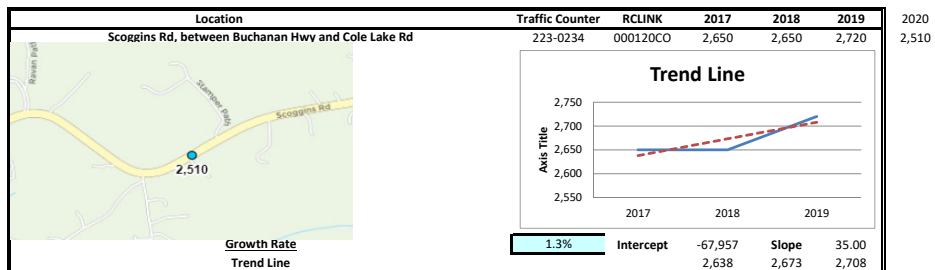
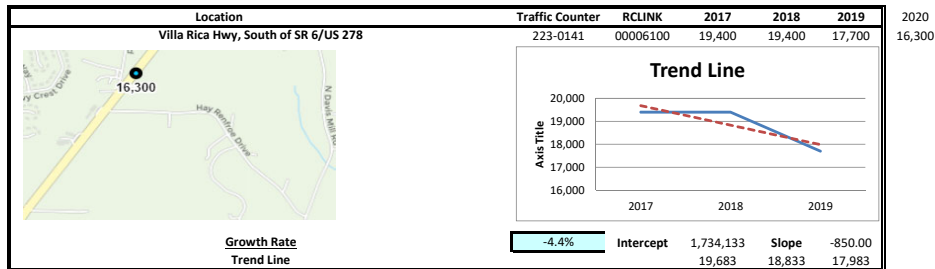
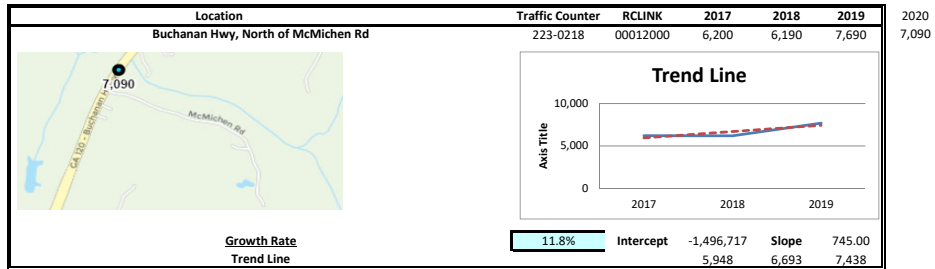
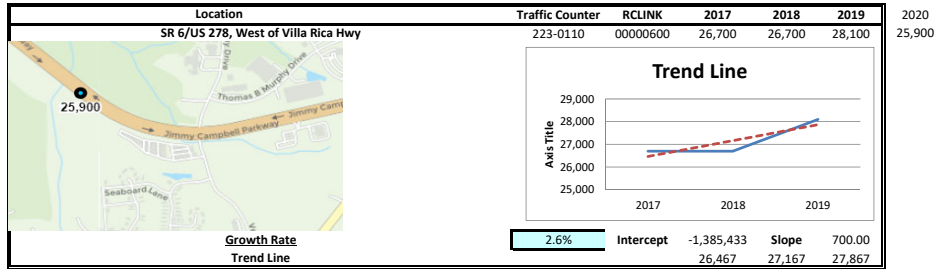
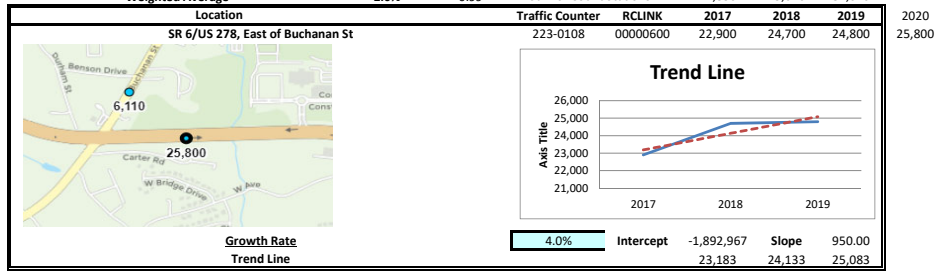
Cc:

Andrew Smith, ARC
Donald Shockey, ARC
Brandon Rakestraw, City of Dallas
Kendall Smith, City of Dallas
Preston Kilgore, City of Dallas
Christina Barry, GDOT
Colin Abbey, GDOT
December Weir, GRTA\ARC
Julianne Meadows, Northwest Georgia Regional
Commission
Ann Lippmann, Paulding Community Development

Erica Parish, Paulding DOT
George Jones, Paulding DOT
Steven Foy, Paulding DOT
Adbul Amer, P.E., A&R Engineering
Nalia Amer, A&R Engineering
Matt Frey, P.E., Frey Land Planning

Linear Regression of Daily Traffic

Location	Growth Rate	R Squared	Station ID	Route	2017	2018	2019	2020
SR 6/US 278, East of Buchanan St	4.0%	0.79	223-0108	00000600	22,900	24,700	24,800	25,800
SR 6/US 278, West of Villa Rica Hwy	2.6%	0.75	223-0110	00000600	26,700	26,700	28,100	25,900
Buchanan Hwy, North of McMichen Rd	11.8%	0.74	223-0218	00012000	6,200	6,190	7,690	7,090
Villa Rica Hwy, South of SR 6/US 278	-4.4%	0.75	223-0141	00006100	19,400	19,400	17,700	16,300
Scoggins Rd, between Buchanan Hwy and Cole Lake Rd	1.3%	0.75	223-0234	000120CO	2,650	2,650	2,720	2,510
Weighted Average	2.0%	0.99	Sum of Count Stations =		77,850	79,640	81,010	



**Fact Sheets for Planned and Programmed
Improvements**

Short Title

SR 61 (VILLA RICA HIGHWAY): SEGMENT 3 - WIDENING FROM DALLAS-NEBO ROAD TO US 278 (JIMMY CAMPBELL PARKWAY)

GDOT Project No.

0013702

Federal ID No.

NH-018-1(59)

Status

Programmed

Service Type

Roadway / General Purpose Capacity

Sponsor

GDOT

Jurisdiction

Paulding County

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

2

LCI

☐

Planned Thru Lane

4

Flex

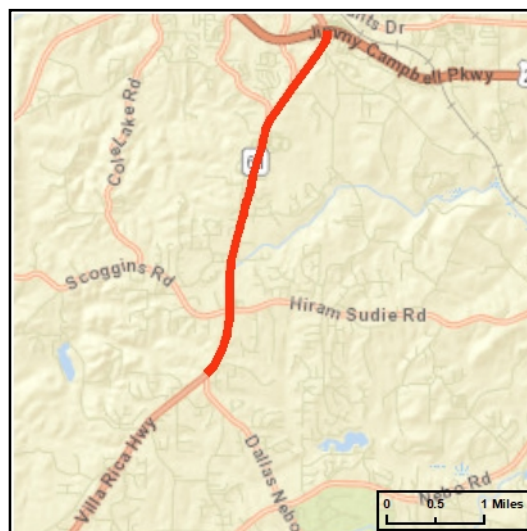
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Network Year

2030

Corridor Length

3.8 miles



Detailed Description and Justification

This project will widen and reconstruct SR 61 (Villa Rica Highway) from Dallas-Nebo Road to US 278 (Jimmy Campbell Parkway) from a 2 lane roadway to a 4 lane roadway. Included will be a 20-foot raised median, curb and gutter, and sidewalk. The existing bridge structure over the Silver Comet Trail will be replaced with a 14-foot by 10-foot pedestrian culvert.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Transportation Funding Act (HB 170)	AUTH	2016	\$3,000,000	\$0,000	\$3,000,000	\$0,000	\$0,000
PE	Transportation Funding Act (HB 170)		2023	\$200,000	\$0,000	\$200,000	\$0,000	\$0,000
ROW	Transportation Funding Act (HB 170)	AUTH	2019	\$11,994,000	\$0,000	\$11,994,000	\$0,000	\$0,000
UTL	Transportation Funding Act (HB 170)		2025	\$3,727,602	\$0,000	\$3,727,602	\$0,000	\$0,000
CST	Transportation Funding Act (HB 170)		2025	\$40,551,532	\$0,000	\$40,551,532	\$0,000	\$0,000
				\$59,473,134	\$0,000	\$59,473,134	\$0,000	\$0,000

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



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



DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0013702

OFFICE Design Policy & Support

Paulding County
GDOT District 6 - Cartersville
SR 61 Widening from CR 467/Dallas Nebo
Road to US 278/SR 16

DATE 10/26/2017

FROM  Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED REVISED CONCEPT REPORT

Attached is the approved Revised Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3
Albert Shelby, Director of Program Delivery
Darryl VanMeter, Assistant Director of P3/State Innovative Delivery Administrator
Kim Nesbitt, Program Delivery Administrator
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Bill DuVall, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Monica Flournoy, State Materials and Testing Administrator
Patrick Allen, State Utilities Engineer
Benny Walden, Statewide Location Bureau Chief
DeWayne Comer, District Engineer
David Acree, District Preconstruction Engineer
Jun Birnkammer, District Utilities Engineer
Theo Igbalajobi, Project Manager
BOARD MEMBER - 14th Congressional District

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
REVISED PROJECT CONCEPT REPORT**

Project Type: <u>Widening</u>	P.I. Number: <u>0013702 (Fmr. 621570-)</u>
GDOT District: <u>6</u>	County: <u>Paulding</u>
Federal Route Number: <u>N/A</u>	State Route Number: <u>61</u>
Project Number: <u>N/A</u>	

Widening and reconstruction of SR 61 from south of CR 467/Dallas Nebo
Road to US 278/SR 120/SR 6/Dallas Bypass

Submitted for approval:

Gene "Mac" Cranford, III, P.E. RS&H

Gene "Mac" Cranford, III, P.E. RS&H

7-19-17

Date

Shirley J. Jabbitt

State Program Delivery Engineer

7.31.17

Date

[Signature]

GDOT Project Manager

7-19-17

Date

Recommendation for approval:

ERIC DUFF*/EKP

State Environmental Administrator

6/8/2017

Date

CHRISTINA BARRY*/EKP

for State Traffic Engineer

6/22/2017

Date

BILL DUVALL*/EKP

State Bridge Engineer

6/26/2017

Date

- ☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).
- ☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

CINDY VANDYKE*/EKP

State Transportation Planning Administrator

6/9/2017

Date

** - RECOMMENDATION ON FILE*

PLANNING, APPROVED CONCEPT, AND BACKGROUND

Project Justification Statement: Project No. 0013702 (Fmr. 621570-) provides additional capacity required for future growth in the area, as SR 61 is the only continuous north-south corridor in Paulding County linking Dallas to both Cartersville (north) and I-20 (south). The purpose of this widening project is to ease traffic congestion and decrease crash frequency and/or severity along this busy stretch of roadway.

Existing conditions: This project is approximately 4.37 miles in length, and primarily consists of a two-lane section with 12-foot lanes and 4-foot grass shoulders. A three-lane section is present for approximately 0.25 miles. There are four signalized intersections along the project, at SR 120 Connector, Aikin Drive/Paulding County High School, US 278/SR 120/Dallas Bypass, and Thomas B. Murphy Drive. An existing bridge crosses the Silver Comet Trail to the south of US 278/SR 120/Dallas Bypass. There is one double 5'x5' box culvert, and two single 4'x4' box culverts. Multiple utilities are present, as well as possible USTs.

Description of the approved concept: The approved concept for Project No. 0013702 proposes the widening and reconstruction of SR 61 from south of CR 467/Dallas Nebo Road to US 278/SR 120/Dallas Bypass, a length of approximately 4.37 miles. The existing roadway consists of 2-12 ft lanes with 4 ft grass shoulders, and 3-12 ft lanes are present for approximately 0.25 miles. From the beginning of the project for approximately 1 mile heading toward SR 120 Connector, proposed improvements include 2-11 ft lanes in each direction, a variable flush median, and a 12 ft urban shoulder with 5 ft sidewalks. For the remainder of the project for approximately 3.5 miles, from SR 120 Connector to US 278, proposed improvements include 2-11 ft lanes in each direction, a raised 20 ft median and a 12 ft urban shoulder with 5 ft sidewalks. The project is entirely in Paulding County, and approximately 0.38 miles is within Dallas city limits.

Federal Oversight: ☐ PoDI ☐ Exempt ☒ State Funded ☐ Other

Projected Traffic as shown in the approved Concept Report: AADT

Open Year (2007): 23,350

Design Year (2027): 38,700

Updated Traffic: ADT 24 HR T: 5.25 %

Open Year (2021): 24,600

Design Year (2041): 42,900

Functional Classification (Mainline): Urban Minor Arterial Street

VE Study anticipated: ☐ No ☐ Yes ☒ Completed – Date: 5/23/2008

PROPOSED REVISIONS

Approved Features:	Proposed Features:
The approved project scope mentions to widen SR 61 to a 4 lane divided roadway with a 20 ft raised median, 2 12 ft travel lanes in each direction, and 10 ft rural shoulder with 4 ft paved from SR 120 Connector to US 278/SR 6.	The proposed revision to the approved project scope will widen SR 61 to a 4 lane divided roadway with a 20 ft raised median, 2-11 ft lanes traveling in each direction, and 12 ft urban shoulders with a 2 ft grass strip and 5 ft sidewalks from Dallas Nebo Rd to US 278/SR 6.
The approved project scope mentions to construct a new 135 ft x 38 ft bridge over the Silver Comet Trail.	The proposed revision to the approved project scope will construct a 14 ft x 10 ft x 170 ft long box culvert over Silver Comet Trail.

The approved project scope was installing at-grade side street stop controlled intersections at Aikin Ridge Rd. (South) and County Square.	The proposed revision to the approved project scope will culd-a-sac Aiken Ridge Rd. (South), close off the Country Square Way access to SR 61, and redirect traffic to use the relocated Country Square Trail/Ponderosa Drive SR 61 median break.
Reason(s) for change: The above changes are the result of updated traffic volumes and commitments agreed to in the May 2008 VE Study.	

Design Variances and/or Exceptions needed: A Design Variances is required for the 8ft raised median width from STA 1067+00 to STA 1078+35 in order to go between the Bethany Church Cemeteries on both sides of SR 61.

ENVIRONMENTAL AND PERMITS

Potential environmental impacts of proposed revision: Possible changes to impacts to streams and wetlands. Anticipate a Section 404 Nationwide Permit 14 and a buffer variance will be required. Additional structures that are now 50 years or older have been identified but are not anticipated to be eligible for the National Register of Historic Places.

Have proposed revisions been reviewed by environmental staff? ☐ No ☒ Yes

Environmental responsibilities (Studies/Documents/Permits): Edwards-Pitman, environmental consultant, for special studies, 404 permit, and buffer variance.

Air Quality:

Is the project located in an Ozone Non-attainment area? ☐ No ☒ Yes
Is a Carbon Monoxide hotspot analysis required? ☐ No ☒ Yes

The project is included in the 2016-2021 TIP as PA-061C1, SR 61 (Villa Rica Highway): Segment 3 – Widening from Dallas-Nebo Road to US 278 (Jimmy Campbell Parkway). The project is described in the TIP as two existing lanes with four planned lanes and a length of 3.8 miles. The TIP listing has ROW in 2019 and CST in LR 2031-2040.

Water Quality Requirements: Paulding County is in an MS4 Permit Area. The need for a Special Provision for protected aquatic species will be determined following the updated aquatic surveys.

Environmental Comments and Information:

NEPA: This project is not federally funded and will not require a NEPA or GEPA document.

Ecology: Possible changes in impacts to streams and wetlands. Updated protected species lists for Paulding County. Survey for Georgia Aster required. New aquatic survey required.

Archeology: Additional archaeology surveys may be required if the project footprint extends beyond previous archaeology coverage.

History: Additional eligible resources are not anticipated. Effects to previously identified eligible resources will need to be evaluated.

Air Quality: An updated air assessment with modeling is required.

Noise Effects: Noise impacts will be assessed for eligible historic resources.

Public Involvement: Expect to hold a PIOH.

PROJECT COST AND ADDITIONAL INFORMATION

Item	Estimated Cost	Date of Estimate	Funded By
Preliminary Engineering (PE):	\$3,000,000.00		GDOT
Environmental Mitigation:	\$292,250.00	3-20-17	
Base Construction Cost:	\$28,217,403.81		
Engineering and Inspection:	\$2,821,740.38		
Contingencies:	\$4,655,871.63		
Liquid AC Adjustment:	\$846,568.24		
<u>Total Construction Cost:</u>	\$36,541,584.06	5-31-17	GDOT
Right-of-Way:	\$8,581,000.00	5-19-17	GDOT
Utilities (reimbursable costs):	\$3,719,133.00	3-15-17	GDOT
TOTAL PROJECT COST:	\$52,133,967.06		

Recommendation: Recommend that the proposed revision to the concept be approved for implementation.

Comments: None.

County: Paulding

Attachments:

- Project Layout
- Cost Estimate(s)
- Typical Sections
- Traffic Diagrams
- MS4 Report

APPROVALS

Concur: _____

Hial Patel

Director of Engineering

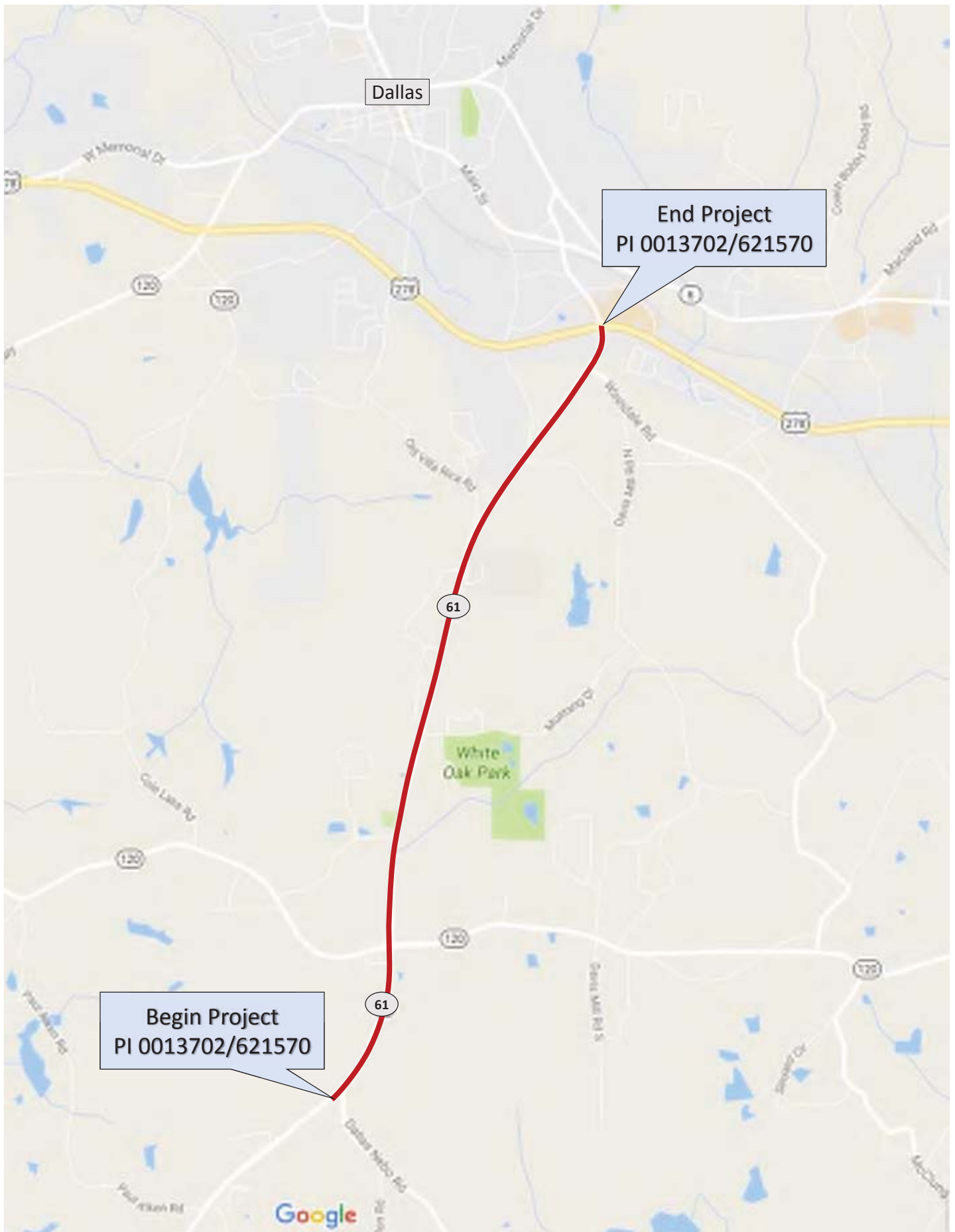
Approve: _____

Margaret B. Pirelli

Chief Engineer

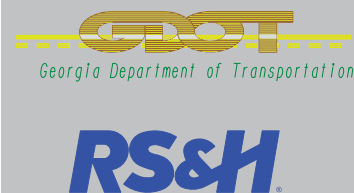
10/24/17

Date





P.I. NO. 0013702
PAULDING COUNTY
SR 61 WIDENING FROM SOUTH OF
DALLAS NEBO RD TO NORTH OF SR 6/
US 278/DALLAS BYPASS



PRELIMINARY

CONCEPT REPORT LAYOUT
1 OF 5

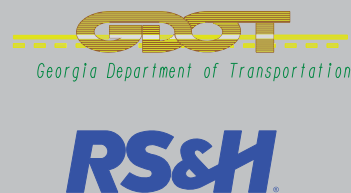


LEGEND

- | | |
|--------------------------------------|--------------------|
| EXISTING PROPERTY LINE | PROPOSED LANE |
| STREAM OR BODY OF WATER | PROPOSED BRIDGE |
| CONSTRUCTION LIMITS | PROPOSED BOAT RAMP |
| REQUIRED RIGHT OF WAY (REQ'D R/W) | WETLAND AREA |
| ENVIRONMENTALLY SENSITIVE AREA (ESA) | OPEN WATER AREA |
| HISTORIC BOUNDARY | |
| ENVIRONMENTALLY SENSITIVE AREA (ESA) | |
| STREAM BUFFER OR WETLAND | |



P.I. NO. 0013702
PAULDING COUNTY
SR 61 WIDENING FROM SOUTH OF
DALLAS NEBO RD TO NORTH OF SR 6/
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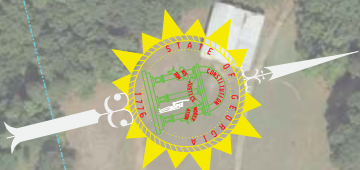
PRELIMINARY

CONCEPT REPORT LAYOUT
2 OF 5



LEGEND

	EXISTING PROPERTY LINE		PROPOSED LANE
	STREAM OR BODY OF WATER		PROPOSED BRIDGE
	CONSTRUCTION LIMITS		PROPOSED BOAT RAMP
	REQUIRED RIGHT OF WAY (REQ'D R/W)		WETLAND AREA
	ENVIRONMENTALLY SENSITIVE AREA (ESA)		OPEN WATER AREA
	HISTORIC BOUNDARY		
	ENVIRONMENTALLY SENSITIVE AREA (ESA) STREAM BUFFER OR WETLAND		



P.I. NO. 0013702
PAULDING COUNTY
SR 61 WIDENING FROM SOUTH OF
DALLAS NEBO RD TO NORTH OF SR 61/
US 278/DALLAS BYPASS



PRELIMINARY

CONCEPT REPORT LAYOUT
3 OF 5

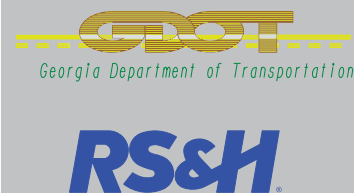


LEGEND

- | | | | |
|--|---|--|--------------------|
| | EXISTING PROPERTY LINE | | PROPOSED LANE |
| | STREAM OR BODY OF WATER | | PROPOSED BRIDGE |
| | CONSTRUCTION LIMITS | | PROPOSED BOAT RAMP |
| | REQUIRED RIGHT OF WAY (REQ'D R/W) | | WETLAND AREA |
| | ENVIRONMENTALLY SENSITIVE AREA (ESA) | | OPEN WATER AREA |
| | HISTORIC BOUNDARY | | |
| | ENVIRONMENTALLY SENSITIVE AREA (ESA) STREAM BUFFER OR WETLAND | | |



P.I. NO. 0013702
PAULDING COUNTY
SR 61 WIDENING FROM SOUTH OF
DALLAS NEBO RD TO NORTH OF SR 61/
US 278/DALLAS BYPASS



PRELIMINARY

CONCEPT REPORT LAYOUT
4 OF 5

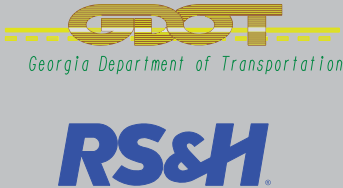


LEGEND

	EXISTING PROPERTY LINE		PROPOSED LANE
	STREAM OR BODY OF WATER		PROPOSED BRIDGE
	CONSTRUCTION LIMITS		PROPOSED BOAT RAMP
	REQUIRED RIGHT OF WAY (REQ'D R/W)		WETLAND AREA
	ENVIROMENTALLY SENSITIVE AREA (ESA)		OPEN WATER AREA
	HISTORIC BOUNDARY		
	ENVIROMENTALLY SENSITIVE AREA (ESA) STREAM BUFFER OR WETLAND		



P.I. NO. 0013702
PAULDING COUNTY
SR 61 WIDENING FROM SOUTH OF
DALLAS NEBO RD TO NORTH OF SR 61/
US 278/DALLAS BYPASS



PRELIMINARY
CONCEPT REPORT LAYOUT
5 OF 5



- | | |
|--|----------------------|
| — EXISTING PROPERTY LINE | — PROPOSED LANE |
| — STREAM OR BODY OF WATER | — PROPOSED BRIDGE |
| — CONSTRUCTION LIMITS | — PROPOSED BOAT RAMP |
| — REQUIRED RIGHT OF WAY (REQ'D R/W) | — WETLAND AREA |
| — ENVIROMENTALLY SENSITIVE AREA (ESA) | — OPEN WATER AREA |
| — HISTORIC BOUNDARY | |
| — ENVIROMENTALLY SENSITIVE AREA (ESA) STREAM BUFFER OR WETLAND | |

Existing Intersection Analysis

HCM 6th TWSC
1: SR 120 Connector (Scoggins Rd) & Cole Lake Rd

1a. Existing AM
08/15/2022

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	183	76	40	51	1
Future Vol, veh/h	2	183	76	40	51	1
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	244	101	53	68	1
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	154	0	-	0	378	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	250	-
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	1426	-	-	-	624	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1426	-	-	-	623	922
Mov Cap-2 Maneuver	-	-	-	-	623	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	792	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		11.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1426	-	-	-	627	
HCM Lane V/C Ratio	0.002	-	-	-	0.111	
HCM Control Delay (s)	7.5	0	-	-	11.5	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

Timings

1a. Existing AM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	242	96	112	80	126	116	626	189	75	512	15
Future Volume (vph)	164	242	96	112	80	126	116	626	189	75	512	15
Lane Group Flow (vph)	169	249	99	115	82	130	120	645	195	77	528	15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	5	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	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	15.0	23.5	23.5
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	15.0	67.0	67.0	15.0	67.0	67.0
Total Split (%)	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%	12.5%	55.8%	55.8%	12.5%	55.8%	55.8%
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 Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.68	0.71	0.26	0.99	0.23	0.32	0.22	0.55	0.18	0.17	0.47	0.02
Control Delay	58.5	56.0	8.6	128.1	40.7	8.2	7.2	17.0	2.3	11.8	25.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	56.0	8.6	128.1	40.7	8.2	7.2	17.0	2.3	11.8	25.4	0.5
Queue Length 50th (ft)	124	184	0	~92	55	0	24	269	0	25	277	0
Queue Length 95th (ft)	182	247	42	#174	91	48	57	491	36	56	426	m0
Internal Link Dist (ft)		2837			1281			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	355	504	500	167	504	523	555	1179	1073	499	1112	974
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	0.48	0.49	0.20	0.69	0.16	0.25	0.22	0.55	0.18	0.15	0.47	0.02

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

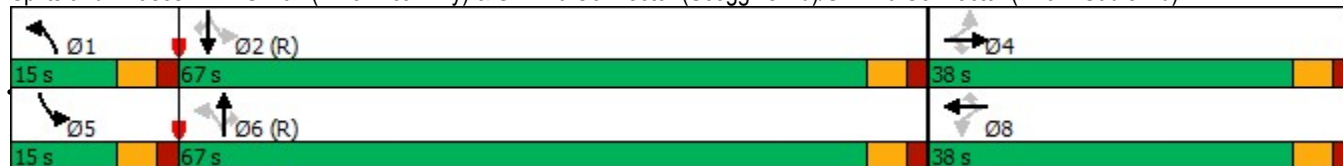
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

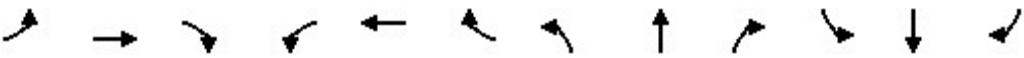
Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

1a. Existing AM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	242	96	112	80	126	116	626	189	75	512	15
Future Volume (veh/h)	164	242	96	112	80	126	116	626	189	75	512	15
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	169	249	0	115	82	0	120	645	0	77	528	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	441		194	441		504	1100		420	1091	
Arrive On Green	0.24	0.24	0.00	0.24	0.24	0.00	0.04	0.59	0.00	0.04	0.58	0.00
Sat Flow, veh/h	1316	1870	1585	1131	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	169	249	0	115	82	0	120	645	0	77	528	0
Grp Sat Flow(s),veh/h/ln	1316	1870	1585	1131	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	14.1	14.1	0.0	12.0	4.2	0.0	3.2	26.0	0.0	2.1	19.7	0.0
Cycle Q Clear(g_c), s	18.3	14.1	0.0	26.1	4.2	0.0	3.2	26.0	0.0	2.1	19.7	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	324	441		194	441		504	1100		420	1091	
V/C Ratio(X)	0.52	0.56		0.59	0.19		0.24	0.59		0.18	0.48	
Avail Cap(c_a), veh/h	370	507		234	507		568	1100		493	1091	
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	44.0	40.4	0.0	51.9	36.7	0.0	10.8	15.5	0.0	12.0	14.5	0.0
Incr Delay (d2), s/veh	1.3	1.1	0.0	2.9	0.2	0.0	0.2	2.3	0.0	0.2	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	10.6	0.0	6.2	3.4	0.0	2.0	15.5	0.0	1.3	12.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	41.6	0.0	54.8	36.9	0.0	11.1	17.8	0.0	12.2	16.1	0.0
LnGrp LOS	D	D		D	D		B	B		B	B	
Approach Vol, veh/h	418			197			765			605		
Approach Delay, s/veh	43.1			47.3			16.8			15.6		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	75.5		33.8	10.1	76.1		33.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	61.5		32.5	9.5	61.5		32.5				
Max Q Clear Time (g_c+l1), s	5.2	21.7		20.3	4.1	28.0		28.1				
Green Ext Time (p_c), s	0.1	4.8		1.0	0.0	6.2		0.2				

Intersection Summary

HCM 6th Ctrl Delay 25.0

HCM 6th LOS C

Notes

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

HCM 6th TWSC
3: Cole Lake Rd & Monroe Cole Rd

1a. Existing AM
08/15/2022

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	4	5	69	5	0
Future Vol, veh/h	10	4	5	69	5	0
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	-	-	-	-	-
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	13	5	6	88	6	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	106	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	100	-	-	-	-	-
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	892	1077	1615	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	888	1077	1615	-	-	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.9	0.5		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1615	-	935	-	-	
HCM Lane V/C Ratio	0.004	-	0.019	-	-	
HCM Control Delay (s)	7.2	0	8.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	2	12	0	40	4	77	2	6	27	0
Future Vol, veh/h	1	0	2	12	0	40	4	77	2	6	27	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	2	14	0	46	5	89	2	7	31	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.1	7.6	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	33%	23%	18%
Vol Thru, %	93%	0%	0%	82%
Vol Right, %	2%	67%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	3	52	33
LT Vol	4	1	12	6
Through Vol	77	0	0	27
RT Vol	2	2	40	0
Lane Flow Rate	95	3	60	38
Geometry Grp	1	1	1	1
Degree of Util (X)	0.108	0.004	0.062	0.044
Departure Headway (Hd)	4.068	3.878	3.752	4.153
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	881	911	944	859
Service Time	2.096	1.95	1.816	2.193
HCM Lane V/C Ratio	0.108	0.003	0.064	0.044
HCM Control Delay	7.6	7	7.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0	0.2	0.1

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	104	605	3	31	188
Future Vol, veh/h	14	104	605	3	31	188
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	121	703	3	36	219
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	996	705	0	0	706	0
Stage 1	705	-	-	-	-	-
Stage 2	291	-	-	-	-	-
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	271	436	-	-	892	-
Stage 1	490	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	436	-	-	892	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	490	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	18.5	0	1.3			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	403	892	-	
HCM Lane V/C Ratio	-	-	0.34	0.04	-	
HCM Control Delay (s)	-	-	18.5	9.2	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-	

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	1	7	0	12	2	52	25	16	23	0
Future Vol, veh/h	0	1	1	7	0	12	2	52	25	16	23	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	9	0	16	3	68	32	21	30	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	170	178	30	163	162	84	30	0	0	100	0	0
Stage 1	72	72	-	90	90	-	-	-	-	-	-	-
Stage 2	98	106	-	73	72	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	794	716	1044	802	730	975	1583	-	-	1493	-	-
Stage 1	938	835	-	917	820	-	-	-	-	-	-	-
Stage 2	908	807	-	937	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	772	705	1044	790	718	975	1583	-	-	1493	-	-
Mov Cap-2 Maneuver	772	705	-	790	718	-	-	-	-	-	-	-
Stage 1	936	823	-	915	818	-	-	-	-	-	-	-
Stage 2	892	805	-	921	823	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.3		9.1		0.2		3.1					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1583	-	-	842	898	1493	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.003	0.027	0.014	-	-				
HCM Control Delay (s)	7.3	0	-	9.3	9.1	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	2	6	59	21	15
Future Vol, veh/h	30	2	6	59	21	15
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	2	7	69	25	18

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	117	34	43	0	-	0
Stage 1	34	-	-	-	-	-
Stage 2	83	-	-	-	-	-
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	879	1039	1566	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	875	1039	1566	-	-	-
Mov Cap-2 Maneuver	875	-	-	-	-	-
Stage 1	983	-	-	-	-	-
Stage 2	940	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.7	0
HCM LOS	A		

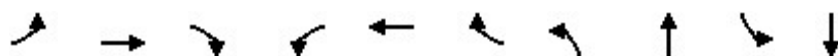
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1566	-	884	-	-
HCM Lane V/C Ratio	0.005	-	0.043	-	-
HCM Control Delay (s)	7.3	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Timings

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

1a. Existing AM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	←	↑↑	→	←	↑↑	→		↕		↕
Traffic Volume (vph)	22	1268	47	38	626	32	47	52	30	32
Future Volume (vph)	22	1268	47	38	626	32	47	52	30	32
Lane Group Flow (vph)	23	1335	49	40	659	34	0	259	0	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	36.5	36.5	15.0	36.5	36.5	52.5	52.5	48.5	48.5
Total Split (s)	15.0	42.5	42.5	15.0	42.5	42.5	52.5	52.5	52.5	52.5
Total Split (%)	13.6%	38.6%	38.6%	13.6%	38.6%	38.6%	47.7%	47.7%	47.7%	47.7%
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
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.05	0.64	0.05	0.16	0.31	0.03		0.79		0.40
Control Delay	6.6	16.3	1.3	7.8	9.9	0.1		44.7		36.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	6.6	16.3	1.3	7.8	9.9	0.1		44.7		36.2
Queue Length 50th (ft)	4	306	0	7	75	0		120		43
Queue Length 95th (ft)	15	508	9	23	188	0		192		81
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	538	2073	955	284	2148	987		659		464
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	0.04	0.64	0.05	0.14	0.31	0.03		0.39		0.18

Intersection Summary

Cycle Length: 110

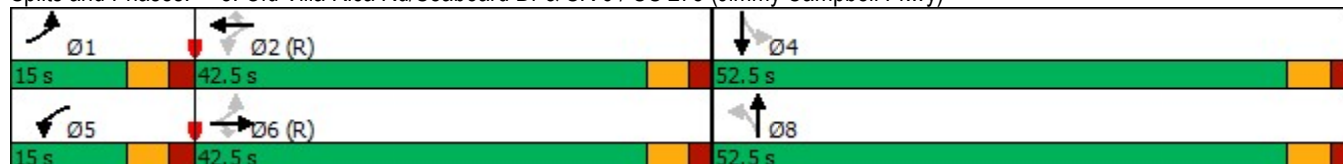
Actuated Cycle Length: 110

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

Natural Cycle: 125

Control Type: Actuated-Coordinated

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

1a. Existing AM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1268	47	38	626	32	47	52	147	30	32	15
Future Volume (veh/h)	22	1268	47	38	626	32	47	52	147	30	32	15
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	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	23	1335	49	40	659	34	49	55	0	32	34	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	556	2336	1042	306	2365	1055	103	80		98	84	
Arrive On Green	0.02	0.73	0.73	0.03	0.74	0.74	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	627	910	0	562	953	0
Grp Volume(v), veh/h	23	1335	49	40	659	34	104	0	0	66	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1537	0	0	1515	0	0
Q Serve(g_s), s	0.4	21.3	1.1	0.7	7.4	0.7	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	21.3	1.1	0.7	7.4	0.7	7.1	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.47		0.00	0.48		0.00
Lane Grp Cap(c), veh/h	556	2336	1042	306	2365	1055	183	0		181	0	
V/C Ratio(X)	0.04	0.57	0.05	0.13	0.28	0.03	0.57	0.00		0.36	0.00	
Avail Cap(c_a), veh/h	658	2336	1042	393	2365	1055	672	0		663	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.6	6.9	4.1	5.5	4.7	3.8	48.9	0.0	0.0	47.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.1	0.2	0.3	0.1	2.8	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	8.9	0.4	0.3	3.1	0.3	5.3	0.0	0.0	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.6	7.9	4.2	5.7	5.0	3.9	51.7	0.0	0.0	48.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	1407				733				104			
Approach Delay, s/veh	7.7				5.0				51.7			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	86.8		15.1	9.0	85.8		15.1				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	37.0		47.0	9.5	37.0		47.0				
Max Q Clear Time (g_c+l1), s	2.4	9.4		6.4	2.7	23.3		9.1				
Green Ext Time (p_c), s	0.0	8.2		0.3	0.0	10.5		0.6				

Intersection Summary

HCM 6th Ctrl Delay 10.0

HCM 6th LOS A

Notes

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

Intersection													
Int Delay, s/veh	0.7												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	13	93	1331	10	21	607	60	0	0	6	0	0	20
Future Vol, veh/h	13	93	1331	10	21	607	60	0	0	6	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	97	1386	10	22	632	63	0	0	6	0	0	21
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	632	632	0	0	1386	0	0	-	-	693	-	-	316
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	571	947	-	-	490	-	-	0	0	386	0	0	680
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	871	871	-	-	490	-	-	-	-	386	-	-	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.7			0.4			14.5			10.5			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	386	871	-	-	490	-	-	680					
HCM Lane V/C Ratio	0.016	0.127	-	-	0.045	-	-	0.031					
HCM Control Delay (s)	14.5	9.7	-	-	12.7	-	-	10.5					
HCM Lane LOS	B	A	-	-	B	-	-	B					
HCM 95th %tile Q(veh)	0	0.4	-	-	0.1	-	-	0.1					

Timings

1a. Existing AM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	1201	66	240	518	154	49	363	287	153	361	83
Future Volume (vph)	76	1201	66	240	518	154	49	363	287	153	361	83
Lane Group Flow (vph)	78	1238	68	247	534	159	51	374	296	158	372	86
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.22	1.23	0.13	0.53	0.33	0.19	0.24	0.77	0.54	0.79	0.72	0.16
Control Delay	17.9	150.9	0.8	27.6	23.7	4.7	21.4	44.2	11.2	56.9	47.1	2.4
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	17.9	150.9	0.8	27.6	23.7	4.7	21.4	44.2	11.2	56.9	47.1	2.4
Queue Length 50th (ft)	27	~583	0	113	139	0	18	277	57	86	267	0
Queue Length 95th (ft)	62	#800	3	223	222	47	m31	258	60	#129	336	15
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	359	1004	537	465	1634	816	213	869	836	201	869	804
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	0.22	1.23	0.13	0.53	0.33	0.19	0.24	0.43	0.35	0.79	0.43	0.11

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

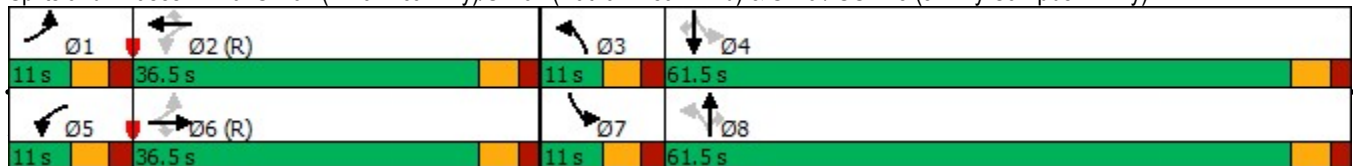
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

1a. Existing AM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	1201	66	240	518	154	49	363	287	153	361	83
Future Volume (veh/h)	76	1201	66	240	518	154	49	363	287	153	361	83
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	78	1238	0	247	534	0	51	374	0	158	372	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	493	1772		245	1798		170	423		175	445	
Arrive On Green	0.04	0.50	0.00	0.05	0.51	0.00	0.03	0.23	0.00	0.05	0.24	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	78	1238	0	247	534	0	51	374	0	158	372	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.5	32.2	0.0	5.5	10.5	0.0	2.6	23.2	0.0	5.5	22.7	0.0
Cycle Q Clear(g_c), s	2.5	32.2	0.0	5.5	10.5	0.0	2.6	23.2	0.0	5.5	22.7	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	493	1772		245	1798		170	423		175	445	
V/C Ratio(X)	0.16	0.70		1.01	0.30		0.30	0.88		0.90	0.84	
Avail Cap(c_a), veh/h	506	1772		245	1798		191	873		175	873	
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	0.92	0.92	0.00
Uniform Delay (d), s/veh	13.9	23.1	0.0	33.3	17.2	0.0	35.8	44.9	0.0	44.1	43.5	0.0
Incr Delay (d2), s/veh	0.1	2.3	0.0	59.2	0.4	0.0	1.0	6.2	0.0	39.5	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	18.5	0.0	13.3	7.2	0.0	2.0	16.3	0.0	7.0	15.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	25.5	0.0	92.5	17.7	0.0	36.8	51.1	0.0	83.6	47.4	0.0
LnGrp LOS	B	C		F	B		D	D		F	D	
Approach Vol, veh/h	1316			781			425			530		
Approach Delay, s/veh	24.8			41.3			49.4			58.2		
Approach LOS	C			D			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	66.2	9.6	34.1	11.0	65.3	11.0	32.7				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	4.5	12.5	4.6	24.7	7.5	34.2	7.5	25.2				
Green Ext Time (p_c), s	0.0	5.2	0.0	2.1	0.0	0.0	0.0	1.9				

Intersection Summary

HCM 6th Ctrl Delay 38.2

HCM 6th LOS D

Notes

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

Timings

1a. Existing AM

11: SR 120 (Buchanan Hwy)/SR 6 Bus (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↰	↰	↱	↰		↰	↰	↰	↰
Traffic Volume (vph)	18	1004	38	93	482	63	55	253	401	36	90
Future Volume (vph)	18	1004	38	93	482	63	55	253	401	36	90
Lane Group Flow (vph)	19	1046	40	97	502	66	0	321	418	38	117
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	40.5	40.5	15.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	33.8%	33.8%	12.5%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.04	0.62	0.05	0.36	0.26	0.07		0.78	0.66	0.17	0.20
Control Delay	15.7	29.0	0.1	17.9	18.4	0.2		54.7	13.4	24.9	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	15.7	29.0	0.1	17.9	18.4	0.2		54.7	13.4	24.9	23.9
Queue Length 50th (ft)	6	332	0	34	101	0		234	53	19	55
Queue Length 95th (ft)	22	#551	0	m75	203	m1		304	145	37	83
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	555	1686	818	284	1958	930		627	791	246	896
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	0.03	0.62	0.05	0.34	0.26	0.07		0.51	0.53	0.15	0.13

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: 115

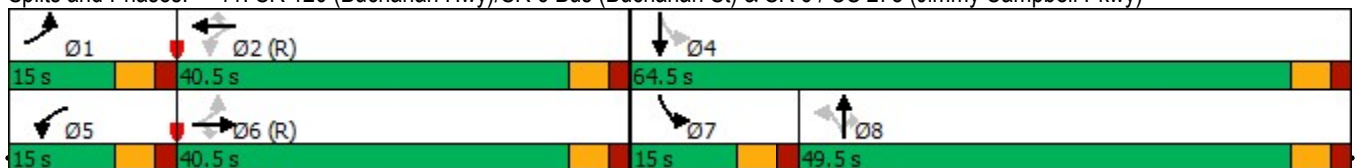
Control Type: Actuated-Coordinated

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.

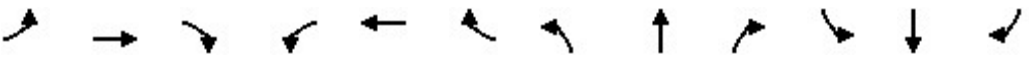
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 Bus (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

1a. Existing AM

11: SR 120 (Buchanan Hwy)/SR 6 Bus (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	1004	38	93	482	63	55	253	401	36	90	22
Future Volume (veh/h)	18	1004	38	93	482	63	55	253	401	36	90	22
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	19	1046	0	97	502	0	57	264	418	38	94	23
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	1600		258	1689		108	440	463	216	534	131
Arrive On Green	0.02	0.45	0.00	0.04	0.48	0.00	0.29	0.29	0.29	0.03	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	248	1506	1585	1781	1451	355
Grp Volume(v), veh/h	19	1046	0	97	502	0	321	0	418	38	0	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1754	0	1585	1781	0	1806
Q Serve(g_s), s	0.7	27.5	0.0	3.5	10.4	0.0	12.1	0.0	30.4	1.7	0.0	5.3
Cycle Q Clear(g_c), s	0.7	27.5	0.0	3.5	10.4	0.0	18.7	0.0	30.4	1.7	0.0	5.3
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	443	1600		258	1689		548	0	463	216	0	664
V/C Ratio(X)	0.04	0.65		0.38	0.30		0.59	0.00	0.90	0.18	0.00	0.18
Avail Cap(c_a), veh/h	550	1600		320	1689		677	0	581	304	0	888
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	25.7	0.0	20.0	19.2	0.0	36.6	0.0	40.9	28.7	0.0	25.6
Incr Delay (d2), s/veh	0.0	2.1	0.0	0.9	0.5	0.0	1.0	0.0	15.1	0.4	0.0	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(95%),veh/ln	0.5	16.5	0.0	2.5	7.3	0.0	12.6	0.0	19.3	1.3	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	27.8	0.0	20.9	19.7	0.0	37.6	0.0	55.9	29.1	0.0	25.8
LnGrp LOS	B	C		C	B		D	A	E	C	A	C
Approach Vol, veh/h	1065			599			739			155		
Approach Delay, s/veh	27.6			19.9			48.0			26.6		
Approach LOS	C			B			D			C		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	62.5		49.6	10.8	59.5	9.1	40.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	9.5	35.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.7	12.4		7.3	5.5	29.5	3.7	32.4				
Green Ext Time (p_c), s	0.0	5.4		0.6	0.1	4.0	0.0	2.6				

Intersection Summary

HCM 6th Ctrl Delay 31.6

HCM 6th LOS C

Notes

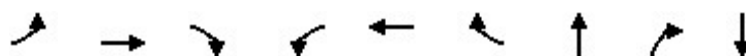
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 Bus (Merchants Dr)

1a. Existing AM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations									
Traffic Volume (vph)	3	319	480	79	247	8	5	119	23
Future Volume (vph)	3	319	480	79	247	8	5	119	23
Lane Group Flow (vph)	3	336	505	83	260	8	445	125	46
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6		5	2		8		4
Permitted Phases	6		6	2		2		8	
Detector Phase	1	6	6	5	2	2	8	8	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	21.4%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None
v/c Ratio	0.01	0.46	0.56	0.20	0.29	0.01	0.84	0.22	0.33
Control Delay	20.3	33.0	7.9	19.7	23.0	0.0	49.7	4.5	46.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	33.0	7.9	19.7	23.0	0.0	49.7	4.5	46.9
Queue Length 50th (ft)	1	187	22	31	109	0	290	0	25
Queue Length 95th (ft)	8	#378	142	73	240	0	373	33	61
Internal Link Dist (ft)		564			901		260		285
Turn Bay Length (ft)	100		160	110		155		290	
Base Capacity (vph)	570	729	898	439	889	825	625	644	300
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.46	0.56	0.19	0.29	0.01	0.71	0.19	0.15

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 61 (55%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

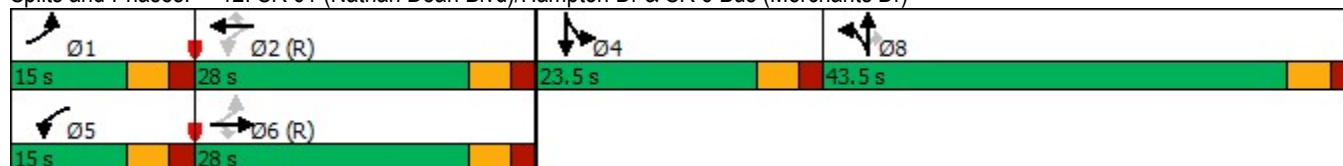
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 Bus (Merchants Dr)



HCM 6th Signalized Intersection Summary

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 Bus (Merchants Dr)

1a. Existing AM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	319	480	79	247	8	418	5	119	12	23	9
Future Volume (veh/h)	3	319	480	79	247	8	418	5	119	12	23	9
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	3	336	0	83	260	8	440	5	0	13	24	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	826		474	897	760	485	6		21	38	14
Arrive On Green	0.00	0.44	0.00	0.04	0.48	0.48	0.28	0.28	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1762	20	1585	504	930	349
Grp Volume(v), veh/h	3	336	0	83	260	8	445	0	0	46	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1782	0	1585	1782	0	0
Q Serve(g_s), s	0.1	13.4	0.0	2.7	9.2	0.3	26.5	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	0.1	13.4	0.0	2.7	9.2	0.3	26.5	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.99		1.00	0.28		0.20
Lane Grp Cap(c), veh/h	512	826		474	897	760	491	0		73	0	0
V/C Ratio(X)	0.01	0.41		0.18	0.29	0.01	0.91	0.00		0.63	0.00	0.00
Avail Cap(c_a), veh/h	659	826		553	897	760	616	0		292	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.0	20.9	0.0	16.0	17.3	15.0	38.5	0.0	0.0	51.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.2	0.8	0.0	14.9	0.0	0.0	8.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	9.8	0.0	1.9	7.1	0.2	19.0	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	22.4	0.0	16.2	18.1	15.0	53.4	0.0	0.0	60.4	0.0	0.0
LnGrp LOS	B	C		B	B	B	D	A		E	A	A
Approach Vol, veh/h	339			351			445			46		
Approach Delay, s/veh	22.3			17.6			53.4			60.4		
Approach LOS	C			B			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	58.3		10.0	10.1	54.1		35.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.1	11.2		4.8	4.7	15.4		28.5				
Green Ext Time (p_c), s	0.0	1.8		0.1	0.1	1.7		1.8				

Intersection Summary

HCM 6th Ctrl Delay 34.1

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	158	117	508	552	62
Future Vol, veh/h	40	158	117	508	552	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	125	0	155	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	160	118	513	558	63
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1339	590	621	0	-	0
Stage 1	590	-	-	-	-	-
Stage 2	749	-	-	-	-	-
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	168	508	960	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	147	508	960	-	-	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	20	1.7		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	960	-	147	508	-	-
HCM Lane V/C Ratio	0.123	-	0.275	0.314	-	-
HCM Control Delay (s)	9.3	-	38.5	15.3	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.1	1.3	-	-

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

1a. Existing AM
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	7	7	11	5	40	597	83	609	18
Future Volume (vph)	7	7	11	5	40	597	83	609	18
Lane Group Flow (vph)	7	27	11	89	42	628	86	634	19
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	34.5	34.5	35.5	35.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	36.0	36.0	36.0	36.0	64.0	64.0	64.0	64.0	64.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.07	0.19	0.11	0.46	0.07	0.40	0.13	0.40	0.01
Control Delay	43.6	25.0	44.5	19.0	2.3	3.3	2.6	3.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	25.0	44.5	19.0	2.3	3.3	2.6	3.3	0.7
Queue Length 50th (ft)	4	4	7	3	4	74	8	75	0
Queue Length 95th (ft)	18	30	24	49	12	147	22	150	3
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	397	518	420	545	641	1584	646	1585	1351
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.05	0.03	0.16	0.07	0.40	0.13	0.40	0.01

Intersection Summary

Cycle Length: 100

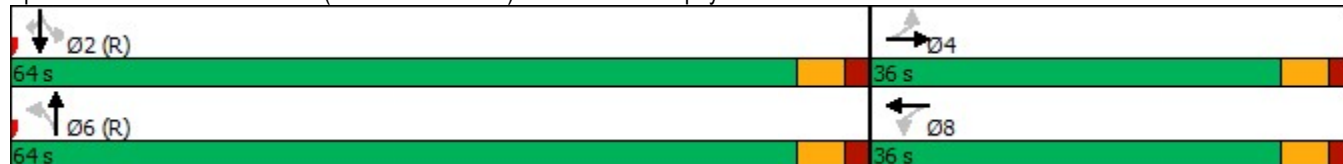
Actuated Cycle Length: 100

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

1a. Existing AM
08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	7	19	11	5	81	40	597	6	83	609	18
Future Volume (veh/h)	7	7	19	11	5	81	40	597	6	83	609	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	7	20	11	5	84	42	622	6	86	634	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	34	96	160	7	119	629	1500	14	643	1518	1286
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1308	428	1222	1383	90	1509	779	1849	18	798	1870	1585
Grp Volume(v), veh/h	7	0	27	11	0	89	42	0	628	86	634	19
Grp Sat Flow(s),veh/h/ln	1308	0	1650	1383	0	1599	779	0	1867	798	1870	1585
Q Serve(g_s), s	0.5	0.0	1.5	0.8	0.0	5.4	1.6	0.0	9.6	3.4	9.7	0.2
Cycle Q Clear(g_c), s	6.0	0.0	1.5	2.3	0.0	5.4	11.3	0.0	9.6	13.0	9.7	0.2
Prop In Lane	1.00		0.74	1.00		0.94	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	104	0	130	160	0	126	629	0	1515	643	1518	1286
V/C Ratio(X)	0.07	0.00	0.21	0.07	0.00	0.71	0.07	0.00	0.41	0.13	0.42	0.01
Avail Cap(c_a), veh/h	400	0	503	473	0	488	629	0	1515	643	1518	1286
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	0.82	0.00	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	0.0	43.2	44.2	0.0	44.9	4.3	0.0	2.7	4.5	2.7	1.8
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.2	0.0	7.1	0.2	0.0	0.7	0.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	1.2	0.5	0.0	4.3	0.4	0.0	3.4	0.9	3.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	43.9	44.4	0.0	52.1	4.5	0.0	3.4	5.0	3.5	1.8
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	34			100			670			739		
Approach Delay, s/veh	44.8			51.2			3.4			3.7		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	86.6			13.4			86.6			13.4		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	58.5			30.5			58.5			30.5		
Max Q Clear Time (g_c+I1), s	15.0			8.0			13.3			7.4		
Green Ext Time (p_c), s	11.2			0.1			10.2			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	7.6											
HCM 6th LOS	A											

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	120	198	36	32	1
Future Vol, veh/h	6	120	198	36	32	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	141	233	42	38	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	275	0	-	0	409	254
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	155	-
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	1288	-	-	-	599	785
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	873	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1288	-	-	-	595	785
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	873	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.4	0		11.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1288	-	-	-	599	
HCM Lane V/C Ratio	0.005	-	-	-	0.065	
HCM Control Delay (s)	7.8	0	-	-	11.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Timings

1b. Existing PM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

	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)	64	123	83	201	202	92	89	509	150	102	642	31
Future Volume (vph)	64	123	83	201	202	92	89	509	150	102	642	31
Lane Group Flow (vph)	67	128	86	209	210	96	93	530	156	106	669	32
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	custom
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		5
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	23.5	23.5	23.5
Total Split (s)	39.2	39.2	39.2	39.2	39.2	39.2	15.0	57.2	57.2	23.6	65.8	23.6
Total Split (%)	32.7%	32.7%	32.7%	32.7%	32.7%	32.7%	12.5%	47.7%	47.7%	19.7%	54.8%	19.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
v/c Ratio	0.37	0.32	0.20	0.84	0.53	0.22	0.23	0.49	0.16	0.21	0.62	0.18
Control Delay	44.5	40.5	3.1	72.3	45.8	4.1	8.6	18.1	2.8	4.8	18.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	40.5	3.1	72.3	45.8	4.1	8.6	18.1	2.8	4.8	18.3	4.7
Queue Length 50th (ft)	45	84	0	156	145	0	21	227	0	8	354	0
Queue Length 95th (ft)	83	130	17	230	205	25	48	390	35	m34	609	m2
Internal Link Dist (ft)		2837			1281			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	237	523	533	329	523	533	429	1087	989	640	1082	300
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	0.28	0.24	0.16	0.64	0.40	0.18	0.22	0.49	0.16	0.17	0.62	0.11

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

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

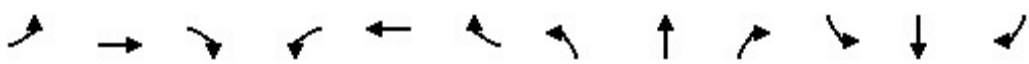
Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

1b. Existing PM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	123	83	201	202	92	89	509	150	102	642	31
Future Volume (veh/h)	64	123	83	201	202	92	89	509	150	102	642	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	128	0	209	210	0	93	530	0	106	669	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	449		292	449		400	1086		497	1090	
Arrive On Green	0.24	0.24	0.00	0.24	0.24	0.00	0.04	0.58	0.00	0.04	0.58	0.00
Sat Flow, veh/h	1172	1870	1585	1262	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	67	128	0	209	210	0	93	530	0	106	669	0
Grp Sat Flow(s),veh/h/ln	1172	1870	1585	1262	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.2	6.7	0.0	19.4	11.5	0.0	2.5	19.9	0.0	2.9	27.9	0.0
Cycle Q Clear(g_c), s	17.8	6.7	0.0	26.1	11.5	0.0	2.5	19.9	0.0	2.9	27.9	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	228	449		292	449		400	1086		497	1090	
V/C Ratio(X)	0.29	0.29		0.71	0.47		0.23	0.49		0.21	0.61	
Avail Cap(c_a), veh/h	276	525		344	525		470	1086		691	1090	
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	46.7	37.2	0.0	47.9	39.0	0.0	12.7	14.7	0.0	11.0	16.3	0.0
Incr Delay (d2), s/veh	0.7	0.3	0.0	5.7	0.8	0.0	0.3	1.6	0.0	0.2	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	5.5	0.0	10.5	9.0	0.0	1.6	12.4	0.0	1.8	16.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	37.6	0.0	53.6	39.8	0.0	13.0	16.3	0.0	11.2	18.8	0.0
LnGrp LOS	D	D		D	D		B	B		B	B	
Approach Vol, veh/h	195			419			623			775		
Approach Delay, s/veh	40.9			46.7			15.8			17.8		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	75.4		34.3	10.5	75.2		34.3				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	60.3		33.7	18.1	51.7		33.7				
Max Q Clear Time (g_c+I1), s	4.5	29.9		19.8	4.9	21.9		28.1				
Green Ext Time (p_c), s	0.1	6.4		0.4	0.2	4.6		0.7				

Intersection Summary

HCM 6th Ctrl Delay 25.4

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	4	36	61	6
Future Vol, veh/h	4	5	4	36	61	6
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	6	5	42	72	7

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	128	76	79
Stage 1	76	-	-
Stage 2	52	-	-
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	866	985	1519
Stage 1	947	-	-
Stage 2	970	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	863	985	1519
Mov Cap-2 Maneuver	863	-	-
Stage 1	944	-	-
Stage 2	970	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1519	-	927	-	-
HCM Lane V/C Ratio	0.003	-	0.011	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	2	5	24	3	30	1	44	3	11	60	0
Future Vol, veh/h	1	2	5	24	3	30	1	44	3	11	60	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	6	27	3	33	1	49	3	12	67	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.3	7.4	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	12%	42%	15%
Vol Thru, %	92%	25%	5%	85%
Vol Right, %	6%	62%	53%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	8	57	71
LT Vol	1	1	24	11
Through Vol	44	2	3	60
RT Vol	3	5	30	0
Lane Flow Rate	53	9	63	79
Geometry Grp	1	1	1	1
Degree of Util (X)	0.061	0.01	0.069	0.091
Departure Headway (Hd)	4.086	3.86	3.936	4.131
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	871	914	900	864
Service Time	2.134	1.939	2.005	2.172
HCM Lane V/C Ratio	0.061	0.01	0.07	0.091
HCM Control Delay	7.4	7	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.2	0.3

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	53	282	7	60	541
Future Vol, veh/h	12	53	282	7	60	541
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	-	-	-	-	-
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	13	58	307	8	65	588
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1029	311	0	0	315	0
Stage 1	311	-	-	-	-	-
Stage 2	718	-	-	-	-	-
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	259	729	-	-	1245	-
Stage 1	743	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	239	729	-	-	1245	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	743	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.9	0		0.8		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 529		1245	-	
HCM Lane V/C Ratio	-	- 0.134		0.052	-	
HCM Control Delay (s)	-	- 12.9		8.1	0	
HCM Lane LOS	-	- B		A	A	
HCM 95th %tile Q(veh)	-	- 0.5		0.2	-	

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	18	2	7	0	27	13	8	49	1
Future Vol, veh/h	0	0	0	18	2	7	0	27	13	8	49	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	22	2	9	0	33	16	10	60	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	128	130	61	122	122	41	61	0	0	49	0	0
Stage 1	81	81	-	41	41	-	-	-	-	-	-	-
Stage 2	47	49	-	81	81	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	845	761	1004	853	768	1030	1542	-	-	1558	-	-
Stage 1	927	828	-	974	861	-	-	-	-	-	-	-
Stage 2	967	854	-	927	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	831	756	1004	849	763	1030	1542	-	-	1558	-	-
Mov Cap-2 Maneuver	831	756	-	849	763	-	-	-	-	-	-	-
Stage 1	927	822	-	974	861	-	-	-	-	-	-	-
Stage 2	956	854	-	921	822	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		9.2			0			1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1542	-	-	-	882	1558	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.037	0.006	-	-				
HCM Control Delay (s)	0	-	-	0	9.2	7.3	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-				

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	4	7	45	30	28
Future Vol, veh/h	23	4	7	45	30	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	4	8	48	32	30
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	111	47	62	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	64	-	-	-	-	-
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	886	1022	1541	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	882	1022	1541	-	-	-
Mov Cap-2 Maneuver	882	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1541	-	900	-	-	
HCM Lane V/C Ratio	0.005	-	0.032	-	-	
HCM Control Delay (s)	7.3	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Timings

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

1b. Existing PM

08/15/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	22	790	43	133	1275	59	36	29	62	64
Future Volume (vph)	22	790	43	133	1275	59	36	29	62	64
Lane Group Flow (vph)	24	868	47	146	1401	65	0	193	0	211
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	15.0	55.4	55.4	23.6	64.0	64.0	31.0	31.0	31.0	31.0
Total Split (%)	13.6%	50.4%	50.4%	21.5%	58.2%	58.2%	28.2%	28.2%	28.2%	28.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.11	0.47	0.05	0.37	0.68	0.07		0.63		0.90
Control Delay	7.5	15.7	0.1	8.7	17.0	2.0		34.0		75.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.5	15.7	0.1	8.7	17.0	2.0		34.0		75.4
Queue Length 50th (ft)	5	183	0	31	358	0		77		129
Queue Length 95th (ft)	14	266	0	58	491	15		151		#242
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	270	1835	877	492	2047	943		355		279
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	0.09	0.47	0.05	0.30	0.68	0.07		0.54		0.76

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

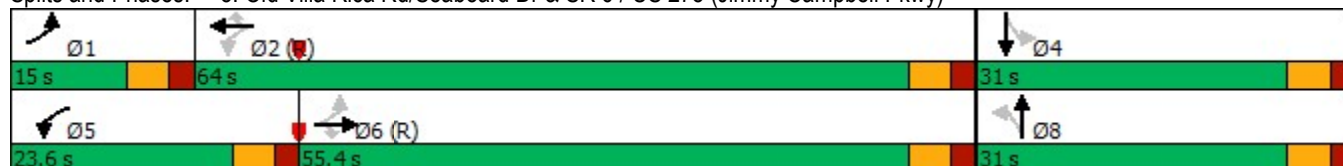
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

1b. Existing PM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	790	43	133	1275	59	36	29	110	62	64	66
Future Volume (veh/h)	22	790	43	133	1275	59	36	29	110	62	64	66
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	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	24	868	47	146	1401	65	40	32	0	68	70	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	2215	988	458	2289	1021	120	80		123	93	
Arrive On Green	0.02	0.69	0.69	0.05	0.72	0.72	0.11	0.11	0.00	0.11	0.11	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	625	720	0	669	844	0
Grp Volume(v), veh/h	24	868	47	146	1401	65	72	0	0	138	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1345	0	0	1513	0	0
Q Serve(g_s), s	0.5	12.6	1.2	2.9	24.4	1.5	0.0	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	12.6	1.2	2.9	24.4	1.5	5.3	0.0	0.0	9.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.56		0.00	0.49		0.00
Lane Grp Cap(c), veh/h	264	2215	988	458	2289	1021	200	0		216	0	
V/C Ratio(X)	0.09	0.39	0.05	0.32	0.61	0.06	0.36	0.00		0.64	0.00	
Avail Cap(c_a), veh/h	365	2215	988	647	2289	1021	366	0		390	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.8	7.1	5.4	5.1	7.9	4.7	45.7	0.0	0.0	47.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.1	0.4	1.2	0.1	1.1	0.0	0.0	3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	6.1	0.5	1.2	10.3	0.6	3.4	0.0	0.0	7.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.0	7.7	5.5	5.5	9.1	4.8	46.8	0.0	0.0	50.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	939				1612				72			
Approach Delay, s/veh	7.5				8.6				46.8			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	84.2		17.7	10.6	81.7		17.7				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	58.5		25.5	18.1	49.9		25.5				
Max Q Clear Time (g_c+I1), s	2.5	26.4		11.7	4.9	14.6		7.3				
Green Ext Time (p_c), s	0.0	21.1		0.5	0.3	12.5		0.3				

Intersection Summary

HCM 6th Ctrl Delay 11.4

HCM 6th LOS B

Notes

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

Intersection													
Int Delay, s/veh	1.5												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	2	31	847	8	51	1286	30	0	0	8	0	0	122
Future Vol, veh/h	2	31	847	8	51	1286	30	0	0	8	0	0	122
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	34	931	9	56	1413	33	0	0	9	0	0	134
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	1413	1413	0	0	931	0	0	-	-	466	-	-	707
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	180	478	-	-	731	-	-	0	0	543	0	0	378
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	406	406	-	-	731	-	-	-	-	543	-	-	378
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.5			0.4			11.7			19.7			
HCM LOS							B			C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	543	406	-	-	731	-	-	378					
HCM Lane V/C Ratio	0.016	0.089	-	-	0.077	-	-	0.355					
HCM Control Delay (s)	11.7	14.7	-	-	10.3	-	-	19.7					
HCM Lane LOS	B	B	-	-	B	-	-	C					
HCM 95th %tile Q(veh)	0	0.3	-	-	0.2	-	-	1.6					

Timings

1b. Existing PM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	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)	100	764	94	244	1245	135	86	520	379	219	386	112
Future Volume (vph)	100	764	94	244	1245	135	86	520	379	219	386	112
Lane Group Flow (vph)	103	788	97	252	1284	139	89	536	391	226	398	115
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.53	0.86	0.19	0.75	1.07	0.22	0.30	0.81	0.58	1.18	0.60	0.18
Control Delay	32.2	53.4	4.0	45.1	85.5	8.9	19.6	45.9	21.2	147.4	34.7	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	53.4	4.0	45.1	85.5	8.9	19.6	45.9	21.2	147.4	34.7	3.8
Queue Length 50th (ft)	45	307	0	134	~596	8	45	390	163	~136	249	0
Queue Length 95th (ft)	94	#406	26	#395	#838	60	69	502	261	#233	304	30
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	195	914	500	336	1200	618	296	869	828	192	869	804
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	0.53	0.86	0.19	0.75	1.07	0.22	0.30	0.62	0.47	1.18	0.46	0.14

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: 145

Control Type: Actuated-Coordinated

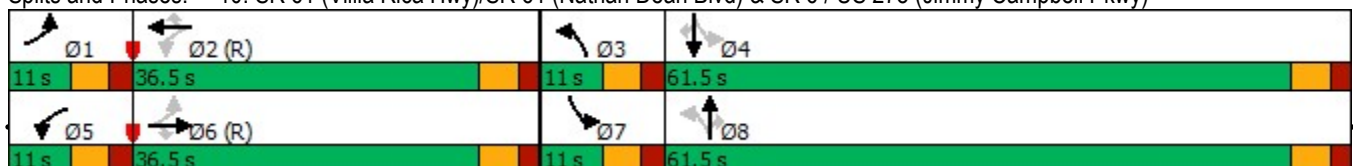
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

1b. Existing PM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	764	94	244	1245	135	86	520	379	219	386	112
Future Volume (veh/h)	100	764	94	244	1245	135	86	520	379	219	386	112
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	103	788	0	252	1284	0	89	536	0	226	398	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1456		308	1456		270	590		177	590	
Arrive On Green	0.05	0.41	0.00	0.05	0.41	0.00	0.05	0.32	0.00	0.05	0.32	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	103	788	0	252	1284	0	89	536	0	226	398	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.0	20.2	0.0	5.5	40.1	0.0	4.0	33.0	0.0	5.5	22.2	0.0
Cycle Q Clear(g_c), s	4.0	20.2	0.0	5.5	40.1	0.0	4.0	33.0	0.0	5.5	22.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	1456		308	1456		270	590		177	590	
V/C Ratio(X)	0.59	0.54		0.82	0.88		0.33	0.91		1.28	0.67	
Avail Cap(c_a), veh/h	174	1456		308	1456		270	873		177	873	
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	0.93	0.93	0.00
Uniform Delay (d), s/veh	27.5	26.9	0.0	33.6	32.7	0.0	28.0	39.4	0.0	40.8	35.7	0.0
Incr Delay (d2), s/veh	5.2	1.4	0.0	15.9	8.0	0.0	0.7	9.7	0.0	159.8	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	12.9	0.0	9.4	24.2	0.0	3.0	22.2	0.0	16.6	14.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	28.3	0.0	49.5	40.8	0.0	28.7	49.1	0.0	200.6	37.0	0.0
LnGrp LOS	C	C		D	D		C	D		F	D	
Approach Vol, veh/h	891			1536			625			624		
Approach Delay, s/veh	28.8			42.2			46.2			96.2		
Approach LOS	C			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	54.7	11.0	43.3	11.0	54.7	11.0	43.3				
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	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	6.0	42.1	6.0	24.2	7.5	22.2	7.5	35.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	4.8	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay 48.8

HCM 6th LOS D

Notes

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

Timings

1b. Existing PM

11: SR 120 (Buchanan Hwy)/SR 6 Bus (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰		↰	↰	↰	↰
Traffic Volume (vph)	21	616	40	323	961	105	25	141	162	110	245
Future Volume (vph)	21	616	40	323	961	105	25	141	162	110	245
Lane Group Flow (vph)	22	655	43	344	1022	112	0	177	172	117	298
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	33.5	33.5	22.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	27.9%	27.9%	18.3%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.08	0.51	0.06	0.58	0.50	0.12		0.71	0.45	0.45	0.59
Control Delay	13.4	32.6	0.2	14.9	18.1	2.7		63.5	9.9	38.5	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	13.4	32.6	0.2	14.9	18.1	2.7		63.5	9.9	38.5	41.3
Queue Length 50th (ft)	6	202	0	112	259	0		132	0	71	195
Queue Length 95th (ft)	19	300	0	192	370	26		197	58	112	267
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	330	1289	687	595	2040	964		613	690	261	902
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	0.07	0.51	0.06	0.58	0.50	0.12		0.29	0.25	0.45	0.33

Intersection Summary

Cycle Length: 120

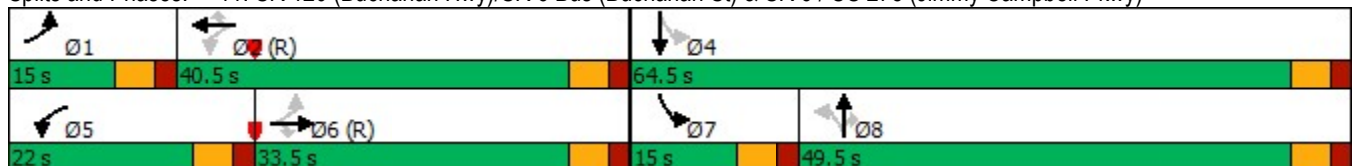
Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

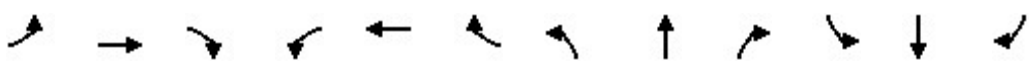
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 Bus (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

1b. Existing PM

11: SR 120 (Buchanan Hwy)/SR 6 Bus (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	616	40	323	961	105	25	141	162	110	245	35
Future Volume (veh/h)	21	616	40	323	961	105	25	141	162	110	245	35
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	22	655	0	344	1022	0	27	150	172	117	261	37
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	1789		558	2098		58	211	213	225	401	57
Arrive On Green	0.02	0.50	0.00	0.11	0.59	0.00	0.13	0.13	0.13	0.07	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	175	1567	1585	1781	1602	227
Grp Volume(v), veh/h	22	655	0	344	1022	0	177	0	172	117	0	298
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1742	0	1585	1781	0	1829
Q Serve(g_s), s	0.7	13.5	0.0	10.7	19.8	0.0	6.4	0.0	12.6	6.6	0.0	17.5
Cycle Q Clear(g_c), s	0.7	13.5	0.0	10.7	19.8	0.0	11.6	0.0	12.6	6.6	0.0	17.5
Prop In Lane	1.00		1.00	1.00		1.00	0.15		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	333	1789		558	2098		269	0	213	225	0	458
V/C Ratio(X)	0.07	0.37		0.62	0.49		0.66	0.00	0.81	0.52	0.00	0.65
Avail Cap(c_a), veh/h	436	1789		609	2098		660	0	581	241	0	899
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.1	18.1	0.0	12.0	14.1	0.0	49.8	0.0	50.4	39.8	0.0	40.3
Incr Delay (d2), s/veh	0.1	0.6	0.0	1.6	0.8	0.0	2.7	0.0	7.0	1.9	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	8.9	0.0	6.9	11.6	0.0	8.9	0.0	9.1	5.2	0.0	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	18.7	0.0	13.7	14.9	0.0	52.5	0.0	57.5	41.7	0.0	41.8
LnGrp LOS	B	B		B	B		D	A	E	D	A	D
Approach Vol, veh/h	677			1366			349			415		
Approach Delay, s/veh	18.6			14.6			55.0			41.8		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	76.3		35.6	18.5	65.9	13.9	21.6				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	16.5	28.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.7	21.8		19.5	12.7	15.5	8.6	14.6				
Green Ext Time (p_c), s	0.0	8.1		1.7	0.4	5.2	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay 24.6

HCM 6th LOS C

Notes

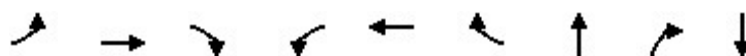
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 Bus (Merchants Dr)

1b. Existing PM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations									
Traffic Volume (vph)	8	244	522	106	390	18	17	99	14
Future Volume (vph)	8	244	522	106	390	18	17	99	14
Lane Group Flow (vph)	8	252	538	109	402	19	611	102	30
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6		5	2		8		4
Permitted Phases	6		6	2		2		8	
Detector Phase	1	6	6	5	2	2	8	8	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	21.4%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None
v/c Ratio	0.03	0.48	0.65	0.30	0.56	0.03	0.83	0.14	0.24
Control Delay	24.5	39.6	7.5	25.6	33.5	0.1	39.5	1.9	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	39.6	7.5	25.6	33.5	0.1	39.5	1.9	43.3
Queue Length 50th (ft)	4	163	0	52	230	0	366	0	15
Queue Length 95th (ft)	15	254	102	96	#468	0	#533	18	45
Internal Link Dist (ft)		564			901		260		285
Turn Bay Length (ft)	100		160	110		155		290	
Base Capacity (vph)	349	525	832	374	724	697	738	736	296
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.48	0.65	0.29	0.56	0.03	0.83	0.14	0.10

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

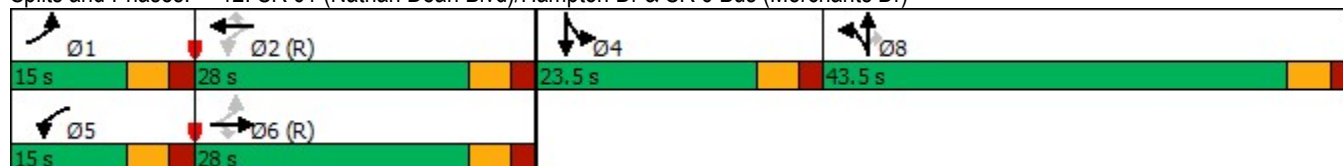
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 Bus (Merchants Dr)



HCM 6th Signalized Intersection Summary

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 Bus (Merchants Dr)

1b. Existing PM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	244	522	106	390	18	575	17	99	8	14	8
Future Volume (veh/h)	8	244	522	106	390	18	575	17	99	8	14	8
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	8	252	0	109	402	19	593	18	0	8	14	8
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	325	689		465	770	653	598	18		15	27	15
Arrive On Green	0.01	0.37	0.00	0.05	0.41	0.41	0.35	0.35	0.00	0.03	0.03	0.03
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1731	53	1585	470	822	470
Grp Volume(v), veh/h	8	252	0	109	402	19	611	0	0	30	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1784	0	1585	1762	0	0
Q Serve(g_s), s	0.3	10.8	0.0	4.1	17.7	0.8	37.5	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.3	10.8	0.0	4.1	17.7	0.8	37.5	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.97		1.00	0.27		0.27
Lane Grp Cap(c), veh/h	325	689		465	770	653	616	0		58	0	0
V/C Ratio(X)	0.02	0.37		0.23	0.52	0.03	0.99	0.00		0.52	0.00	0.00
Avail Cap(c_a), veh/h	462	689		523	770	653	616	0		288	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.1	25.4	0.0	19.5	24.2	19.2	35.8	0.0	0.0	52.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.3	2.5	0.1	34.0	0.0	0.0	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	8.5	0.0	2.9	12.5	0.5	28.6	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	26.9	0.0	19.8	26.7	19.3	69.8	0.0	0.0	59.4	0.0	0.0
LnGrp LOS	C	C		B	C	B	E	A		E	A	A
Approach Vol, veh/h	260			530			611			30		
Approach Delay, s/veh	26.7			25.0			69.8			59.4		
Approach LOS	C			C			E			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	50.8		9.1	11.4	46.0		43.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.3	19.7		3.8	6.1	12.8		39.5				
Green Ext Time (p_c), s	0.0	1.0		0.1	0.1	1.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay 45.2

HCM 6th LOS D

Notes

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

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	74	131	650	576	66
Future Vol, veh/h	41	74	131	650	576	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	125	0	155	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	80	141	699	619	71
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1636	655	690	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	981	-	-	-	-	-
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	111	466	905	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	94	466	905	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	35.3	1.6		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	905	-	94	466	-	-
HCM Lane V/C Ratio	0.156	-	0.469	0.171	-	-
HCM Control Delay (s)	9.7	-	73.3	14.3	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.6	-	2	0.6	-	-

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

1b. Existing PM
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	10	3	25	9	26	687	99	551	15
Future Volume (vph)	10	3	25	9	26	687	99	551	15
Lane Group Flow (vph)	10	20	26	174	27	725	103	574	16
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	49.5	49.5	56.5	56.5	41.5	41.5	41.5	41.5	41.5
Total Split (s)	56.5	56.5	56.5	56.5	43.5	43.5	43.5	43.5	43.5
Total Split (%)	56.5%	56.5%	56.5%	56.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.11	0.10	0.16	0.66	0.04	0.50	0.21	0.40	0.01
Control Delay	39.2	18.7	39.7	32.9	3.8	6.2	5.0	5.2	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	18.7	39.7	32.9	3.8	6.2	5.0	5.2	1.0
Queue Length 50th (ft)	6	2	15	52	3	133	14	93	0
Queue Length 95th (ft)	20	22	38	113	12	275	41	193	4
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	402	836	706	858	604	1441	492	1444	1233
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.02	0.04	0.20	0.04	0.50	0.21	0.40	0.01

Intersection Summary

Cycle Length: 100

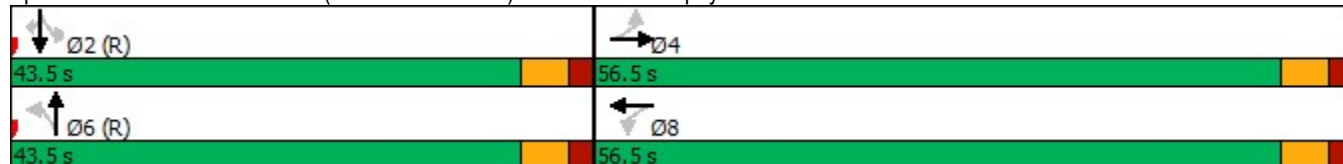
Actuated Cycle Length: 100

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

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

1b. Existing PM
08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	3	16	25	9	158	26	687	9	99	551	15
Future Volume (veh/h)	10	3	16	25	9	158	26	687	9	99	551	15
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	10	3	17	26	9	165	27	716	9	103	574	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	34	191	250	11	210	602	1385	17	505	1406	1191
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1211	243	1379	1392	83	1515	826	1843	23	729	1870	1585
Grp Volume(v), veh/h	10	0	20	26	0	174	27	0	725	103	574	16
Grp Sat Flow(s),veh/h/ln	1211	0	1622	1392	0	1598	826	0	1866	729	1870	1585
Q Serve(g_s), s	0.8	0.0	1.1	1.7	0.0	10.5	1.2	0.0	15.8	6.7	11.0	0.3
Cycle Q Clear(g_c), s	11.3	0.0	1.1	2.7	0.0	10.5	12.2	0.0	15.8	22.5	11.0	0.3
Prop In Lane	1.00		0.85	1.00		0.95	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	112	0	224	250	0	221	602	0	1403	505	1406	1191
V/C Ratio(X)	0.09	0.00	0.09	0.10	0.00	0.79	0.04	0.00	0.52	0.20	0.41	0.01
Avail Cap(c_a), veh/h	562	0	827	767	0	815	602	0	1403	505	1406	1191
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	0.69	0.00	0.69	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	0.0	37.6	38.8	0.0	41.7	6.6	0.0	5.0	9.6	4.4	3.1
Incr Delay (d2), s/veh	0.3	0.0	0.2	0.2	0.0	6.1	0.1	0.0	0.9	0.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.8	1.1	0.0	8.0	0.4	0.0	7.2	1.9	5.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	37.8	39.0	0.0	47.8	6.7	0.0	6.0	10.5	5.3	3.1
LnGrp LOS	D	A	D	D	A	D	A	A	A	B	A	A
Approach Vol, veh/h	30			200			752			693		
Approach Delay, s/veh	41.0			46.6			6.0			6.0		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	80.7			19.3			80.7			19.3		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	38.0			51.0			38.0			51.0		
Max Q Clear Time (g_c+I1), s	24.5			13.3			17.8			12.5		
Green Ext Time (p_c), s	6.0			0.1			8.8			1.3		
Intersection Summary												
HCM 6th Ctrl Delay	11.5											
HCM 6th LOS	B											

Future “No-Build” Intersection Analysis

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	198	82	43	55	1
Future Vol, veh/h	2	198	82	43	55	1
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	264	109	57	73	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	166	0	-	0	408	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	270	-
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	1412	-	-	-	599	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1412	-	-	-	598	910
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	775	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		11.8		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1412	-	-	-	602	
HCM Lane V/C Ratio	0.002	-	-	-	0.124	
HCM Control Delay (s)	7.6	0	-	-	11.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

Timings

2a. No Build AM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	261	104	121	86	136	125	676	204	81	553	16
Future Volume (vph)	177	261	104	121	86	136	125	676	204	81	553	16
Lane Group Flow (vph)	182	269	107	125	89	140	129	697	210	84	570	16
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	5	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	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	15.0	23.5	23.5
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	15.0	67.0	67.0	15.0	67.0	67.0
Total Split (%)	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%	12.5%	55.8%	55.8%	12.5%	55.8%	55.8%
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 Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.69	0.71	0.26	1.04	0.23	0.32	0.26	0.61	0.20	0.20	0.53	0.02
Control Delay	56.8	54.2	8.1	138.9	39.4	7.7	8.1	19.6	2.4	12.7	27.6	0.6
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	56.8	54.2	8.1	138.9	39.4	7.7	8.1	19.6	2.4	12.7	27.6	0.6
Queue Length 50th (ft)	131	195	0	~100	58	0	29	329	0	29	318	0
Queue Length 95th (ft)	197	266	43	#198	97	49	61	559	38	m59	468	m0
Internal Link Dist (ft)		2837			1282			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	352	504	506	160	504	530	504	1147	1056	441	1084	951
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	0.52	0.53	0.21	0.78	0.18	0.26	0.26	0.61	0.20	0.19	0.53	0.02

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

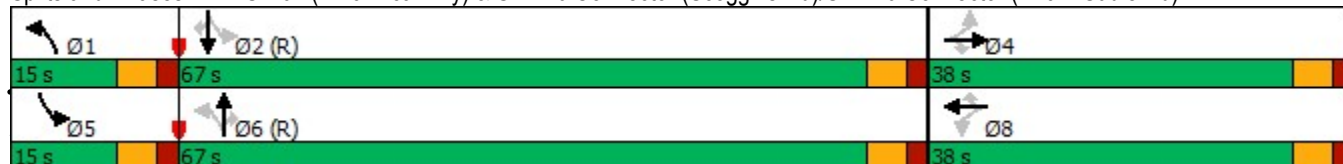
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

2a. No Build AM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	261	104	121	86	136	125	676	204	81	553	16
Future Volume (veh/h)	177	261	104	121	86	136	125	676	204	81	553	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	182	269	0	125	89	0	129	697	0	84	570	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	475		203	475		455	1065		365	1050	
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.00	0.05	0.57	0.00	0.04	0.56	0.00
Sat Flow, veh/h	1308	1870	1585	1110	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	182	269	0	125	89	0	129	697	0	84	570	0
Grp Sat Flow(s),veh/h/ln	1308	1870	1585	1110	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	15.2	15.0	0.0	13.3	4.5	0.0	3.7	30.7	0.0	2.4	23.1	0.0
Cycle Q Clear(g_c), s	19.7	15.0	0.0	28.3	4.5	0.0	3.7	30.7	0.0	2.4	23.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	475		203	475		455	1065		365	1050	
V/C Ratio(X)	0.53	0.57		0.62	0.19		0.28	0.65		0.23	0.54	
Avail Cap(c_a), veh/h	365	507		222	507		512	1065		436	1050	
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	42.8	39.0	0.0	51.4	35.1	0.0	12.5	17.7	0.0	14.2	16.6	0.0
Incr Delay (d2), s/veh	1.3	1.3	0.0	4.4	0.2	0.0	0.3	3.1	0.0	0.3	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	11.2	0.0	6.9	3.6	0.0	2.3	18.2	0.0	1.5	14.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	40.3	0.0	55.8	35.3	0.0	12.9	20.9	0.0	14.5	18.6	0.0
LnGrp LOS	D	D		E	D		B	C		B	B	
Approach Vol, veh/h	451			214			826			654		
Approach Delay, s/veh	41.8			47.3			19.6			18.1		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	72.9		36.0	10.2	73.9		36.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	61.5		32.5	9.5	61.5		32.5				
Max Q Clear Time (g_c+l1), s	5.7	25.1		21.7	4.4	32.7		30.3				
Green Ext Time (p_c), s	0.1	5.3		1.0	0.1	6.7		0.1				

Intersection Summary

HCM 6th Ctrl Delay 26.6

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	4	5	75	5	0
Future Vol, veh/h	11	4	5	75	5	0
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	-	-	-	-	-
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	14	5	6	96	6	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	114	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	108	-	-	-	-	-
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	882	1077	1615	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	878	1077	1615	-	-	-
Mov Cap-2 Maneuver	878	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9	0.5		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1615	-	924	-	-	
HCM Lane V/C Ratio	0.004	-	0.021	-	-	
HCM Control Delay (s)	7.2	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	2	13	0	43	4	83	2	6	29	0
Future Vol, veh/h	1	0	2	13	0	43	4	83	2	6	29	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	2	15	0	49	5	95	2	7	33	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.1	7.6	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	33%	23%	17%
Vol Thru, %	93%	0%	0%	83%
Vol Right, %	2%	67%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	3	56	35
LT Vol	4	1	13	6
Through Vol	83	0	0	29
RT Vol	2	2	43	0
Lane Flow Rate	102	3	64	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.116	0.004	0.067	0.047
Departure Headway (Hd)	4.078	3.897	3.768	4.164
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	878	905	939	856
Service Time	2.109	1.976	1.838	2.208
HCM Lane V/C Ratio	0.116	0.003	0.068	0.047
HCM Control Delay	7.6	7	7.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0	0.2	0.1

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	112	653	3	33	203
Future Vol, veh/h	15	112	653	3	33	203
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	130	759	3	38	236
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1073	761	0	0	762	0
Stage 1	761	-	-	-	-	-
Stage 2	312	-	-	-	-	-
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	244	405	-	-	850	-
Stage 1	461	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	232	405	-	-	850	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	20.9	0	1.3			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	372	850	-	
HCM Lane V/C Ratio	-	-	0.397	0.045	-	
HCM Control Delay (s)	-	-	20.9	9.4	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	1.9	0.1	-	

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	1	8	0	13	2	56	27	17	25	0
Future Vol, veh/h	0	1	1	8	0	13	2	56	27	17	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	10	0	17	3	73	35	22	32	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	181	190	32	174	173	91	32	0	0	108	0	0
Stage 1	76	76	-	97	97	-	-	-	-	-	-	-
Stage 2	105	114	-	77	76	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	781	705	1042	789	720	967	1580	-	-	1483	-	-
Stage 1	933	832	-	910	815	-	-	-	-	-	-	-
Stage 2	901	801	-	932	832	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	758	693	1042	776	708	967	1580	-	-	1483	-	-
Mov Cap-2 Maneuver	758	693	-	776	708	-	-	-	-	-	-	-
Stage 1	931	820	-	908	813	-	-	-	-	-	-	-
Stage 2	883	799	-	915	820	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.2	0.2	3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1580	-	-	832 884	1483	-	-
HCM Lane V/C Ratio	0.002	-	-	0.003 0.031 0.015	-	-	-
HCM Control Delay (s)	7.3	0	-	9.3 9.2 7.5	0	-	-
HCM Lane LOS	A	A	-	A A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

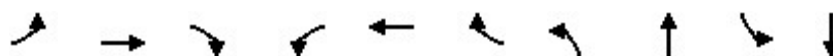
Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	2	6	64	23	16
Future Vol, veh/h	32	2	6	64	23	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	2	7	75	27	19
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	126	37	46	0	-	0
Stage 1	37	-	-	-	-	-
Stage 2	89	-	-	-	-	-
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	869	1035	1562	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	865	1035	1562	-	-	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	0.6		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1562	-	873	-	-	
HCM Lane V/C Ratio	0.005	-	0.046	-	-	
HCM Control Delay (s)	7.3	0	9.3	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Timings

2a. No Build AM

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	1369	51	41	676	35	51	56	32	35
Future Volume (vph)	24	1369	51	41	676	35	51	56	32	35
Lane Group Flow (vph)	25	1441	54	43	712	37	0	280	0	88
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	36.5	36.5	15.0	36.5	36.5	52.5	52.5	48.5	48.5
Total Split (s)	15.0	42.5	42.5	15.0	42.5	42.5	52.5	52.5	52.5	52.5
Total Split (%)	13.6%	38.6%	38.6%	13.6%	38.6%	38.6%	47.7%	47.7%	47.7%	47.7%
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
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.06	0.72	0.06	0.20	0.35	0.04		0.80		0.39
Control Delay	7.5	19.6	1.7	9.3	12.3	0.3		45.1		34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.5	19.6	1.7	9.3	12.3	0.3		45.1		34.5
Queue Length 50th (ft)	5	372	0	8	128	0		135		45
Queue Length 95th (ft)	18	#659	12	26	218	2		207		83
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	488	2013	929	251	2024	934		656		473
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	0.05	0.72	0.06	0.17	0.35	0.04		0.43		0.19

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

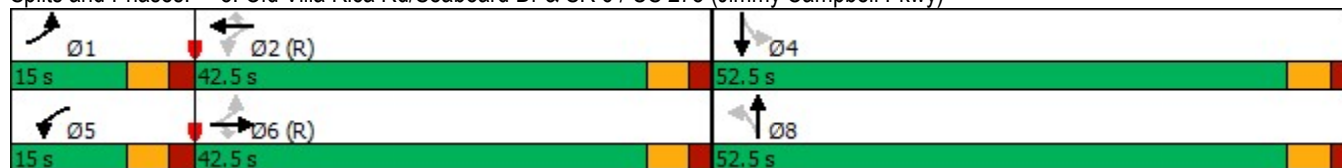
Natural Cycle: 135

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2a. No Build AM

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1369	51	41	676	35	51	56	159	32	35	16
Future Volume (veh/h)	24	1369	51	41	676	35	51	56	159	32	35	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	1441	54	43	712	37	54	59	0	34	37	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	525	2312	1031	276	2340	1044	109	84		100	88	
Arrive On Green	0.02	0.72	0.72	0.03	0.73	0.73	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	642	894	0	549	940	0
Grp Volume(v), veh/h	25	1441	54	43	712	37	113	0	0	71	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1535	0	0	1489	0	0
Q Serve(g_s), s	0.4	25.0	1.2	0.7	8.4	0.8	3.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	25.0	1.2	0.7	8.4	0.8	7.7	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.48		0.00	0.48		0.00
Lane Grp Cap(c), veh/h	525	2312	1031	276	2340	1044	193	0		188	0	
V/C Ratio(X)	0.05	0.62	0.05	0.16	0.30	0.04	0.59	0.00		0.38	0.00	
Avail Cap(c_a), veh/h	624	2312	1031	361	2340	1044	671	0		661	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.8	7.7	4.4	6.7	5.1	4.1	48.5	0.0	0.0	47.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.1	0.3	0.3	0.1	2.8	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	10.4	0.5	0.3	3.7	0.3	5.7	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.9	9.0	4.5	6.9	5.4	4.1	51.3	0.0	0.0	48.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	1520				792				113			
Approach Delay, s/veh	8.7				5.4				51.3			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	86.0		15.8	9.2	85.0		15.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	37.0		47.0	9.5	37.0		47.0				
Max Q Clear Time (g_c+I1), s	2.4	10.4		6.8	2.7	27.0		9.7				
Green Ext Time (p_c), s	0.0	8.8		0.4	0.0	8.3		0.6				

Intersection Summary

HCM 6th Ctrl Delay 10.7

HCM 6th LOS B

Notes

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

Intersection													
Int Delay, s/veh	0.7												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	14	100	1437	11	23	656	65	0	0	6	0	0	22
Future Vol, veh/h	14	100	1437	11	23	656	65	0	0	6	0	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	104	1497	11	24	683	68	0	0	6	0	0	23
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	683	683	0	0	1497	0	0	-	-	749	-	-	342
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	530	906	-	-	444	-	-	0	0	354	0	0	654
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	828	828	-	-	444	-	-	-	-	354	-	-	654
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.7			0.4			15.4			10.7			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	354	828	-	-	444	-	-	654					
HCM Lane V/C Ratio	0.018	0.143	-	-	0.054	-	-	0.035					
HCM Control Delay (s)	15.4	10.1	-	-	13.6	-	-	10.7					
HCM Lane LOS	C	B	-	-	B	-	-	B					
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0.2	-	-	0.1					

Timings

2a. No Build AM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1297	71	259	559	166	53	392	310	165	390	90
Future Volume (vph)	82	1297	71	259	559	166	53	392	310	165	390	90
Lane Group Flow (vph)	85	1337	73	267	576	171	55	404	320	170	402	93
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.25	1.45	0.15	0.57	0.37	0.22	0.26	0.78	0.56	0.84	0.72	0.17
Control Delay	19.7	243.3	1.5	29.4	26.1	5.2	21.0	41.9	12.6	62.1	45.5	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	243.3	1.5	29.4	26.1	5.2	21.0	41.9	12.6	62.1	45.5	2.7
Queue Length 50th (ft)	31	~731	0	126	158	1	19	300	53	91	287	0
Queue Length 95th (ft)	68	#883	7	#287	250	51	m32	284	79	#145	357	20
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	335	921	503	472	1556	790	215	869	833	203	869	804
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	1.45	0.15	0.57	0.37	0.22	0.26	0.46	0.38	0.84	0.46	0.12

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Ø1	Ø2 (R)		Ø3		Ø4							
11 s	36.5 s		11 s		61.5 s							
												
Ø5	Ø6 (R)		Ø7		Ø8							
11 s	36.5 s		11 s		61.5 s							

HCM 6th Signalized Intersection Summary

2a. No Build AM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1297	71	259	559	166	53	392	310	165	390	90
Future Volume (veh/h)	82	1297	71	259	559	166	53	392	310	165	390	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	1337	0	267	576	0	55	404	0	170	402	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	456	1713		211	1737		171	454		175	475	
Arrive On Green	0.04	0.48	0.00	0.05	0.49	0.00	0.04	0.24	0.00	0.05	0.25	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	85	1337	0	267	576	0	55	404	0	170	402	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.9	37.5	0.0	5.5	11.9	0.0	2.8	25.0	0.0	5.5	24.5	0.0
Cycle Q Clear(g_c), s	2.9	37.5	0.0	5.5	11.9	0.0	2.8	25.0	0.0	5.5	24.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	456	1713		211	1737		171	454		175	475	
V/C Ratio(X)	0.19	0.78		1.27	0.33		0.32	0.89		0.97	0.85	
Avail Cap(c_a), veh/h	468	1713		211	1737		190	873		175	873	
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	0.91	0.91	0.00
Uniform Delay (d), s/veh	15.0	25.8	0.0	33.2	18.7	0.0	34.7	43.9	0.0	44.3	42.6	0.0
Incr Delay (d2), s/veh	0.2	3.6	0.0	151.3	0.5	0.0	1.1	6.1	0.0	55.8	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	21.4	0.0	19.3	8.1	0.0	2.1	17.3	0.0	8.6	16.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	29.4	0.0	184.6	19.2	0.0	35.7	50.0	0.0	100.1	46.5	0.0
LnGrp LOS	B	C		F	B		D	D		F	D	
Approach Vol, veh/h	1422			843			459			572		
Approach Delay, s/veh	28.6			71.6			48.3			62.4		
Approach LOS	C			E			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	64.1	9.7	36.0	11.0	63.3	11.0	34.7				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	4.9	13.9	4.8	26.5	7.5	39.5	7.5	27.0				
Green Ext Time (p_c), s	0.0	5.5	0.0	2.3	0.0	0.0	0.0	2.1				

Intersection Summary

HCM 6th Ctrl Delay 48.2

HCM 6th LOS D

Notes

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

Timings

2a. No Build AM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	19	1084	41	100	521	68	59	273	433	39	97
Future Volume (vph)	19	1084	41	100	521	68	59	273	433	39	97
Lane Group Flow (vph)	20	1129	43	104	543	71	0	345	451	41	126
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	40.5	40.5	15.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	33.8%	33.8%	12.5%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.04	0.73	0.06	0.47	0.30	0.08		0.78	0.69	0.17	0.20
Control Delay	17.2	34.6	0.1	22.7	20.9	0.6		53.4	15.2	22.6	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	17.2	34.6	0.1	22.7	20.9	0.6		53.4	15.2	22.6	21.6
Queue Length 50th (ft)	7	390	0	39	117	0		248	74	20	57
Queue Length 95th (ft)	24	#655	0	m82	228	m4		319	173	38	85
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	504	1541	759	238	1823	875		625	791	258	896
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	0.04	0.73	0.06	0.44	0.30	0.08		0.55	0.57	0.16	0.14

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: 125

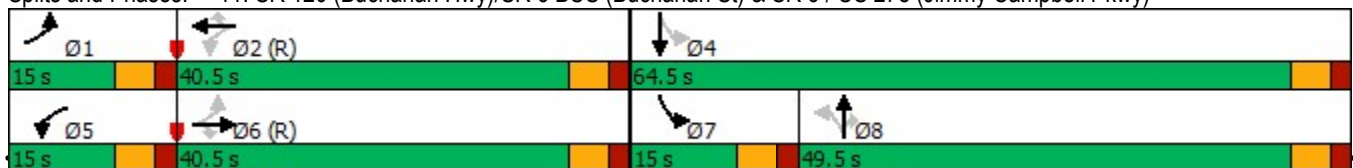
Control Type: Actuated-Coordinated

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: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2a. No Build AM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1084	41	100	521	68	59	273	433	39	97	24
Future Volume (veh/h)	19	1084	41	100	521	68	59	273	433	39	97	24
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	20	1129	0	104	543	0	61	284	451	41	101	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1514		225	1613		113	467	494	220	562	139
Arrive On Green	0.02	0.43	0.00	0.05	0.45	0.00	0.31	0.31	0.31	0.03	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	251	1499	1585	1781	1448	358
Grp Volume(v), veh/h	20	1129	0	104	543	0	345	0	451	41	0	126
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1750	0	1585	1781	0	1806
Q Serve(g_s), s	0.8	32.1	0.0	3.9	11.8	0.0	13.3	0.0	32.9	1.8	0.0	5.5
Cycle Q Clear(g_c), s	0.8	32.1	0.0	3.9	11.8	0.0	20.0	0.0	32.9	1.8	0.0	5.5
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	403	1514		225	1613		580	0	494	220	0	701
V/C Ratio(X)	0.05	0.75		0.46	0.34		0.59	0.00	0.91	0.19	0.00	0.18
Avail Cap(c_a), veh/h	508	1514		280	1613		676	0	581	306	0	888
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	29.0	0.0	23.0	21.1	0.0	35.2	0.0	39.8	27.4	0.0	24.1
Incr Delay (d2), s/veh	0.1	3.4	0.0	1.5	0.6	0.0	1.1	0.0	17.3	0.4	0.0	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(95%),veh/ln	0.5	19.2	0.0	2.8	8.2	0.0	13.2	0.0	20.9	1.4	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	32.4	0.0	24.5	21.7	0.0	36.2	0.0	57.1	27.8	0.0	24.3
LnGrp LOS	B	C		C	C		D	A	E	C	A	C
Approach Vol, veh/h		1149			647			796			167	
Approach Delay, s/veh		32.1			22.1			48.0			25.1	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	60.0		52.1	11.3	56.6	9.2	42.9				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	9.5	35.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.8	13.8		7.5	5.9	34.1	3.8	34.9				
Green Ext Time (p_c), s	0.0	5.7		0.7	0.1	0.8	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay 34.0

HCM 6th LOS C

Notes

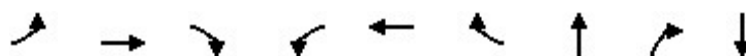
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

2a. No Build AM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations	←	→	←	←	→	←	←	←	←
Traffic Volume (vph)	3	345	518	85	267	9	5	129	25
Future Volume (vph)	3	345	518	85	267	9	5	129	25
Lane Group Flow (vph)	3	363	545	89	281	9	480	136	51
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6		5	2		8		4
Permitted Phases	6		6	2		2		8	
Detector Phase	1	6	6	5	2	2	8	8	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	21.4%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None
v/c Ratio	0.01	0.53	0.62	0.24	0.33	0.01	0.84	0.23	0.36
Control Delay	22.3	36.1	10.7	21.9	25.5	0.0	47.7	4.7	46.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	36.1	10.7	21.9	25.5	0.0	47.7	4.7	46.5
Queue Length 50th (ft)	1	214	44	35	125	0	311	0	27
Queue Length 95th (ft)	8	#438	#201	81	272	0	388	37	65
Internal Link Dist (ft)		564			901		260		285
Turn Bay Length (ft)	100		160	110		155		290	
Base Capacity (vph)	531	689	874	383	845	791	639	657	300
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.53	0.62	0.23	0.33	0.01	0.75	0.21	0.17

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 61 (55%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

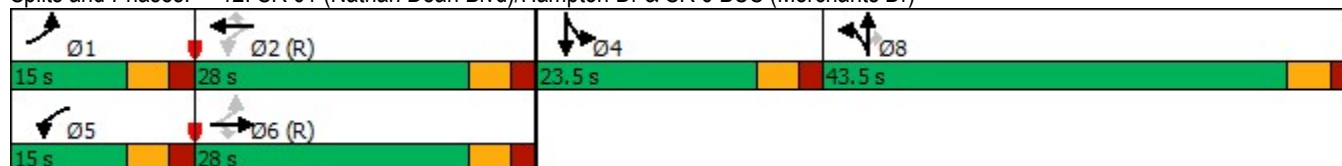
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)



HCM 6th Signalized Intersection Summary

2a. No Build AM

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	345	518	85	267	9	451	5	129	13	25	10
Future Volume (veh/h)	3	345	518	85	267	9	451	5	129	13	25	10
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	3	363	0	89	281	9	475	5	0	14	26	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	469	785		428	859	728	518	5		21	39	17
Arrive On Green	0.00	0.42	0.00	0.04	0.46	0.46	0.29	0.29	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1764	19	1585	488	906	383
Grp Volume(v), veh/h	3	363	0	89	281	9	480	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1782	0	1585	1777	0	0
Q Serve(g_s), s	0.1	15.4	0.0	3.1	10.5	0.3	28.6	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	15.4	0.0	3.1	10.5	0.3	28.6	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.99		1.00	0.27		0.22
Lane Grp Cap(c), veh/h	469	785		428	859	728	523	0		77	0	0
V/C Ratio(X)	0.01	0.46		0.21	0.33	0.01	0.92	0.00		0.67	0.00	0.00
Avail Cap(c_a), veh/h	616	785		505	859	728	616	0		291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.5	23.0	0.0	17.5	18.9	16.2	37.6	0.0	0.0	51.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.2	1.0	0.0	17.1	0.0	0.0	9.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	11.1	0.0	2.2	8.0	0.2	20.5	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	24.9	0.0	17.7	19.9	16.2	54.7	0.0	0.0	61.4	0.0	0.0
LnGrp LOS	B	C		B	B	B	D	A		E	A	A
Approach Vol, veh/h	366			379			480			51		
Approach Delay, s/veh	24.9			19.3			54.7			61.4		
Approach LOS	C			B			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	56.0		10.2	10.3	51.7		37.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.1	12.5		5.1	5.1	17.4		30.6				
Green Ext Time (p_c), s	0.0	1.8		0.1	0.1	1.5		1.6				

Intersection Summary

HCM 6th Ctrl Delay 35.9

HCM 6th LOS D

Notes

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

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	171	126	549	596	67
Future Vol, veh/h	43	171	126	549	596	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	125	0	155	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	173	127	555	602	68
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1445	636	670	0	-	0
Stage 1	636	-	-	-	-	-
Stage 2	809	-	-	-	-	-
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	145	478	920	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	478	920	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	23.1	1.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	920	-	125	478	-	-
HCM Lane V/C Ratio	0.138	-	0.347	0.361	-	-
HCM Control Delay (s)	9.5	-	48.4	16.7	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.5	-	1.4	1.6	-	-

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2a. No Build AM
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	8	8	12	5	43	645	90	658	19
Future Volume (vph)	8	8	12	5	43	645	90	658	19
Lane Group Flow (vph)	8	30	13	96	45	678	94	685	20
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	34.5	34.5	35.5	35.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	36.0	36.0	36.0	36.0	64.0	64.0	64.0	64.0	64.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.08	0.21	0.13	0.48	0.07	0.43	0.16	0.43	0.01
Control Delay	43.8	24.9	44.9	18.6	2.4	3.5	2.8	3.5	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	24.9	44.9	18.6	2.4	3.5	2.8	3.5	0.7
Queue Length 50th (ft)	5	5	8	3	4	84	9	86	0
Queue Length 95th (ft)	19	32	26	51	13	168	25	170	4
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	394	520	419	550	601	1582	606	1583	1350
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.06	0.03	0.17	0.07	0.43	0.16	0.43	0.01

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: 70

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2a. No Build AM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	8	21	12	5	87	43	645	6	90	658	19
Future Volume (veh/h)	8	8	21	12	5	87	43	645	6	90	658	19
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	8	8	22	12	5	91	45	672	6	94	685	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	37	102	165	7	128	587	1491	13	601	1507	1277
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1300	441	1212	1380	83	1515	743	1851	17	762	1870	1585
Grp Volume(v), veh/h	8	0	30	12	0	96	45	0	678	94	685	20
Grp Sat Flow(s),veh/h/ln	1300	0	1652	1380	0	1598	743	0	1867	762	1870	1585
Q Serve(g_s), s	0.6	0.0	1.7	0.8	0.0	5.9	2.0	0.0	11.1	4.3	11.2	0.2
Cycle Q Clear(g_c), s	6.5	0.0	1.7	2.5	0.0	5.9	13.2	0.0	11.1	15.4	11.2	0.2
Prop In Lane	1.00		0.73	1.00		0.95	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	139	165	0	135	587	0	1505	601	1507	1277
V/C Ratio(X)	0.08	0.00	0.22	0.07	0.00	0.71	0.08	0.00	0.45	0.16	0.45	0.02
Avail Cap(c_a), veh/h	392	0	504	469	0	487	587	0	1505	601	1507	1277
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	0.80	0.00	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	42.7	43.9	0.0	44.6	5.0	0.0	3.0	5.3	3.0	1.9
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.2	0.0	6.8	0.2	0.0	0.8	0.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	1.3	0.5	0.0	4.6	0.5	0.0	4.1	1.1	4.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	43.5	44.1	0.0	51.4	5.2	0.0	3.7	5.9	4.0	1.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	38			108			723			799		
Approach Delay, s/veh	44.4			50.6			3.8			4.1		
Approach LOS	D			D			A			A		
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	58.5			30.5			58.5			30.5		
Max Q Clear Time (g_c+I1), s	17.4			8.5			15.2			7.9		
Green Ext Time (p_c), s	12.5			0.1			11.4			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	7.9											
HCM 6th LOS	A											

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	130	214	39	35	1
Future Vol, veh/h	6	130	214	39	35	1
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	173	285	52	47	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	337	0	-	0	500	311
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	189	-
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	1222	-	-	-	530	729
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1222	-	-	-	526	729
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	843	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.4	0		12.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1222	-	-	-	530	
HCM Lane V/C Ratio	0.007	-	-	-	0.091	
HCM Control Delay (s)	8	0	-	-	12.5	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Timings

2b. No Build PM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	133	90	217	218	99	96	550	162	110	693	33
Future Volume (vph)	69	133	90	217	218	99	96	550	162	110	693	33
Lane Group Flow (vph)	71	137	93	224	225	102	99	567	167	113	714	34
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	custom
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		5
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	23.5	23.5	23.5
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	15.0	58.5	58.5	23.5	67.0	23.5
Total Split (%)	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%	12.5%	48.8%	48.8%	19.6%	55.8%	19.6%
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	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
v/c Ratio	0.39	0.33	0.21	0.87	0.54	0.23	0.27	0.53	0.17	0.24	0.68	0.19
Control Delay	44.3	39.8	3.7	75.6	45.1	4.9	9.5	19.8	2.7	9.3	21.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	39.8	3.7	75.6	45.1	4.9	9.5	19.8	2.7	9.3	21.1	8.7
Queue Length 50th (ft)	46	88	0	166	153	0	24	265	0	32	262	1
Queue Length 95th (ft)	89	140	23	#271	222	30	49	422	35	m53	m430	m6
Internal Link Dist (ft)		2837			1282			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	221	504	518	310	504	518	381	1061	973	596	1057	299
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	0.32	0.27	0.18	0.72	0.45	0.20	0.26	0.53	0.17	0.19	0.68	0.11

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 80

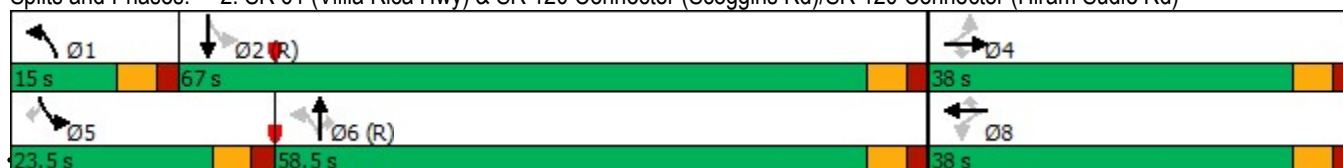
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

2b. No Build PM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	133	90	217	218	99	96	550	162	110	693	33
Future Volume (veh/h)	69	133	90	217	218	99	96	550	162	110	693	33
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	71	137	0	224	225	0	99	567	0	113	714	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	475		304	475		354	1055		455	1063	
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.00	0.04	0.56	0.00	0.04	0.57	0.00
Sat Flow, veh/h	1156	1870	1585	1252	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	71	137	0	224	225	0	99	567	0	113	714	0
Grp Sat Flow(s),veh/h/ln	1156	1870	1585	1252	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.7	7.1	0.0	21.0	12.2	0.0	2.8	22.8	0.0	3.2	32.0	0.0
Cycle Q Clear(g_c), s	18.9	7.1	0.0	28.1	12.2	0.0	2.8	22.8	0.0	3.2	32.0	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	236	475		304	475		354	1055		455	1063	
V/C Ratio(X)	0.30	0.29		0.74	0.47		0.28	0.54		0.25	0.67	
Avail Cap(c_a), veh/h	255	507		325	507		423	1055		643	1063	
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	46.0	36.0	0.0	47.3	37.9	0.0	14.7	16.4	0.0	12.3	18.1	0.0
Incr Delay (d2), s/veh	0.7	0.3	0.0	7.9	0.7	0.0	0.4	2.0	0.0	0.3	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	5.8	0.0	11.4	9.4	0.0	1.8	14.1	0.0	2.0	18.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	36.3	0.0	55.2	38.7	0.0	15.2	18.3	0.0	12.6	21.5	0.0
LnGrp LOS	D	D		E	D		B	B		B	C	
Approach Vol, veh/h	208			449			666			827		
Approach Delay, s/veh	39.9			46.9			17.9			20.3		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	73.7		36.0	10.8	73.2		36.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	61.5		32.5	18.0	53.0		32.5				
Max Q Clear Time (g_c+I1), s	4.8	34.0		20.9	5.2	24.8		30.1				
Green Ext Time (p_c), s	0.1	6.8		0.4	0.2	5.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay 27.0

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	4	39	66	6
Future Vol, veh/h	4	5	4	39	66	6
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	-	-	-	-	-
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	5	6	5	50	85	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	149	89	93	0	-	0
Stage 1	89	-	-	-	-	-
Stage 2	60	-	-	-	-	-
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	843	969	1501	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	840	969	1501	-	-	-
Mov Cap-2 Maneuver	840	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9	0.7		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1501	-	907	-	-	
HCM Lane V/C Ratio	0.003	-	0.013	-	-	
HCM Control Delay (s)	7.4	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	2	5	26	3	32	1	48	3	12	65	0
Future Vol, veh/h	1	2	5	26	3	32	1	48	3	12	65	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	6	30	3	37	1	55	3	14	75	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.4	7.5	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	12%	43%	16%
Vol Thru, %	92%	25%	5%	84%
Vol Right, %	6%	62%	52%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	8	61	77
LT Vol	1	1	26	12
Through Vol	48	2	3	65
RT Vol	3	5	32	0
Lane Flow Rate	60	9	70	89
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.01	0.077	0.102
Departure Headway (Hd)	4.108	3.894	3.967	4.148
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	904	892	859
Service Time	2.162	1.982	2.041	2.195
HCM Lane V/C Ratio	0.069	0.01	0.078	0.104
HCM Control Delay	7.5	7	7.4	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.2	0.3

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	57	305	8	65	584
Future Vol, veh/h	13	57	305	8	65	584
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	66	355	9	76	679
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1191	360	0	0	364	0
Stage 1	360	-	-	-	-	-
Stage 2	831	-	-	-	-	-
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	207	684	-	-	1195	-
Stage 1	706	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	684	-	-	1195	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.6	0		0.8		
HCM LOS	B					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	457	1195	-
HCM Lane V/C Ratio		-	-	0.178	0.063	-
HCM Control Delay (s)		-	-	14.6	8.2	0
HCM Lane LOS		-	-	B	A	A
HCM 95th %tile Q(veh)		-	-	0.6	0.2	-

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	19	2	8	0	29	14	9	53	1
Future Vol, veh/h	0	0	0	19	2	8	0	29	14	9	53	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	25	3	10	0	38	18	12	69	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	148	150	70	141	141	47	70	0	0	56	0	0
Stage 1	94	94	-	47	47	-	-	-	-	-	-	-
Stage 2	54	56	-	94	94	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	820	742	993	829	750	1022	1531	-	-	1549	-	-
Stage 1	913	817	-	967	856	-	-	-	-	-	-	-
Stage 2	958	848	-	913	817	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	804	736	993	824	744	1022	1531	-	-	1549	-	-
Mov Cap-2 Maneuver	804	736	-	824	744	-	-	-	-	-	-	-
Stage 1	913	810	-	967	856	-	-	-	-	-	-	-
Stage 2	945	848	-	906	810	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		9.4			0			1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1531	-	-	-	864	1549	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.044	0.008	-	-				
HCM Control Delay (s)	0	-	-	0	9.4	7.3	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-				

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	4	8	49	32	30
Future Vol, veh/h	25	4	8	49	32	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	5	9	58	38	35
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	132	56	73	0	-	0
Stage 1	56	-	-	-	-	-
Stage 2	76	-	-	-	-	-
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	862	1011	1527	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	857	1011	1527	-	-	-
Mov Cap-2 Maneuver	857	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1527	-	875	-	-	
HCM Lane V/C Ratio	0.006	-	0.039	-	-	
HCM Control Delay (s)	7.4	0	9.3	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Timings

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

2b. No Build PM

08/15/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	853	46	144	1377	64	39	31	67	69
Future Volume (vph)	24	853	46	144	1377	64	39	31	67	69
Lane Group Flow (vph)	25	898	48	152	1449	67	0	199	0	219
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	15.0	56.5	56.5	23.5	65.0	65.0	30.0	30.0	30.0	30.0
Total Split (%)	13.6%	51.4%	51.4%	21.4%	59.1%	59.1%	27.3%	27.3%	27.3%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.12	0.50	0.06	0.40	0.71	0.07		0.64		0.91
Control Delay	7.6	16.3	0.1	9.2	17.9	2.1		34.8		78.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.6	16.3	0.1	9.2	17.9	2.1		34.8		78.0
Queue Length 50th (ft)	5	202	0	34	398	0		80		134
Queue Length 95th (ft)	14	272	0	58	508	15		160		#265
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	254	1811	868	477	2027	935		343		267
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	0.10	0.50	0.06	0.32	0.71	0.07		0.58		0.82

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

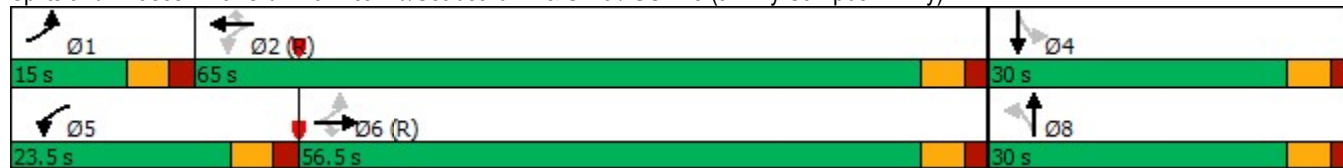
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary
8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

2b. No Build PM
08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	853	46	144	1377	64	39	31	119	67	69	71
Future Volume (veh/h)	24	853	46	144	1377	64	39	31	119	67	69	71
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	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	898	48	152	1449	67	41	33	0	71	73	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	2195	979	444	2272	1014	122	82		126	96	
Arrive On Green	0.02	0.69	0.69	0.05	0.71	0.71	0.12	0.12	0.00	0.12	0.12	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	619	710	0	668	836	0
Grp Volume(v), veh/h	25	898	48	152	1449	67	74	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1329	0	0	1504	0	0
Q Serve(g_s), s	0.5	13.5	1.2	3.1	26.4	1.6	0.0	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	13.5	1.2	3.1	26.4	1.6	5.5	0.0	0.0	10.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.55		0.00	0.49		0.00
Lane Grp Cap(c), veh/h	250	2195	979	444	2272	1014	204	0		222	0	
V/C Ratio(X)	0.10	0.41	0.05	0.34	0.64	0.07	0.36	0.00		0.65	0.00	
Avail Cap(c_a), veh/h	350	2195	979	629	2272	1014	351	0		376	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	7.5	5.6	5.4	8.4	4.8	45.3	0.0	0.0	47.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.6	0.1	0.5	1.4	0.1	1.1	0.0	0.0	3.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	6.6	0.5	1.3	11.1	0.7	3.5	0.0	0.0	7.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	8.1	5.7	5.9	9.8	5.0	46.4	0.0	0.0	50.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	971				1668				74			
Approach Delay, s/veh	8.0				9.3				46.4			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	83.7		18.2	10.8	81.0		18.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	59.5		24.5	18.0	51.0		24.5				
Max Q Clear Time (g_c+I1), s	2.5	28.4		12.2	5.1	15.5		7.5				
Green Ext Time (p_c), s	0.0	21.3		0.5	0.3	13.1		0.3				

Intersection Summary

HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

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

Intersection													
Int Delay, s/veh	1.5												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱	↕↕	↱	↱	↕↕	↱			↱			↱
Traffic Vol, veh/h	2	33	915	9	55	1389	32	0	0	9	0	0	132
Future Vol, veh/h	2	33	915	9	55	1389	32	0	0	9	0	0	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	34	953	9	57	1447	33	0	0	9	0	0	138
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	1447	1447	0	0	953	0	0	-	-	477	-	-	724
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	171	464	-	-	717	-	-	0	0	534	0	0	368
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	392	392	-	-	717	-	-	-	-	534	-	-	368
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.6			0.4			11.9			20.5			
HCM LOS							B			C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	534	392	-	-	717	-	-	368					
HCM Lane V/C Ratio	0.018	0.093	-	-	0.08	-	-	0.374					
HCM Control Delay (s)	11.9	15.1	-	-	10.5	-	-	20.5					
HCM Lane LOS	B	C	-	-	B	-	-	C					
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.3	-	-	1.7					

Timings

2b. No Build PM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	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)	108	825	102	264	1345	146	93	562	409	237	417	121
Future Volume (vph)	108	825	102	264	1345	146	93	562	409	237	417	121
Lane Group Flow (vph)	111	851	105	272	1387	151	96	579	422	244	430	125
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.57	0.93	0.21	0.93	1.24	0.26	0.32	0.82	0.60	1.28	0.61	0.18
Control Delay	38.2	60.9	5.2	72.4	151.4	10.5	19.5	38.6	18.8	186.0	33.0	4.0
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	38.2	60.9	5.2	72.4	151.4	10.5	19.5	38.6	18.8	186.0	33.0	4.0
Queue Length 50th (ft)	51	340	0	162	~737	16	36	269	99	~156	262	0
Queue Length 95th (ft)	#127	#463	32	#462	#927	71	64	355	182	#263	320	33
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	194	914	500	293	1119	585	301	869	824	190	869	805
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	0.57	0.93	0.21	0.93	1.24	0.26	0.32	0.67	0.51	1.28	0.49	0.16

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: 145

Control Type: Actuated-Coordinated

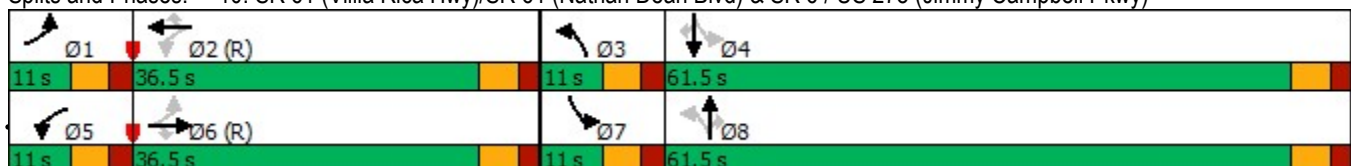
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2b. No Build PM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	825	102	264	1345	146	93	562	409	237	417	121
Future Volume (veh/h)	108	825	102	264	1345	146	93	562	409	237	417	121
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	111	851	0	272	1387	0	96	579	0	244	430	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1374		267	1374		277	633		177	633	
Arrive On Green	0.05	0.39	0.00	0.05	0.39	0.00	0.05	0.34	0.00	0.05	0.34	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	111	851	0	272	1387	0	96	579	0	244	430	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.5	23.2	0.0	5.5	46.4	0.0	4.2	35.6	0.0	5.5	23.7	0.0
Cycle Q Clear(g_c), s	4.5	23.2	0.0	5.5	46.4	0.0	4.2	35.6	0.0	5.5	23.7	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	142	1374		267	1374		277	633		177	633	
V/C Ratio(X)	0.78	0.62		1.02	1.01		0.35	0.91		1.38	0.68	
Avail Cap(c_a), veh/h	142	1374		267	1374		277	873		177	873	
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	0.91	0.91	0.00
Uniform Delay (d), s/veh	29.6	29.7	0.0	39.5	36.8	0.0	26.6	38.0	0.0	39.5	34.1	0.0
Incr Delay (d2), s/veh	24.3	2.1	0.0	60.0	26.7	0.0	0.7	11.2	0.0	200.7	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.9	14.7	0.0	14.7	31.7	0.0	3.1	23.9	0.0	19.5	15.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	31.8	0.0	99.5	63.5	0.0	27.4	49.2	0.0	240.1	35.3	0.0
LnGrp LOS	D	C		F	F		C	D		F	D	
Approach Vol, veh/h	962			1659			675			674		
Approach Delay, s/veh	34.3			69.4			46.1			109.4		
Approach LOS	C			E			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	51.9	11.0	46.1	11.0	51.9	11.0	46.1				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	6.5	48.4	6.2	25.7	7.5	25.2	7.5	37.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.0	3.6	0.0	3.0				

Intersection Summary

HCM 6th Ctrl Delay 63.7

HCM 6th LOS E

Notes

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

Timings

2b. No Build PM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	23	665	43	349	1038	113	27	152	175	119	265
Future Volume (vph)	23	665	43	349	1038	113	27	152	175	119	265
Lane Group Flow (vph)	24	693	45	364	1081	118	0	186	182	124	316
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	33.5	33.5	22.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	27.9%	27.9%	18.3%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.10	0.63	0.07	0.59	0.54	0.12		0.71	0.45	0.48	0.61
Control Delay	15.1	39.5	0.2	18.5	19.4	3.2		62.5	9.6	38.3	41.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	15.1	39.5	0.2	18.5	19.4	3.2		62.5	9.6	38.3	41.1
Queue Length 50th (ft)	7	233	0	123	285	0		139	0	75	207
Queue Length 95th (ft)	20	338	0	252	411	31		203	60	115	276
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	292	1093	608	615	2012	953		612	695	264	902
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	0.08	0.63	0.07	0.59	0.54	0.12		0.30	0.26	0.47	0.35

Intersection Summary

Cycle Length: 120

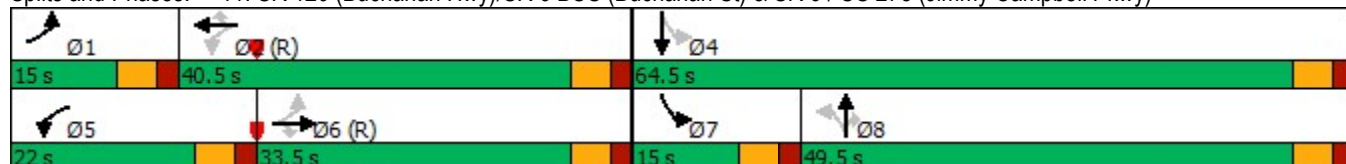
Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

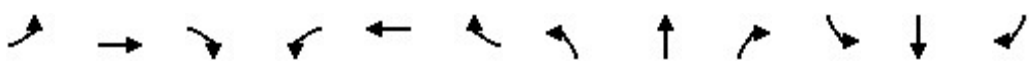
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2b. No Build PM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	665	43	349	1038	113	27	152	175	119	265	38
Future Volume (veh/h)	23	665	43	349	1038	113	27	152	175	119	265	38
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	24	693	0	364	1081	0	28	158	182	124	276	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	1724		539	2059		59	221	224	232	416	60
Arrive On Green	0.02	0.49	0.00	0.12	0.58	0.00	0.14	0.14	0.14	0.07	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	173	1566	1585	1781	1597	231
Grp Volume(v), veh/h	24	693	0	364	1081	0	186	0	182	124	0	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1739	0	1585	1781	0	1829
Q Serve(g_s), s	0.8	15.0	0.0	11.7	22.1	0.0	6.8	0.0	13.4	6.9	0.0	18.5
Cycle Q Clear(g_c), s	0.8	15.0	0.0	11.7	22.1	0.0	12.2	0.0	13.4	6.9	0.0	18.5
Prop In Lane	1.00		1.00	1.00		1.00	0.15		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	307	1724		539	2059		280	0	224	232	0	476
V/C Ratio(X)	0.08	0.40		0.67	0.53		0.66	0.00	0.81	0.53	0.00	0.66
Avail Cap(c_a), veh/h	407	1724		576	2059		659	0	581	243	0	899
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	19.8	0.0	13.3	15.3	0.0	49.3	0.0	50.0	39.1	0.0	39.7
Incr Delay (d2), s/veh	0.1	0.7	0.0	2.9	1.0	0.0	2.7	0.0	7.0	2.1	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	9.8	0.0	7.8	12.7	0.0	9.2	0.0	9.5	5.5	0.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	20.5	0.0	16.2	16.2	0.0	52.0	0.0	56.9	41.1	0.0	41.3
LnGrp LOS	B	C		B	B		D	A	E	D	A	D
Approach Vol, veh/h	717			1445			368			440		
Approach Delay, s/veh	20.3			16.2			54.4			41.2		
Approach LOS	C			B			D			D		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	75.0		36.7	19.6	63.7	14.3	22.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	16.5	28.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.8	24.1		20.5	13.7	17.0	8.9	15.4				
Green Ext Time (p_c), s	0.0	7.4		1.8	0.3	5.0	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 25.6

HCM 6th LOS C

Notes

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

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

2b. No Build PM

08/15/2022

									
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations									
Traffic Volume (vph)	9	264	564	114	421	19	18	107	15
Future Volume (vph)	9	264	564	114	421	19	18	107	15
Lane Group Flow (vph)	9	278	594	120	443	20	673	113	34
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6		5	2		8		4
Permitted Phases	6		6	2		2		8	
Detector Phase	1	6	6	5	2	2	8	8	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	21.4%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None
v/c Ratio	0.05	0.66	0.73	0.44	0.71	0.03	0.81	0.14	0.27
Control Delay	25.0	48.0	9.1	30.3	40.9	0.1	35.8	2.6	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	48.0	9.1	30.3	40.9	0.1	35.8	2.6	43.7
Queue Length 50th (ft)	4	185	0	59	268	0	414	0	17
Queue Length 95th (ft)	16	#297	110	105	#534	0	#663	24	48
Internal Link Dist (ft)		564			901		260		285
Turn Bay Length (ft)	100		160	110		155		290	
Base Capacity (vph)	244	422	818	279	624	619	831	811	297
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.66	0.73	0.43	0.71	0.03	0.81	0.14	0.11

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

					
Ø1	Ø2 (R)		Ø4		Ø8
15 s	28 s		23.5 s		43.5 s
					
Ø5	Ø6 (R)				
15 s	28 s				

HCM 6th Signalized Intersection Summary

2b. No Build PM

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	264	564	114	421	19	621	18	107	9	15	9
Future Volume (veh/h)	9	264	564	114	421	19	621	18	107	9	15	9
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	9	278	0	120	443	20	654	19	0	9	16	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	676		444	764	647	599	17		16	29	16
Arrive On Green	0.01	0.36	0.00	0.06	0.41	0.41	0.35	0.35	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1733	50	1585	467	830	467
Grp Volume(v), veh/h	9	278	0	120	443	20	673	0	0	34	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1784	0	1585	1763	0	0
Q Serve(g_s), s	0.4	12.3	0.0	4.5	20.2	0.8	38.0	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	12.3	0.0	4.5	20.2	0.8	38.0	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.97		1.00	0.26		0.26
Lane Grp Cap(c), veh/h	294	676		444	764	647	616	0		62	0	0
V/C Ratio(X)	0.03	0.41		0.27	0.58	0.03	1.09	0.00		0.55	0.00	0.00
Avail Cap(c_a), veh/h	428	676		494	764	647	616	0		288	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.8	26.4	0.0	19.8	25.2	19.5	36.0	0.0	0.0	52.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.3	3.2	0.1	63.9	0.0	0.0	7.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	9.4	0.0	3.2	14.0	0.6	37.0	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	28.2	0.0	20.2	28.4	19.6	99.9	0.0	0.0	59.5	0.0	0.0
LnGrp LOS	C	C		C	C	B	F	A		E	A	A
Approach Vol, veh/h		287			583			673			34	
Approach Delay, s/veh		28.0			26.4			99.9			59.5	
Approach LOS		C			C			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	50.4		9.4	11.9	45.2		43.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.4	22.2		4.1	6.5	14.3		40.0				
Green Ext Time (p_c), s	0.0	0.1		0.1	0.1	1.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay 58.8

HCM 6th LOS E

Notes

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

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	80	141	702	622	71
Future Vol, veh/h	44	80	141	702	622	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	125	0	155	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	81	142	709	628	72
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1657	664	700	0	-	0
Stage 1	664	-	-	-	-	-
Stage 2	993	-	-	-	-	-
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	108	461	897	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	91	461	897	-	-	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	431	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	36.9	1.6		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	897	-	91	461	-	-
HCM Lane V/C Ratio	0.159	-	0.488	0.175	-	-
HCM Control Delay (s)	9.8	-	77.6	14.5	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.6	-	2.1	0.6	-	-

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2b. No Build PM
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	11	3	27	10	28	742	107	595	16
Future Volume (vph)	11	3	27	10	28	742	107	595	16
Lane Group Flow (vph)	11	21	28	188	29	783	111	620	17
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	49.5	49.5	56.5	56.5	41.5	41.5	41.5	41.5	41.5
Total Split (s)	56.5	56.5	56.5	56.5	43.5	43.5	43.5	43.5	43.5
Total Split (%)	56.5%	56.5%	56.5%	56.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.11	0.09	0.15	0.69	0.05	0.56	0.26	0.44	0.01
Control Delay	37.2	17.2	37.5	37.6	4.5	7.8	6.5	6.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	17.2	37.5	37.6	4.5	7.8	6.5	6.3	1.2
Queue Length 50th (ft)	6	2	16	71	4	170	17	117	0
Queue Length 95th (ft)	22	22	39	133	15	345	52	236	5
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	394	836	706	850	549	1409	430	1412	1206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.03	0.04	0.22	0.05	0.56	0.26	0.44	0.01

Intersection Summary

Cycle Length: 100

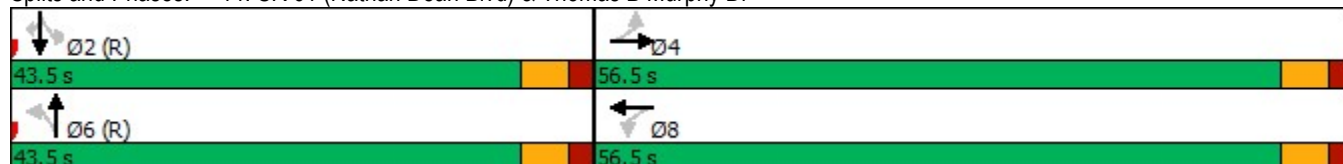
Actuated Cycle Length: 100

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2b. No Build PM
08/15/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	11	3	17	27	10	171	28	742	10	107	595	16	
Future Volume (veh/h)	11	3	17	27	10	171	28	742	10	107	595	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
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	11	3	18	28	10	178	29	773	10	111	620	17	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	113	34	205	262	13	224	558	1367	18	456	1388	1176	
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	0.74	0.74	0.74	
Sat Flow, veh/h	1195	231	1389	1391	85	1513	791	1842	24	691	1870	1585	
Grp Volume(v), veh/h	11	0	21	28	0	188	29	0	783	111	620	17	
Grp Sat Flow(s),veh/h/ln	1195	0	1620	1391	0	1598	791	0	1866	691	1870	1585	
Q Serve(g_s), s	0.9	0.0	1.1	1.8	0.0	11.4	1.5	0.0	18.6	8.5	12.8	0.3	
Cycle Q Clear(g_c), s	12.3	0.0	1.1	2.9	0.0	11.4	14.3	0.0	18.6	27.1	12.8	0.3	
Prop In Lane	1.00		0.86	1.00		0.95	1.00		0.01	1.00		1.00	
Lane Grp Cap(c), veh/h	113	0	240	262	0	236	558	0	1385	456	1388	1176	
V/C Ratio(X)	0.10	0.00	0.09	0.11	0.00	0.80	0.05	0.00	0.57	0.24	0.45	0.01	
Avail Cap(c_a), veh/h	546	0	826	766	0	815	558	0	1385	456	1388	1176	
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	0.67	0.00	0.67	1.00	1.00	1.00	
Uniform Delay (d), s/veh	47.1	0.0	36.8	38.0	0.0	41.2	7.7	0.0	5.7	11.8	5.0	3.4	
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.2	0.0	6.0	0.1	0.0	1.1	1.3	1.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.8	1.1	0.0	8.5	0.4	0.0	8.3	2.4	6.7	0.1	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	47.4	0.0	36.9	38.2	0.0	47.2	7.8	0.0	6.9	13.0	6.0	3.4	
LnGrp LOS	D	A	D	D	A	D	A	A	A	B	A	A	
Approach Vol, veh/h	32			216				812				748	
Approach Delay, s/veh	40.6			46.0				6.9				7.0	
Approach LOS	D			D				A				A	
Timer - Assigned Phs	2			4			6			8			
Phs Duration (G+Y+Rc), s	79.7			20.3			79.7			20.3			
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5			
Max Green Setting (Gmax), s	38.0			51.0			38.0			51.0			
Max Q Clear Time (g_c+I1), s	29.1			14.3			20.6			13.4			
Green Ext Time (p_c), s	4.8			0.1			8.8			1.4			
Intersection Summary													
HCM 6th Ctrl Delay	12.2												
HCM 6th LOS	B												

Future “No-Build” Intersection Analysis with Improvements

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	198	82	43	55	1
Future Vol, veh/h	2	198	82	43	55	1
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	264	109	57	73	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	166	0	-	0	408	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	270	-
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	1412	-	-	-	599	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1412	-	-	-	598	910
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	775	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		11.8		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1412	-	-	-	602	
HCM Lane V/C Ratio	0.002	-	-	-	0.124	
HCM Control Delay (s)	7.6	0	-	-	11.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

Timings

2a. No Build AM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	261	104	121	86	136	125	676	204	81	553	16
Future Volume (vph)	177	261	104	121	86	136	125	676	204	81	553	16
Lane Group Flow (vph)	182	269	107	125	89	140	129	697	210	84	570	16
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	5	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	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	15.0	23.5	23.5
Total Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	19.0	53.0	53.0	19.0	53.0	53.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	15.8%	44.2%	44.2%	15.8%	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 Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.71	0.73	0.27	1.12	0.24	0.33	0.22	0.32	0.20	0.16	0.28	0.02
Control Delay	59.5	56.7	8.3	164.8	40.2	7.8	7.4	12.8	2.4	18.7	32.1	5.6
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	59.5	56.7	8.3	164.8	40.2	7.8	7.4	12.8	2.4	18.7	32.1	5.6
Queue Length 50th (ft)	134	199	0	~114	59	0	27	128	0	49	202	1
Queue Length 95th (ft)	195	264	43	#201	96	49	62	214	38	m100	279	m6
Internal Link Dist (ft)		2837			1282			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	461	659	629	201	659	651	630	2206	1065	602	2058	951
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	0.41	0.17	0.62	0.14	0.22	0.20	0.32	0.20	0.14	0.28	0.02

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

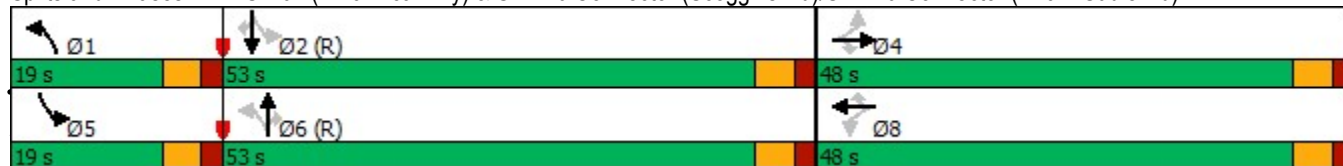
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

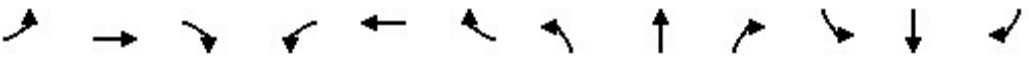
Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

2a. No Build AM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	261	104	121	86	136	125	676	204	81	553	16
Future Volume (veh/h)	177	261	104	121	86	136	125	676	204	81	553	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	182	269	0	125	89	0	129	697	0	84	570	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	479		206	479		545	2016		475	1985	
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.00	0.05	0.57	0.00	0.04	0.56	0.00
Sat Flow, veh/h	1308	1870	1585	1110	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	182	269	0	125	89	0	129	697	0	84	570	0
Grp Sat Flow(s), veh/h/ln	1308	1870	1585	1110	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.2	15.0	0.0	13.2	4.5	0.0	3.7	12.7	0.0	2.4	10.1	0.0
Cycle Q Clear(g_c), s	19.6	15.0	0.0	28.2	4.5	0.0	3.7	12.7	0.0	2.4	10.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	479		206	479		545	2016		475	1985	
V/C Ratio(X)	0.53	0.56		0.61	0.19		0.24	0.35		0.18	0.29	
Avail Cap(c_a), veh/h	475	662		314	662		660	2016		606	1985	
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	42.5	38.8	0.0	51.0	34.9	0.0	10.5	14.0	0.0	10.8	13.9	0.0
Incr Delay (d2), s/veh	1.2	1.0	0.0	2.9	0.2	0.0	0.2	0.5	0.0	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	11.1	0.0	6.7	3.6	0.0	2.3	8.2	0.0	1.5	6.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	39.8	0.0	53.9	35.1	0.0	10.7	14.4	0.0	11.0	14.3	0.0
LnGrp LOS	D	D		D	D		B	B		B	B	
Approach Vol, veh/h	451			214			826			654		
Approach Delay, s/veh	41.4			46.1			13.9			13.9		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.3	72.5		36.2	10.2	73.6		36.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	13.5	47.5		42.5	13.5	47.5		42.5				
Max Q Clear Time (g_c+I1), s	5.7	12.1		21.6	4.4	14.7		30.2				
Green Ext Time (p_c), s	0.1	5.2		1.3	0.1	6.6		0.5				

Intersection Summary

HCM 6th Ctrl Delay 22.9

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	4	5	75	5	0
Future Vol, veh/h	11	4	5	75	5	0
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	-	-	-	-	-
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	14	5	6	96	6	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	114	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	108	-	-	-	-	-
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	882	1077	1615	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	878	1077	1615	-	-	-
Mov Cap-2 Maneuver	878	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9	0.5		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1615	-	924	-	-	
HCM Lane V/C Ratio	0.004	-	0.021	-	-	
HCM Control Delay (s)	7.2	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	2	13	0	43	4	83	2	6	29	0
Future Vol, veh/h	1	0	2	13	0	43	4	83	2	6	29	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	2	15	0	49	5	95	2	7	33	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.1	7.6	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	33%	23%	17%
Vol Thru, %	93%	0%	0%	83%
Vol Right, %	2%	67%	77%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	3	56	35
LT Vol	4	1	13	6
Through Vol	83	0	0	29
RT Vol	2	2	43	0
Lane Flow Rate	102	3	64	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.116	0.004	0.067	0.047
Departure Headway (Hd)	4.078	3.897	3.768	4.164
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	878	905	939	856
Service Time	2.109	1.976	1.838	2.208
HCM Lane V/C Ratio	0.116	0.003	0.068	0.047
HCM Control Delay	7.6	7	7.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0	0.2	0.1

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	112	653	3	33	203
Future Vol, veh/h	15	112	653	3	33	203
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	130	759	3	38	236
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1073	761	0	0	762	0
Stage 1	761	-	-	-	-	-
Stage 2	312	-	-	-	-	-
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	244	405	-	-	850	-
Stage 1	461	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	232	405	-	-	850	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	20.9	0	1.3			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	372	850	-	
HCM Lane V/C Ratio	-	-	0.397	0.045	-	
HCM Control Delay (s)	-	-	20.9	9.4	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	1.9	0.1	-	

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	1	8	0	13	2	56	27	17	25	0
Future Vol, veh/h	0	1	1	8	0	13	2	56	27	17	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	10	0	17	3	73	35	22	32	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	181	190	32	174	173	91	32	0	0	108	0	0
Stage 1	76	76	-	97	97	-	-	-	-	-	-	-
Stage 2	105	114	-	77	76	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	781	705	1042	789	720	967	1580	-	-	1483	-	-
Stage 1	933	832	-	910	815	-	-	-	-	-	-	-
Stage 2	901	801	-	932	832	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	758	693	1042	776	708	967	1580	-	-	1483	-	-
Mov Cap-2 Maneuver	758	693	-	776	708	-	-	-	-	-	-	-
Stage 1	931	820	-	908	813	-	-	-	-	-	-	-
Stage 2	883	799	-	915	820	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.2	0.2	3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1580	-	-	832 884	1483	-	-
HCM Lane V/C Ratio	0.002	-	-	0.003 0.031 0.015	-	-	-
HCM Control Delay (s)	7.3	0	-	9.3 9.2 7.5	0	-	-
HCM Lane LOS	A	A	-	A A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

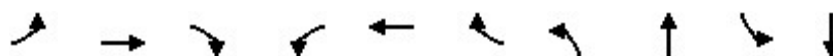
Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	2	6	64	23	16
Future Vol, veh/h	32	2	6	64	23	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	2	7	75	27	19
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	126	37	46	0	-	0
Stage 1	37	-	-	-	-	-
Stage 2	89	-	-	-	-	-
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	869	1035	1562	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	865	1035	1562	-	-	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	0.6		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1562	-	873	-	-	
HCM Lane V/C Ratio	0.005	-	0.046	-	-	
HCM Control Delay (s)	7.3	0	9.3	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Timings

2a. No Build AM - Improved

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	1369	51	41	676	35	51	56	32	35
Future Volume (vph)	24	1369	51	41	676	35	51	56	32	35
Lane Group Flow (vph)	25	1441	54	43	712	37	0	280	0	88
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	36.5	36.5	15.0	36.5	36.5	52.5	52.5	48.5	48.5
Total Split (s)	15.0	42.5	42.5	15.0	42.5	42.5	52.5	52.5	52.5	52.5
Total Split (%)	13.6%	38.6%	38.6%	13.6%	38.6%	38.6%	47.7%	47.7%	47.7%	47.7%
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
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.06	0.72	0.06	0.20	0.35	0.04		0.80		0.39
Control Delay	7.5	19.6	1.7	9.3	12.3	0.3		45.1		34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.5	19.6	1.7	9.3	12.3	0.3		45.1		34.5
Queue Length 50th (ft)	5	372	0	8	128	0		135		45
Queue Length 95th (ft)	18	#659	12	26	218	2		207		83
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	488	2013	929	251	2024	934		656		473
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	0.05	0.72	0.06	0.17	0.35	0.04		0.43		0.19

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

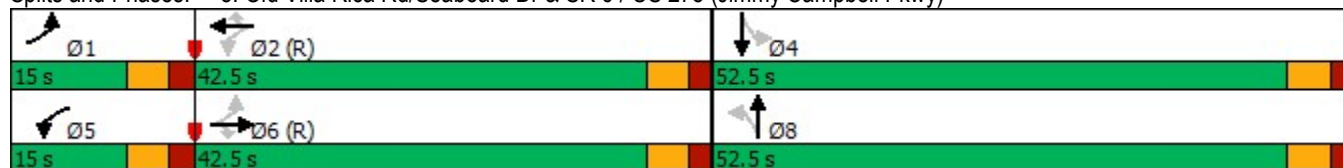
Natural Cycle: 135

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2a. No Build AM - Improved

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1369	51	41	676	35	51	56	159	32	35	16
Future Volume (veh/h)	24	1369	51	41	676	35	51	56	159	32	35	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	1441	54	43	712	37	54	59	0	34	37	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	525	2312	1031	276	2340	1044	109	84		100	88	
Arrive On Green	0.02	0.72	0.72	0.03	0.73	0.73	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	642	894	0	549	940	0
Grp Volume(v), veh/h	25	1441	54	43	712	37	113	0	0	71	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1535	0	0	1489	0	0
Q Serve(g_s), s	0.4	25.0	1.2	0.7	8.4	0.8	3.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	25.0	1.2	0.7	8.4	0.8	7.7	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.48		0.00	0.48		0.00
Lane Grp Cap(c), veh/h	525	2312	1031	276	2340	1044	193	0		188	0	
V/C Ratio(X)	0.05	0.62	0.05	0.16	0.30	0.04	0.59	0.00		0.38	0.00	
Avail Cap(c_a), veh/h	624	2312	1031	361	2340	1044	671	0		661	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.8	7.7	4.4	6.7	5.1	4.1	48.5	0.0	0.0	47.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.1	0.3	0.3	0.1	2.8	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	10.4	0.5	0.3	3.7	0.3	5.7	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.9	9.0	4.5	6.9	5.4	4.1	51.3	0.0	0.0	48.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	1520				792				113			
Approach Delay, s/veh	8.7				5.4				51.3			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	86.0		15.8	9.2	85.0		15.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	37.0		47.0	9.5	37.0		47.0				
Max Q Clear Time (g_c+I1), s	2.4	10.4		6.8	2.7	27.0		9.7				
Green Ext Time (p_c), s	0.0	8.8		0.4	0.0	8.3		0.6				

Intersection Summary

HCM 6th Ctrl Delay 10.7

HCM 6th LOS B

Notes

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

Intersection													
Int Delay, s/veh	0.7												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱	↱↱	↱	↱	↱↱	↱			↱			↱
Traffic Vol, veh/h	14	100	1437	11	23	656	65	0	0	6	0	0	22
Future Vol, veh/h	14	100	1437	11	23	656	65	0	0	6	0	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	104	1497	11	24	683	68	0	0	6	0	0	23

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	683	683	0	0	1497	0	0	-	-	749	-	-	342
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	530	906	-	-	444	-	-	0	0	354	0	0	654
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	828	828	-	-	444	-	-	-	-	354	-	-	654
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.4	15.4	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	354	828	-	-	444	-	-	654
HCM Lane V/C Ratio	0.018	0.143	-	-	0.054	-	-	0.035
HCM Control Delay (s)	15.4	10.1	-	-	13.6	-	-	10.7
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0.2	-	-	0.1

Timings

2a. No Build AM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1297	71	259	559	166	53	392	310	165	390	90
Future Volume (vph)	82	1297	71	259	559	166	53	392	310	165	390	90
Lane Group Flow (vph)	85	1337	73	267	576	171	55	404	320	170	402	93
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.09	0.74	0.08	0.56	0.29	0.18	0.14	0.67	0.43	0.47	0.60	0.23
Control Delay	9.2	27.2	0.7	16.8	15.4	2.9	27.1	47.5	7.6	38.3	48.7	4.4
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	9.2	27.2	0.7	16.8	15.4	2.9	27.1	47.5	7.6	38.3	48.7	4.4
Queue Length 50th (ft)	11	413	0	37	121	1	18	161	25	53	155	0
Queue Length 95th (ft)	23	563	5	81	180	37	19	206	54	76	197	24
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	987	1806	868	476	1996	966	381	1651	1471	361	1651	804
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	0.74	0.08	0.56	0.29	0.18	0.14	0.24	0.22	0.47	0.24	0.12

Intersection Summary

Cycle Length: 120

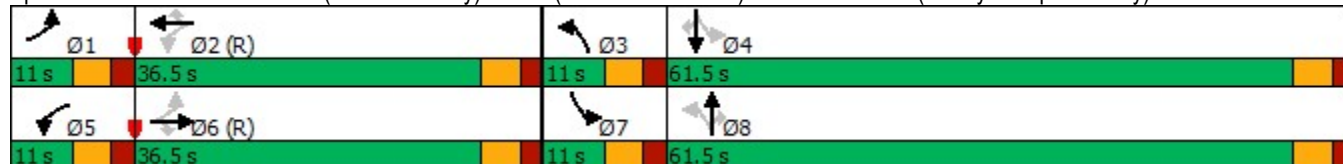
Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2a. No Build AM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1297	71	259	559	166	53	392	310	165	390	90
Future Volume (veh/h)	82	1297	71	259	559	166	53	392	310	165	390	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	1337	0	267	576	0	55	404	0	170	402	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1076	2057		536	2081		335	519		348	558	
Arrive On Green	0.04	0.58	0.00	0.05	0.59	0.00	0.04	0.15	0.00	0.05	0.16	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	85	1337	0	267	576	0	55	404	0	170	402	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	1.2	30.5	0.0	3.8	9.6	0.0	1.6	13.1	0.0	5.0	12.9	0.0
Cycle Q Clear(g_c), s	1.2	30.5	0.0	3.8	9.6	0.0	1.6	13.1	0.0	5.0	12.9	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	1076	2057		536	2081		335	519		348	558	
V/C Ratio(X)	0.08	0.65		0.50	0.28		0.16	0.78		0.49	0.72	
Avail Cap(c_a), veh/h	1099	2057		536	2081		373	1658		348	1658	
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	0.91	0.91	0.00
Uniform Delay (d), s/veh	9.3	17.1	0.0	15.0	12.3	0.0	41.5	49.4	0.0	42.0	48.1	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.7	0.3	0.0	0.2	2.6	0.0	1.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	16.7	0.0	2.3	6.2	0.0	1.2	9.7	0.0	3.8	9.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	18.7	0.0	15.7	12.6	0.0	41.7	51.9	0.0	43.0	49.7	0.0
LnGrp LOS	A	B		B	B		D	D		D	D	
Approach Vol, veh/h	1422			843			459			572		
Approach Delay, s/veh	18.1			13.6			50.7			47.7		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	75.8	9.7	24.3	11.0	75.0	11.0	23.0				
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	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	3.2	11.6	3.6	14.9	5.8	32.5	7.0	15.1				
Green Ext Time (p_c), s	0.0	5.8	0.0	2.6	0.0	0.0	0.0	2.4				

Intersection Summary

HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

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

Timings

2a. No Build AM - Improved

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	19	1084	41	100	521	68	59	273	433	39	97
Future Volume (vph)	19	1084	41	100	521	68	59	273	433	39	97
Lane Group Flow (vph)	20	1129	43	104	543	71	0	345	451	41	126
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	40.5	40.5	15.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	33.8%	33.8%	12.5%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.04	0.73	0.06	0.47	0.30	0.08		0.78	0.69	0.17	0.20
Control Delay	17.2	34.6	0.1	22.7	20.9	0.6		53.4	15.2	22.6	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	17.2	34.6	0.1	22.7	20.9	0.6		53.4	15.2	22.6	21.6
Queue Length 50th (ft)	7	390	0	39	117	0		248	74	20	57
Queue Length 95th (ft)	24	#655	0	m82	228	m4		319	173	38	85
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	504	1541	759	238	1823	875		625	791	258	896
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	0.04	0.73	0.06	0.44	0.30	0.08		0.55	0.57	0.16	0.14

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: 125

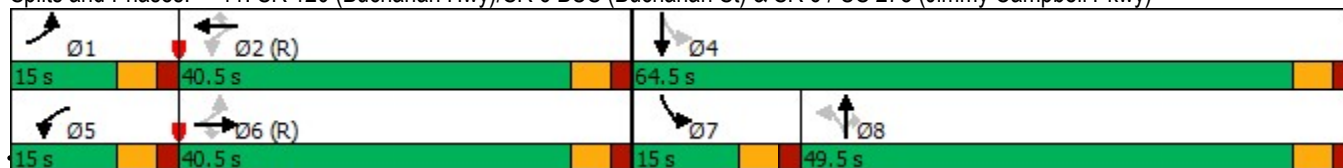
Control Type: Actuated-Coordinated

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.

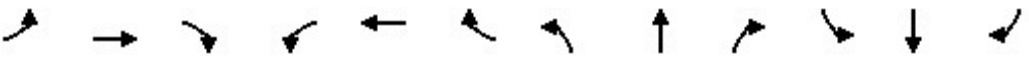
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2a. No Build AM - Improved

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1084	41	100	521	68	59	273	433	39	97	24
Future Volume (veh/h)	19	1084	41	100	521	68	59	273	433	39	97	24
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	20	1129	0	104	543	0	61	284	451	41	101	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1514		225	1613		113	467	494	220	562	139
Arrive On Green	0.02	0.43	0.00	0.05	0.45	0.00	0.31	0.31	0.31	0.03	0.39	0.39
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	251	1499	1585	1781	1448	358
Grp Volume(v), veh/h	20	1129	0	104	543	0	345	0	451	41	0	126
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1750	0	1585	1781	0	1806
Q Serve(g_s), s	0.8	32.1	0.0	3.9	11.8	0.0	13.3	0.0	32.9	1.8	0.0	5.5
Cycle Q Clear(g_c), s	0.8	32.1	0.0	3.9	11.8	0.0	20.0	0.0	32.9	1.8	0.0	5.5
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	403	1514		225	1613		580	0	494	220	0	701
V/C Ratio(X)	0.05	0.75		0.46	0.34		0.59	0.00	0.91	0.19	0.00	0.18
Avail Cap(c_a), veh/h	508	1514		280	1613		676	0	581	306	0	888
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	29.0	0.0	23.0	21.1	0.0	35.2	0.0	39.8	27.4	0.0	24.1
Incr Delay (d2), s/veh	0.1	3.4	0.0	1.5	0.6	0.0	1.1	0.0	17.3	0.4	0.0	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(95%),veh/ln	0.5	19.2	0.0	2.8	8.2	0.0	13.2	0.0	20.9	1.4	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	32.4	0.0	24.5	21.7	0.0	36.2	0.0	57.1	27.8	0.0	24.3
LnGrp LOS	B	C		C	C		D	A	E	C	A	C
Approach Vol, veh/h	1149				647		796				167	
Approach Delay, s/veh	32.1				22.1		48.0				25.1	
Approach LOS	C				C		D				C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	60.0		52.1	11.3	56.6	9.2	42.9				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	9.5	35.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.8	13.8		7.5	5.9	34.1	3.8	34.9				
Green Ext Time (p_c), s	0.0	5.7		0.7	0.1	0.8	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay 34.0

HCM 6th LOS C

Notes

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

Timings

2a. No Build AM - Improved

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT
Lane Configurations										
Traffic Volume (vph)	3	345	518	85	267	9	451	5	129	25
Future Volume (vph)	3	345	518	85	267	9	451	5	129	25
Lane Group Flow (vph)	3	363	545	89	281	9	242	238	136	51
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	NA
Protected Phases	1	6		5	2		8	8		4
Permitted Phases	6		6	2		2			8	
Detector Phase	1	6	6	5	2	2	8	8	8	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	39.5%	21.4%
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	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.00	0.40	0.54	0.17	0.26	0.01	0.72	0.70	0.32	0.36
Control Delay	14.3	24.0	7.2	13.4	16.3	0.0	52.3	51.4	7.5	46.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	24.0	7.2	13.4	16.3	0.0	52.3	51.4	7.5	46.5
Queue Length 50th (ft)	1	169	35	26	93	0	169	165	0	27
Queue Length 95th (ft)	6	318	165	64	223	0	234	231	46	65
Internal Link Dist (ft)		564			901			672		285
Turn Bay Length (ft)	100		160	110		155	235		290	
Base Capacity (vph)	672	917	1011	541	1071	967	580	582	635	300
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	0.00	0.40	0.54	0.16	0.26	0.01	0.42	0.41	0.21	0.17

Intersection Summary

Cycle Length: 110

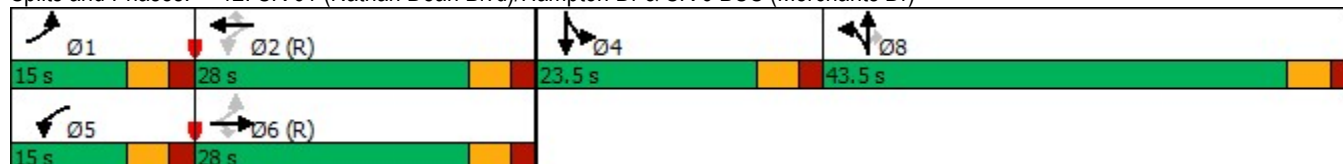
Actuated Cycle Length: 110

Offset: 61 (55%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)



HCM 6th Signalized Intersection Summary

2a. No Build AM - Improved

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	345	518	85	267	9	451	5	129	13	25	10
Future Volume (veh/h)	3	345	518	85	267	9	451	5	129	13	25	10
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	3	363	0	89	281	9	479	0	0	14	26	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	636	1032		593	1104	935	581	0		21	39	17
Arrive On Green	0.00	0.55	0.00	0.04	0.59	0.59	0.16	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3563	0	1585	488	906	383
Grp Volume(v), veh/h	3	363	0	89	281	9	479	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1585	1777	0	0
Q Serve(g_s), s	0.1	11.9	0.0	2.3	8.0	0.3	14.3	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	11.9	0.0	2.3	8.0	0.3	14.3	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.27		0.22
Lane Grp Cap(c), veh/h	636	1032		593	1104	935	581	0		77	0	0
V/C Ratio(X)	0.00	0.35		0.15	0.25	0.01	0.83	0.00		0.67	0.00	0.00
Avail Cap(c_a), veh/h	783	1032		671	1104	935	1231	0		291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.94	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.9	13.7	0.0	10.0	10.9	9.3	44.5	0.0	0.0	51.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.1	0.6	0.0	2.9	0.0	0.0	9.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	8.4	0.0	1.5	5.6	0.2	10.3	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	14.7	0.0	10.1	11.4	9.3	47.4	0.0	0.0	61.4	0.0	0.0
LnGrp LOS	B	B		B	B	A	D	A		E	A	A
Approach Vol, veh/h	366			379			479			51		
Approach Delay, s/veh	14.6			11.1			47.4			61.4		
Approach LOS	B			B			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	70.4		10.2	10.2	66.2		23.4				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.1	10.0		5.1	4.3	13.9		16.3				
Green Ext Time (p_c), s	0.0	2.1		0.1	0.1	2.2		1.6				

Intersection Summary

HCM 6th Ctrl Delay 27.8

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

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

Timings
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

2a. No Build AM - Improved
08/15/2022

					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	43	171	126	549	596
Future Volume (vph)	43	171	126	549	596
Lane Group Flow (vph)	43	173	127	555	670
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	7		1	6	2
Permitted Phases		4	6		
Detector Phase	7	4	1	6	2
Switch Phase					
Minimum Initial (s)	5.0	6.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	15.0	23.5	23.5
Total Split (s)	23.8	23.8	15.0	66.2	51.2
Total Split (%)	26.4%	26.4%	16.7%	73.6%	56.9%
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			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.27	0.57	0.24	0.38	0.57
Control Delay	41.3	14.2	3.6	4.0	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	14.2	3.6	4.0	12.1
Queue Length 50th (ft)	23	0	12	69	189
Queue Length 95th (ft)	53	57	30	140	336
Internal Link Dist (ft)	426			607	672
Turn Bay Length (ft)	125		155		
Base Capacity (vph)	359	459	547	1465	1175
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	0.12	0.38	0.23	0.38	0.57

Intersection Summary

Cycle Length: 90

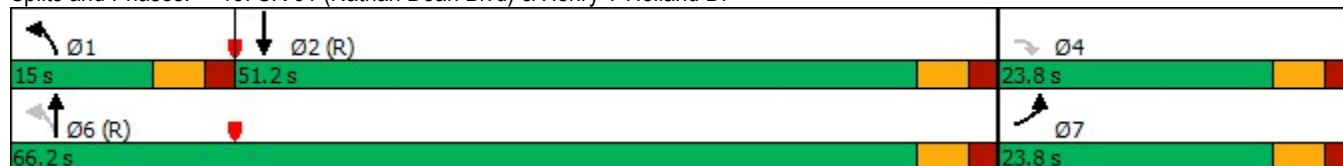
Actuated Cycle Length: 90

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr



HCM 6th Signalized Intersection Summary
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

2a. No Build AM - Improved
08/15/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	171	126	549	596	67
Future Volume (veh/h)	43	171	126	549	596	67
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	43	0	127	555	602	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65		612	1573	1200	135
Arrive On Green	0.04	0.00	0.05	0.84	0.73	0.73
Sat Flow, veh/h	1781	1585	1781	1870	1650	186
Grp Volume(v), veh/h	43	0	127	555	0	670
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1837
Q Serve(g_s), s	2.1	0.0	1.4	6.0	0.0	14.1
Cycle Q Clear(g_c), s	2.1	0.0	1.4	6.0	0.0	14.1
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	65		612	1573	0	1335
V/C Ratio(X)	0.66		0.21	0.35	0.00	0.50
Avail Cap(c_a), veh/h	362		705	1573	0	1335
HCM Platoon Ratio	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	0.87
Uniform Delay (d), s/veh	42.8	0.0	3.6	1.6	0.0	5.3
Incr Delay (d2), s/veh	10.8	0.0	0.2	0.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	0.0	0.4	1.1	0.0	6.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.6	0.0	3.8	2.2	0.0	6.5
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	43			682	670	
Approach Delay, s/veh	53.6			2.5	6.5	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.3	70.9		8.8		81.2
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	45.7		18.3		60.7
Max Q Clear Time (g_c+I1), s	3.4	16.1		4.1		8.0
Green Ext Time (p_c), s	0.1	9.2		0.1		8.1
Intersection Summary						
HCM 6th Ctrl Delay			6.0			
HCM 6th LOS			A			

Notes

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

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2a. No Build AM - Improved

08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	8	8	12	5	43	645	90	658	19
Future Volume (vph)	8	8	12	5	43	645	90	658	19
Lane Group Flow (vph)	8	30	13	96	45	678	94	685	20
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	34.5	34.5	35.5	35.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	36.0	36.0	36.0	36.0	64.0	64.0	64.0	64.0	64.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.08	0.21	0.13	0.48	0.07	0.43	0.16	0.43	0.01
Control Delay	43.8	24.9	44.9	18.6	2.4	3.5	2.8	3.5	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	24.9	44.9	18.6	2.4	3.5	2.8	3.5	0.7
Queue Length 50th (ft)	5	5	8	3	4	84	9	86	0
Queue Length 95th (ft)	19	32	26	51	13	168	25	170	4
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	394	520	419	550	601	1582	606	1583	1350
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.06	0.03	0.17	0.07	0.43	0.16	0.43	0.01

Intersection Summary

Cycle Length: 100

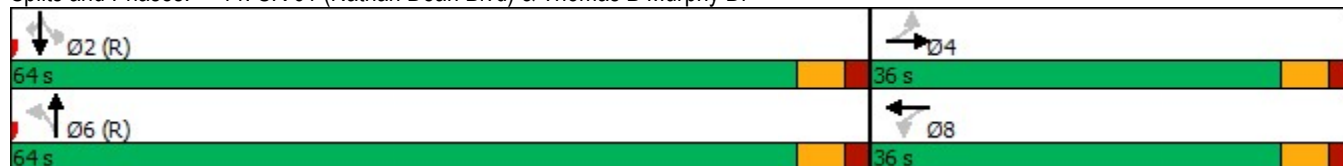
Actuated Cycle Length: 100

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

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2a. No Build AM - Improved

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	8	21	12	5	87	43	645	6	90	658	19
Future Volume (veh/h)	8	8	21	12	5	87	43	645	6	90	658	19
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	8	8	22	12	5	91	45	672	6	94	685	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	37	102	165	7	128	587	1491	13	601	1507	1277
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1300	441	1212	1380	83	1515	743	1851	17	762	1870	1585
Grp Volume(v), veh/h	8	0	30	12	0	96	45	0	678	94	685	20
Grp Sat Flow(s),veh/h/ln	1300	0	1652	1380	0	1598	743	0	1867	762	1870	1585
Q Serve(g_s), s	0.6	0.0	1.7	0.8	0.0	5.9	2.0	0.0	11.1	4.3	11.2	0.2
Cycle Q Clear(g_c), s	6.5	0.0	1.7	2.5	0.0	5.9	13.2	0.0	11.1	15.4	11.2	0.2
Prop In Lane	1.00		0.73	1.00		0.95	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	139	165	0	135	587	0	1505	601	1507	1277
V/C Ratio(X)	0.08	0.00	0.22	0.07	0.00	0.71	0.08	0.00	0.45	0.16	0.45	0.02
Avail Cap(c_a), veh/h	392	0	504	469	0	487	587	0	1505	601	1507	1277
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	0.88	0.00	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	42.7	43.9	0.0	44.6	5.0	0.0	3.0	5.3	3.0	1.9
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.2	0.0	6.8	0.2	0.0	0.9	0.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	1.3	0.5	0.0	4.6	0.5	0.0	4.2	1.1	4.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	43.5	44.1	0.0	51.4	5.2	0.0	3.8	5.9	4.0	1.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	38			108			723			799		
Approach Delay, s/veh	44.4			50.6			3.9			4.1		
Approach LOS	D			D			A			A		
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	58.5			30.5			58.5			30.5		
Max Q Clear Time (g_c+I1), s	17.4			8.5			15.2			7.9		
Green Ext Time (p_c), s	12.5			0.1			11.4			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	8.0											
HCM 6th LOS	A											

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	130	214	39	35	1
Future Vol, veh/h	6	130	214	39	35	1
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	173	285	52	47	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	337	0	-	0	500	311
Stage 1	-	-	-	-	311	-
Stage 2	-	-	-	-	189	-
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	1222	-	-	-	530	729
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1222	-	-	-	526	729
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	843	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.4	0		12.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1222	-	-	-	530	
HCM Lane V/C Ratio	0.007	-	-	-	0.091	
HCM Control Delay (s)	8	0	-	-	12.5	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Timings

2b. No Build PM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	133	90	217	218	99	96	550	162	110	693	33
Future Volume (vph)	69	133	90	217	218	99	96	550	162	110	693	33
Lane Group Flow (vph)	71	137	93	224	225	102	99	567	167	113	714	34
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	custom
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		5
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	23.5	23.5	23.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0	50.0	17.0	44.0	44.0	26.0	53.0	26.0
Total Split (%)	41.7%	41.7%	41.7%	41.7%	41.7%	41.7%	14.2%	36.7%	36.7%	21.7%	44.2%	21.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
v/c Ratio	0.37	0.32	0.20	0.84	0.52	0.22	0.21	0.29	0.17	0.21	0.36	0.19
Control Delay	41.9	38.3	3.3	69.2	43.4	4.4	9.4	15.8	3.2	9.2	14.3	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	38.3	3.3	69.2	43.4	4.4	9.4	15.8	3.2	9.2	14.3	14.8
Queue Length 50th (ft)	47	89	0	167	153	0	24	114	0	25	110	4
Queue Length 95th (ft)	82	130	21	235	206	28	57	193	39	57	179	15
Internal Link Dist (ft)		2837			1282			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	308	690	664	427	690	664	514	1987	961	689	1971	330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.14	0.52	0.33	0.15	0.19	0.29	0.17	0.16	0.36	0.10

Intersection Summary

Cycle Length: 120

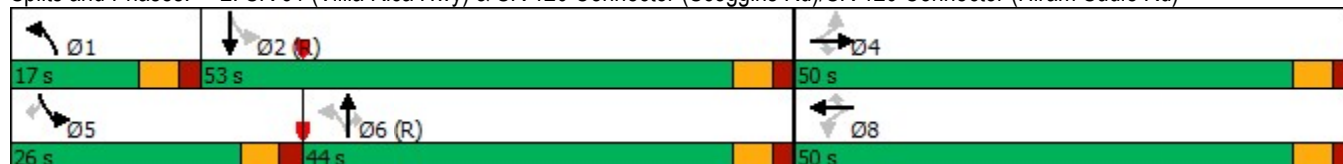
Actuated Cycle Length: 120

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

2b. No Build PM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	133	90	217	218	99	96	550	162	110	693	33
Future Volume (veh/h)	69	133	90	217	218	99	96	550	162	110	693	33
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	71	137	0	224	225	0	99	567	0	113	714	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	485		311	485		465	1984		541	2001	
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.00	0.04	0.56	0.00	0.05	0.56	0.00
Sat Flow, veh/h	1156	1870	1585	1252	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	71	137	0	224	225	0	99	567	0	113	714	0
Grp Sat Flow(s),veh/h/ln	1156	1870	1585	1252	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.6	7.0	0.0	20.9	12.2	0.0	2.8	10.1	0.0	3.2	13.2	0.0
Cycle Q Clear(g_c), s	18.8	7.0	0.0	27.9	12.2	0.0	2.8	10.1	0.0	3.2	13.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	485		311	485		465	1984		541	2001	
V/C Ratio(X)	0.29	0.28		0.72	0.46		0.21	0.29		0.21	0.36	
Avail Cap(c_a), veh/h	372	694		451	694		565	1984		765	2001	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.3	35.5	0.0	46.7	37.4	0.0	11.0	13.9	0.0	10.6	14.3	0.0
Incr Delay (d2), s/veh	0.7	0.3	0.0	3.1	0.7	0.0	0.2	0.4	0.0	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	5.7	0.0	10.8	9.3	0.0	1.8	6.7	0.0	2.0	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	35.8	0.0	49.8	38.1	0.0	11.2	14.3	0.0	10.8	14.8	0.0
LnGrp LOS	D	D		D	D		B	B		B	B	
Approach Vol, veh/h	208			449			666			827		
Approach Delay, s/veh	39.3			44.0			13.8			14.3		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	73.1		36.6	10.9	72.5		36.6				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	11.5	47.5		44.5	20.5	38.5		44.5				
Max Q Clear Time (g_c+I1), s	4.8	15.2		20.8	5.2	12.1		29.9				
Green Ext Time (p_c), s	0.1	6.8		0.6	0.2	4.9		1.2				

Intersection Summary

HCM 6th Ctrl Delay 22.8

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	4	39	66	6
Future Vol, veh/h	4	5	4	39	66	6
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	-	-	-	-	-
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	5	6	5	50	85	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	149	89	93	0	-	0
Stage 1	89	-	-	-	-	-
Stage 2	60	-	-	-	-	-
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	843	969	1501	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	840	969	1501	-	-	-
Mov Cap-2 Maneuver	840	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9	0.7		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1501	-	907	-	-	
HCM Lane V/C Ratio	0.003	-	0.013	-	-	
HCM Control Delay (s)	7.4	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	5	26	3	32	1	48	3	12	65	0
Future Vol, veh/h	1	2	5	26	3	32	1	48	3	12	65	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	6	30	3	37	1	55	3	14	75	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.4	7.5	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	12%	43%	16%
Vol Thru, %	92%	25%	5%	84%
Vol Right, %	6%	62%	52%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	8	61	77
LT Vol	1	1	26	12
Through Vol	48	2	3	65
RT Vol	3	5	32	0
Lane Flow Rate	60	9	70	89
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.01	0.077	0.102
Departure Headway (Hd)	4.108	3.894	3.967	4.148
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	904	892	859
Service Time	2.162	1.982	2.041	2.195
HCM Lane V/C Ratio	0.069	0.01	0.078	0.104
HCM Control Delay	7.5	7	7.4	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.2	0.3

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	57	305	8	65	584
Future Vol, veh/h	13	57	305	8	65	584
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	66	355	9	76	679
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1191	360	0	0	364	0
Stage 1	360	-	-	-	-	-
Stage 2	831	-	-	-	-	-
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	207	684	-	-	1195	-
Stage 1	706	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	684	-	-	1195	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.6	0		0.8		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		457	1195	
HCM Lane V/C Ratio	-	-		0.178	0.063	
HCM Control Delay (s)	-	-		14.6	8.2	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		0.6	0.2	

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	19	2	8	0	29	14	9	53	1
Future Vol, veh/h	0	0	0	19	2	8	0	29	14	9	53	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	25	3	10	0	38	18	12	69	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	148	150	70	141	141	47	70	0	0	56	0	0
Stage 1	94	94	-	47	47	-	-	-	-	-	-	-
Stage 2	54	56	-	94	94	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	820	742	993	829	750	1022	1531	-	-	1549	-	-
Stage 1	913	817	-	967	856	-	-	-	-	-	-	-
Stage 2	958	848	-	913	817	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	804	736	993	824	744	1022	1531	-	-	1549	-	-
Mov Cap-2 Maneuver	804	736	-	824	744	-	-	-	-	-	-	-
Stage 1	913	810	-	967	856	-	-	-	-	-	-	-
Stage 2	945	848	-	906	810	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		9.4			0			1			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1531	-	-	-	864	1549	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.044	0.008	-	-				
HCM Control Delay (s)	0	-	-	0	9.4	7.3	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-				

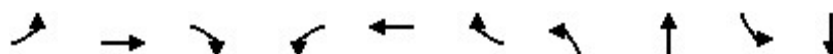
Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	4	8	49	32	30
Future Vol, veh/h	25	4	8	49	32	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	5	9	58	38	35
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	132	56	73	0	-	0
Stage 1	56	-	-	-	-	-
Stage 2	76	-	-	-	-	-
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	862	1011	1527	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	857	1011	1527	-	-	-
Mov Cap-2 Maneuver	857	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1527	-	875	-	-	
HCM Lane V/C Ratio	0.006	-	0.039	-	-	
HCM Control Delay (s)	7.4	0	9.3	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Timings

2b. No Build PM - Improved

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	853	46	144	1377	64	39	31	67	69
Future Volume (vph)	24	853	46	144	1377	64	39	31	67	69
Lane Group Flow (vph)	25	898	48	152	1449	67	0	199	0	219
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	15.0	56.5	56.5	23.5	65.0	65.0	30.0	30.0	30.0	30.0
Total Split (%)	13.6%	51.4%	51.4%	21.4%	59.1%	59.1%	27.3%	27.3%	27.3%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.12	0.50	0.06	0.40	0.71	0.07		0.64		0.91
Control Delay	7.6	16.3	0.1	9.2	17.9	2.1		34.8		78.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.6	16.3	0.1	9.2	17.9	2.1		34.8		78.0
Queue Length 50th (ft)	5	202	0	34	398	0		80		134
Queue Length 95th (ft)	14	272	0	58	508	15		160		#265
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	254	1811	868	477	2027	935		343		267
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	0.10	0.50	0.06	0.32	0.71	0.07		0.58		0.82

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

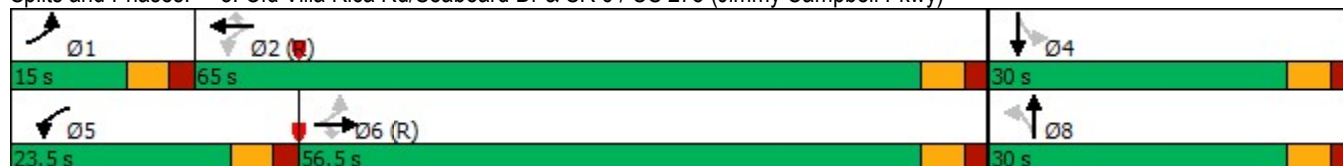
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2b. No Build PM - Improved

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	853	46	144	1377	64	39	31	119	67	69	71
Future Volume (veh/h)	24	853	46	144	1377	64	39	31	119	67	69	71
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	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	898	48	152	1449	67	41	33	0	71	73	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	2195	979	444	2272	1014	122	82		126	96	
Arrive On Green	0.02	0.69	0.69	0.05	0.71	0.71	0.12	0.12	0.00	0.12	0.12	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	619	710	0	668	836	0
Grp Volume(v), veh/h	25	898	48	152	1449	67	74	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1329	0	0	1504	0	0
Q Serve(g_s), s	0.5	13.5	1.2	3.1	26.4	1.6	0.0	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	13.5	1.2	3.1	26.4	1.6	5.5	0.0	0.0	10.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.55		0.00	0.49		0.00
Lane Grp Cap(c), veh/h	250	2195	979	444	2272	1014	204	0		222	0	
V/C Ratio(X)	0.10	0.41	0.05	0.34	0.64	0.07	0.36	0.00		0.65	0.00	
Avail Cap(c_a), veh/h	350	2195	979	629	2272	1014	351	0		376	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	7.5	5.6	5.4	8.4	4.8	45.3	0.0	0.0	47.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.6	0.1	0.5	1.4	0.1	1.1	0.0	0.0	3.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	6.6	0.5	1.3	11.1	0.7	3.5	0.0	0.0	7.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	8.1	5.7	5.9	9.8	5.0	46.4	0.0	0.0	50.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	971			1668			74			144		
Approach Delay, s/veh	8.0			9.3			46.4			50.6		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	83.7		18.2	10.8	81.0		18.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	59.5		24.5	18.0	51.0		24.5				
Max Q Clear Time (g_c+I1), s	2.5	28.4		12.2	5.1	15.5		7.5				
Green Ext Time (p_c), s	0.0	21.3		0.5	0.3	13.1		0.3				

Intersection Summary

HCM 6th Ctrl Delay 11.9

HCM 6th LOS B

Notes

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

Intersection

Int Delay, s/veh 1.5

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	2	33	915	9	55	1389	32	0	0	9	0	0	132
Future Vol, veh/h	2	33	915	9	55	1389	32	0	0	9	0	0	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	34	953	9	57	1447	33	0	0	9	0	0	138

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	1447	1447	0	0	953	0	0	-	-	477	-	-	724
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	171	464	-	-	717	-	-	0	0	534	0	0	368
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	392	392	-	-	717	-	-	-	-	534	-	-	368
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	11.9	20.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	534	392	-	-	717	-	-	368
HCM Lane V/C Ratio	0.018	0.093	-	-	0.08	-	-	0.374
HCM Control Delay (s)	11.9	15.1	-	-	10.5	-	-	20.5
HCM Lane LOS	B	C	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.3	-	-	1.7

Timings

2b. No Build PM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	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)	108	825	102	264	1345	146	93	562	409	237	417	121
Future Volume (vph)	108	825	102	264	1345	146	93	562	409	237	417	121
Lane Group Flow (vph)	111	851	105	272	1387	151	96	579	422	244	430	125
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.34	0.55	0.14	0.39	0.82	0.18	0.21	0.70	0.48	0.70	0.52	0.27
Control Delay	15.7	27.6	3.4	13.9	33.2	6.2	25.8	40.7	9.0	41.4	41.7	7.1
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	15.7	27.6	3.4	13.9	33.2	6.2	25.8	40.7	9.0	41.4	41.7	7.1
Queue Length 50th (ft)	18	251	0	46	473	11	21	154	15	70	153	0
Queue Length 95th (ft)	36	358	27	78	#714	56	37	190	52	92	188	45
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	326	1554	764	696	1689	820	463	1651	1460	350	1651	805
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	0.55	0.14	0.39	0.82	0.18	0.21	0.35	0.29	0.70	0.26	0.16

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

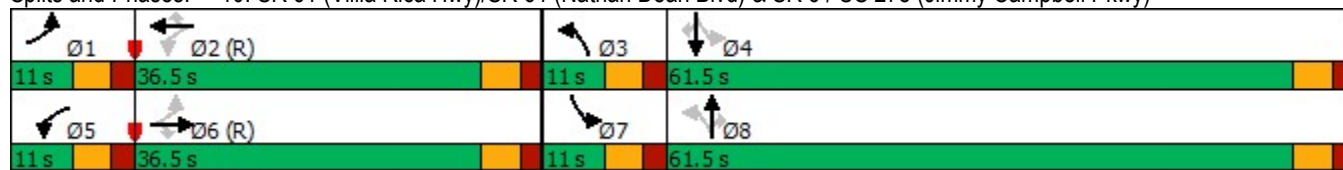
Natural Cycle: 145

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2b. No Build PM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	825	102	264	1345	146	93	562	409	237	417	121
Future Volume (veh/h)	108	825	102	264	1345	146	93	562	409	237	417	121
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	111	851	0	272	1387	0	96	579	0	244	430	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	1859		747	1878		441	717		354	738	
Arrive On Green	0.04	0.52	0.00	0.05	0.53	0.00	0.04	0.20	0.00	0.05	0.21	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	111	851	0	272	1387	0	96	579	0	244	430	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	1.7	18.0	0.0	4.4	36.2	0.0	2.6	18.6	0.0	5.5	13.1	0.0
Cycle Q Clear(g_c), s	1.7	18.0	0.0	4.4	36.2	0.0	2.6	18.6	0.0	5.5	13.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	432	1859		747	1878		441	717		354	738	
V/C Ratio(X)	0.26	0.46		0.36	0.74		0.22	0.81		0.69	0.58	
Avail Cap(c_a), veh/h	450	1859		747	1878		462	1658		354	1658	
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	0.91	0.91	0.00
Uniform Delay (d), s/veh	18.0	17.9	0.0	13.8	21.9	0.0	36.2	45.7	0.0	41.6	42.9	0.0
Incr Delay (d2), s/veh	0.3	0.8	0.0	0.3	2.6	0.0	0.2	2.2	0.0	5.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	11.2	0.0	2.8	20.2	0.0	1.9	12.7	0.0	2.2	9.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	18.8	0.0	14.1	24.5	0.0	36.4	47.9	0.0	46.7	43.5	0.0
LnGrp LOS	B	B		B	C		D	D		D	D	
Approach Vol, veh/h	962			1659			675			674		
Approach Delay, s/veh	18.7			22.8			46.2			44.7		
Approach LOS	B			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	68.9	10.3	30.4	11.0	68.3	11.0	29.7				
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	3.7	38.2	4.6	15.1	6.4	20.0	7.5	20.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	6.0	0.0	3.6				

Intersection Summary

HCM 6th Ctrl Delay 29.5

HCM 6th LOS C

Notes

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

Timings

2b. No Build PM - Improved

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	23	665	43	349	1038	113	27	152	175	119	265
Future Volume (vph)	23	665	43	349	1038	113	27	152	175	119	265
Lane Group Flow (vph)	24	693	45	364	1081	118	0	186	182	124	316
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	33.5	33.5	22.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	27.9%	27.9%	18.3%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.10	0.63	0.07	0.59	0.54	0.12		0.71	0.45	0.48	0.61
Control Delay	15.1	39.5	0.2	18.5	19.4	3.2		62.5	9.6	38.3	41.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	15.1	39.5	0.2	18.5	19.4	3.2		62.5	9.6	38.3	41.1
Queue Length 50th (ft)	7	233	0	123	285	0		139	0	75	207
Queue Length 95th (ft)	20	338	0	252	411	31		203	60	115	276
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	292	1093	608	615	2012	953		612	695	264	902
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	0.08	0.63	0.07	0.59	0.54	0.12		0.30	0.26	0.47	0.35

Intersection Summary

Cycle Length: 120

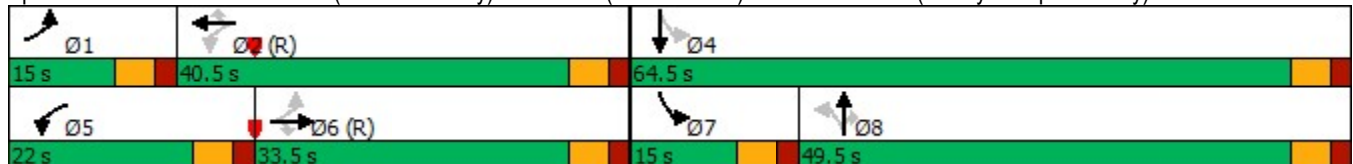
Actuated Cycle Length: 120

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

Natural Cycle: 115

Control Type: Actuated-Coordinated

Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

2b. No Build PM - Improved

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	665	43	349	1038	113	27	152	175	119	265	38
Future Volume (veh/h)	23	665	43	349	1038	113	27	152	175	119	265	38
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	24	693	0	364	1081	0	28	158	182	124	276	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	1724		539	2059		59	221	224	232	416	60
Arrive On Green	0.02	0.49	0.00	0.12	0.58	0.00	0.14	0.14	0.14	0.07	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	173	1566	1585	1781	1597	231
Grp Volume(v), veh/h	24	693	0	364	1081	0	186	0	182	124	0	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1739	0	1585	1781	0	1829
Q Serve(g_s), s	0.8	15.0	0.0	11.7	22.1	0.0	6.8	0.0	13.4	6.9	0.0	18.5
Cycle Q Clear(g_c), s	0.8	15.0	0.0	11.7	22.1	0.0	12.2	0.0	13.4	6.9	0.0	18.5
Prop In Lane	1.00		1.00	1.00		1.00	0.15		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	307	1724		539	2059		280	0	224	232	0	476
V/C Ratio(X)	0.08	0.40		0.67	0.53		0.66	0.00	0.81	0.53	0.00	0.66
Avail Cap(c_a), veh/h	407	1724		576	2059		659	0	581	243	0	899
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	19.8	0.0	13.3	15.3	0.0	49.3	0.0	50.0	39.1	0.0	39.7
Incr Delay (d2), s/veh	0.1	0.7	0.0	2.9	1.0	0.0	2.7	0.0	7.0	2.1	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	9.8	0.0	7.8	12.7	0.0	9.2	0.0	9.5	5.5	0.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	20.5	0.0	16.2	16.2	0.0	52.0	0.0	56.9	41.1	0.0	41.3
LnGrp LOS	B	C		B	B		D	A	E	D	A	D
Approach Vol, veh/h	717				1445				368			
Approach Delay, s/veh	20.3				16.2				54.4			
Approach LOS	C				B				D			
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	75.0		36.7	19.6	63.7	14.3	22.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	16.5	28.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.8	24.1		20.5	13.7	17.0	8.9	15.4				
Green Ext Time (p_c), s	0.0	7.4		1.8	0.3	5.0	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 25.6

HCM 6th LOS C

Notes

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

Timings

2b. No Build PM - Improved

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT
Lane Configurations										
Traffic Volume (vph)	9	264	564	114	421	19	621	18	107	15
Future Volume (vph)	9	264	564	114	421	19	621	18	107	15
Lane Group Flow (vph)	9	278	594	120	443	20	334	339	113	34
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	NA
Protected Phases	1	6		5	2		8	8		4
Permitted Phases	6		6	2		2			8	
Detector Phase	1	6	6	5	2	2	8	8	8	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	39.5%	21.4%
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	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.02	0.35	0.58	0.22	0.44	0.02	0.76	0.77	0.22	0.27
Control Delay	17.7	27.8	5.5	16.1	21.9	0.1	48.0	48.4	4.0	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	27.8	5.5	16.1	21.9	0.1	48.0	48.4	4.0	43.7
Queue Length 50th (ft)	3	139	0	42	188	0	228	231	0	17
Queue Length 95th (ft)	14	268	103	92	#419	0	300	304	27	48
Internal Link Dist (ft)		564			901			672		285
Turn Bay Length (ft)	100		160	110		155	235		290	
Base Capacity (vph)	511	795	1016	560	1008	918	581	584	635	297
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	0.35	0.58	0.21	0.44	0.02	0.57	0.58	0.18	0.11

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

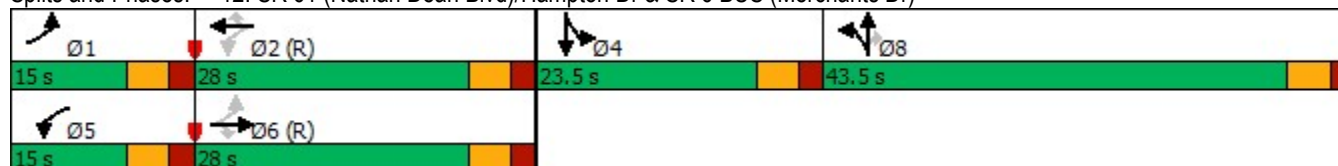
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)



HCM 6th Signalized Intersection Summary

2b. No Build PM - Improved

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	264	564	114	421	19	621	18	107	9	15	9
Future Volume (veh/h)	9	264	564	114	421	19	621	18	107	9	15	9
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	9	278	0	120	443	20	668	0	0	9	16	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	448	928		604	1001	848	779	0		16	29	16
Arrive On Green	0.01	0.50	0.00	0.05	0.54	0.54	0.22	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3563	0	1585	467	830	467
Grp Volume(v), veh/h	9	278	0	120	443	20	668	0	0	34	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1585	1763	0	0
Q Serve(g_s), s	0.3	9.7	0.0	3.5	15.9	0.7	19.8	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	0.3	9.7	0.0	3.5	15.9	0.7	19.8	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.26		0.26
Lane Grp Cap(c), veh/h	448	928		604	1001	848	779	0		62	0	0
V/C Ratio(X)	0.02	0.30		0.20	0.44	0.02	0.86	0.00		0.55	0.00	0.00
Avail Cap(c_a), veh/h	582	928		669	1001	848	1231	0		288	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.89	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	16.4	0.0	12.3	15.6	12.0	41.3	0.0	0.0	52.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.2	1.4	0.1	3.3	0.0	0.0	7.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	7.3	0.0	2.4	10.8	0.4	13.3	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	17.2	0.0	12.5	17.0	12.1	44.6	0.0	0.0	59.5	0.0	0.0
LnGrp LOS	B	B		B	B	B	D	A		E	A	A
Approach Vol, veh/h	287			583			668			34		
Approach Delay, s/veh	17.1			15.9			44.6			59.5		
Approach LOS	B			B			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	64.4		9.4	11.0	60.1		29.6				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.3	17.9		4.1	5.5	11.7		21.8				
Green Ext Time (p_c), s	0.0	1.7		0.1	0.1	1.8		2.2				

Intersection Summary

HCM 6th Ctrl Delay 29.3

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

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

Timings
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

2b. No Build PM - Improved
08/15/2022

					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	44	80	141	702	622
Future Volume (vph)	44	80	141	702	622
Lane Group Flow (vph)	44	81	142	709	700
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	7		1	6	2
Permitted Phases		4	6		
Detector Phase	7	4	1	6	2
Switch Phase					
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	15.0	23.5	23.5
Total Split (s)	23.6	23.6	15.0	66.4	51.4
Total Split (%)	26.2%	26.2%	16.7%	73.8%	57.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.29	0.38	0.27	0.46	0.57
Control Delay	42.6	14.7	3.5	4.2	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	14.7	3.5	4.2	11.6
Queue Length 50th (ft)	24	0	14	101	205
Queue Length 95th (ft)	55	41	29	180	342
Internal Link Dist (ft)	426			607	672
Turn Bay Length (ft)	125		155		
Base Capacity (vph)	355	383	552	1543	1224
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	0.12	0.21	0.26	0.46	0.57

Intersection Summary

Cycle Length: 90

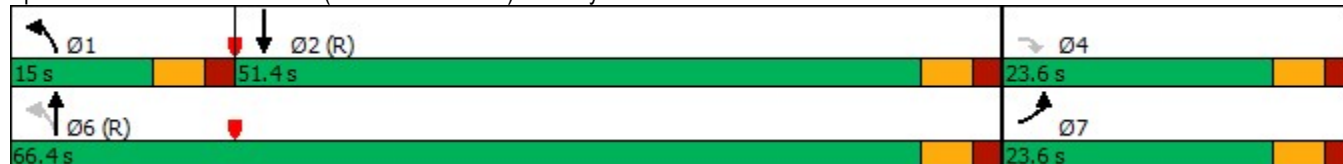
Actuated Cycle Length: 90

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr



HCM 6th Signalized Intersection Summary
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

2b. No Build PM - Improved
08/15/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	80	141	702	622	71
Future Volume (veh/h)	44	80	141	702	622	71
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	44	0	142	709	628	72
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	79		583	1559	1183	136
Arrive On Green	0.04	0.00	0.05	0.83	0.72	0.72
Sat Flow, veh/h	1781	1585	1781	1870	1647	189
Grp Volume(v), veh/h	44	0	142	709	0	700
Grp Sat Flow(s), veh/h/ln	1781	1585	1781	1870	0	1836
Q Serve(g_s), s	2.2	0.0	1.6	9.2	0.0	15.6
Cycle Q Clear(g_c), s	2.2	0.0	1.6	9.2	0.0	15.6
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	79		583	1559	0	1319
V/C Ratio(X)	0.56		0.24	0.45	0.00	0.53
Avail Cap(c_a), veh/h	358		674	1559	0	1319
HCM Platoon Ratio	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	0.85
Uniform Delay (d), s/veh	42.1	0.0	4.2	2.0	0.0	5.8
Incr Delay (d2), s/veh	6.0	0.0	0.2	1.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.5	2.0	0.0	7.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.1	0.0	4.4	3.0	0.0	7.1
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	44			851	700	
Approach Delay, s/veh	48.1			3.2	7.1	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.4	70.1		9.5		80.5
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	45.9		18.1		60.9
Max Q Clear Time (g_c+I1), s	3.6	17.6		4.2		11.2
Green Ext Time (p_c), s	0.2	9.7		0.1		11.6

Intersection Summary

HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Notes

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

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2b. No Build PM - Improved
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	11	3	27	10	28	742	107	595	16
Future Volume (vph)	11	3	27	10	28	742	107	595	16
Lane Group Flow (vph)	11	21	28	188	29	783	111	620	17
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	49.5	49.5	56.5	56.5	41.5	41.5	41.5	41.5	41.5
Total Split (s)	56.5	56.5	56.5	56.5	43.5	43.5	43.5	43.5	43.5
Total Split (%)	56.5%	56.5%	56.5%	56.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.11	0.09	0.15	0.69	0.05	0.56	0.26	0.44	0.01
Control Delay	37.2	17.2	37.5	37.6	4.5	7.8	6.5	6.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	17.2	37.5	37.6	4.5	7.8	6.5	6.3	1.2
Queue Length 50th (ft)	6	2	16	71	4	170	17	117	0
Queue Length 95th (ft)	22	22	39	133	15	345	52	236	5
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	394	836	706	850	549	1409	430	1412	1206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.03	0.04	0.22	0.05	0.56	0.26	0.44	0.01

Intersection Summary

Cycle Length: 100

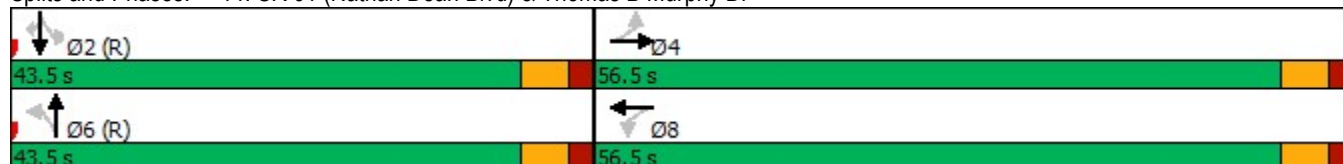
Actuated Cycle Length: 100

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

2b. No Build PM - Improved

08/15/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	11	3	17	27	10	171	28	742	10	107	595	16	
Future Volume (veh/h)	11	3	17	27	10	171	28	742	10	107	595	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
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	11	3	18	28	10	178	29	773	10	111	620	17	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	113	34	205	262	13	224	558	1367	18	456	1388	1176	
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	0.74	0.74	0.74	
Sat Flow, veh/h	1195	231	1389	1391	85	1513	791	1842	24	691	1870	1585	
Grp Volume(v), veh/h	11	0	21	28	0	188	29	0	783	111	620	17	
Grp Sat Flow(s),veh/h/ln	1195	0	1620	1391	0	1598	791	0	1866	691	1870	1585	
Q Serve(g_s), s	0.9	0.0	1.1	1.8	0.0	11.4	1.5	0.0	18.6	8.5	12.8	0.3	
Cycle Q Clear(g_c), s	12.3	0.0	1.1	2.9	0.0	11.4	14.3	0.0	18.6	27.1	12.8	0.3	
Prop In Lane	1.00		0.86	1.00		0.95	1.00		0.01	1.00		1.00	
Lane Grp Cap(c), veh/h	113	0	240	262	0	236	558	0	1385	456	1388	1176	
V/C Ratio(X)	0.10	0.00	0.09	0.11	0.00	0.80	0.05	0.00	0.57	0.24	0.45	0.01	
Avail Cap(c_a), veh/h	546	0	826	766	0	815	558	0	1385	456	1388	1176	
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	0.81	0.00	0.81	1.00	1.00	1.00	
Uniform Delay (d), s/veh	47.1	0.0	36.8	38.0	0.0	41.2	7.7	0.0	5.7	11.8	5.0	3.4	
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.2	0.0	6.0	0.1	0.0	1.4	1.3	1.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.8	1.1	0.0	8.5	0.4	0.0	8.8	2.4	6.7	0.1	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	47.4	0.0	36.9	38.2	0.0	47.2	7.9	0.0	7.1	13.0	6.0	3.4	
LnGrp LOS	D	A	D	D	A	D	A	A	A	B	A	A	
Approach Vol, veh/h	32			216				812				748	
Approach Delay, s/veh	40.6			46.0				7.1				7.0	
Approach LOS	D			D				A				A	
Timer - Assigned Phs	2			4			6			8			
Phs Duration (G+Y+Rc), s	79.7			20.3			79.7			20.3			
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5			
Max Green Setting (Gmax), s	38.0			51.0			38.0			51.0			
Max Q Clear Time (g_c+I1), s	29.1			14.3			20.6			13.4			
Green Ext Time (p_c), s	4.8			0.1			8.8			1.4			
Intersection Summary													
HCM 6th Ctrl Delay	12.3												
HCM 6th LOS	B												

Future “Build” Intersections Analysis

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	198	82	80	159	18
Future Vol, veh/h	8	198	82	80	159	18
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	264	109	107	212	24
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	216	0	-	0	449	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1354	-	-	-	568	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1354	-	-	-	562	882
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	763	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		15.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1354	-	-	-	584	
HCM Lane V/C Ratio	0.008	-	-	-	0.404	
HCM Control Delay (s)	7.7	0	-	-	15.3	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	1.9	

Timings

3a. Future AM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	313	121	121	104	136	131	676	204	81	553	28
Future Volume (vph)	212	313	121	121	104	136	131	676	204	81	553	28
Lane Group Flow (vph)	219	323	125	125	107	140	135	697	210	84	570	29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	5	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	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	15.0	23.5	23.5
Total Split (s)	41.0	41.0	41.0	41.0	41.0	41.0	15.0	64.0	64.0	15.0	64.0	64.0
Total Split (%)	34.2%	34.2%	34.2%	34.2%	34.2%	34.2%	12.5%	53.3%	53.3%	12.5%	53.3%	53.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.75	0.75	0.27	1.11	0.25	0.30	0.29	0.64	0.21	0.22	0.55	0.03
Control Delay	58.5	53.8	7.1	159.2	37.2	6.9	9.6	22.4	2.7	15.3	32.5	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	53.8	7.1	159.2	37.2	6.9	9.6	22.4	2.7	15.3	32.5	3.8
Queue Length 50th (ft)	158	233	0	~109	68	0	34	356	0	34	355	0
Queue Length 95th (ft)	231	311	45	#210	109	47	69	593	40	m63	503	m5
Internal Link Dist (ft)		2837			1261			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	374	551	556	145	551	566	472	1096	1018	407	1033	910
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	0.59	0.59	0.22	0.86	0.19	0.25	0.29	0.64	0.21	0.21	0.55	0.03

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

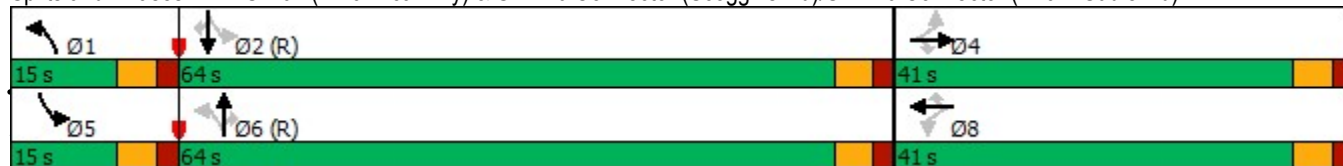
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

3a. Future AM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	313	121	121	104	136	131	676	204	81	553	28
Future Volume (veh/h)	212	313	121	121	104	136	131	676	204	81	553	28
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	219	323	0	125	107	0	135	697	0	84	570	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	530		201	530		421	1010		329	987	
Arrive On Green	0.28	0.28	0.00	0.28	0.28	0.00	0.05	0.54	0.00	0.04	0.53	0.00
Sat Flow, veh/h	1287	1870	1585	1057	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	219	323	0	125	107	0	135	697	0	84	570	0
Grp Sat Flow(s),veh/h/ln	1287	1870	1585	1057	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	18.7	17.9	0.0	13.9	5.2	0.0	4.1	32.8	0.0	2.6	24.8	0.0
Cycle Q Clear(g_c), s	23.9	17.9	0.0	31.9	5.2	0.0	4.1	32.8	0.0	2.6	24.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	369	530		201	530		421	1010		329	987	
V/C Ratio(X)	0.59	0.61		0.62	0.20		0.32	0.69		0.26	0.58	
Avail Cap(c_a), veh/h	385	553		215	553		471	1010		401	987	
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	41.8	37.2	0.0	51.0	32.7	0.0	14.6	20.2	0.0	16.4	19.2	0.0
Incr Delay (d2), s/veh	2.3	1.8	0.0	4.9	0.2	0.0	0.4	3.9	0.0	0.4	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.0	12.9	0.0	7.0	4.2	0.0	2.7	19.8	0.0	1.7	15.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	39.1	0.0	56.0	32.9	0.0	15.0	24.1	0.0	16.8	21.7	0.0
LnGrp LOS	D	D		E	C		B	C		B	C	
Approach Vol, veh/h	542			232			832			654		
Approach Delay, s/veh	41.1			45.3			22.6			21.1		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	68.8		39.5	10.2	70.3		39.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	58.5		35.5	9.5	58.5		35.5				
Max Q Clear Time (g_c+I1), s	6.1	26.8		25.9	4.6	34.8		33.9				
Green Ext Time (p_c), s	0.1	5.1		1.2	0.1	6.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay 28.9

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	10	22	283	78	0
Future Vol, veh/h	11	10	22	283	78	0
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	-	-	-	-	-
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	14	13	28	363	100	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	519	100	100	0	-	0
Stage 1	100	-	-	-	-	-
Stage 2	419	-	-	-	-	-
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	517	956	1493	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	505	956	1493	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.8	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1493	-	651	-	-	
HCM Lane V/C Ratio	0.019	-	0.041	-	-	
HCM Control Delay (s)	7.5	0	10.8	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	8	31	0	43	21	187	2	6	47	0
Future Vol, veh/h	1	0	8	31	0	43	21	187	2	6	47	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	9	36	0	49	24	215	2	7	54	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.9	8.9	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	11%	42%	11%
Vol Thru, %	89%	0%	0%	89%
Vol Right, %	1%	89%	58%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	9	74	53
LT Vol	21	1	31	6
Through Vol	187	0	0	47
RT Vol	2	8	43	0
Lane Flow Rate	241	10	85	61
Geometry Grp	1	1	1	1
Degree of Util (X)	0.279	0.012	0.103	0.075
Departure Headway (Hd)	4.161	4.195	4.356	4.42
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	852	857	827	814
Service Time	2.239	2.203	2.359	2.428
HCM Lane V/C Ratio	0.283	0.012	0.103	0.075
HCM Control Delay	8.9	7.3	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0	0.3	0.2

Intersection						
Int Delay, s/veh	7.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	213	653	4	50	203
Future Vol, veh/h	18	213	653	4	50	203
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	248	759	5	58	236
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1114	762	0	0	764	0
Stage 1	762	-	-	-	-	-
Stage 2	352	-	-	-	-	-
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	230	405	-	-	849	-
Stage 1	461	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	212	405	-	-	849	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	34.8	0		1.9		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		378	849	
HCM Lane V/C Ratio	-	-		0.711	0.068	
HCM Control Delay (s)	-	-		34.8	9.6	
HCM Lane LOS	-	-		D	A	
HCM 95th %tile Q(veh)	-	-		5.3	0.2	

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	1	39	0	13	2	177	114	17	68	0
Future Vol, veh/h	0	1	1	39	0	13	2	177	114	17	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	51	0	17	3	230	148	22	88	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	451	516	88	443	442	304	88	0	0	378	0	0
Stage 1	132	132	-	310	310	-	-	-	-	-	-	-
Stage 2	319	384	-	133	132	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	519	463	970	525	510	736	1508	-	-	1180	-	-
Stage 1	871	787	-	700	659	-	-	-	-	-	-	-
Stage 2	693	611	-	870	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	498	452	970	514	498	736	1508	-	-	1180	-	-
Mov Cap-2 Maneuver	498	452	-	514	498	-	-	-	-	-	-	-
Stage 1	868	771	-	698	657	-	-	-	-	-	-	-
Stage 2	675	609	-	850	771	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.9		12.4		0.1		1.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1508	-	-	617	556	1180	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.004	0.121	0.019	-	-				
HCM Control Delay (s)	7.4	0	-	10.9	12.4	8.1	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.1	-	-				

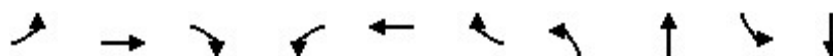
Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	101	19	12	64	23	40
Future Vol, veh/h	101	19	12	64	23	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	119	22	14	75	27	47
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	154	51	74	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	103	-	-	-	-	-
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	838	1017	1526	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	830	1017	1526	-	-	-
Mov Cap-2 Maneuver	830	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10	1.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1526	-	855	-	-	
HCM Lane V/C Ratio	0.009	-	0.165	-	-	
HCM Control Delay (s)	7.4	0	10	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.6	-	-	

Timings

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

3a. Future AM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	1438	51	65	700	35	51	56	32	35
Future Volume (vph)	24	1438	51	65	700	35	51	56	32	35
Lane Group Flow (vph)	25	1514	54	68	737	37	0	353	0	88
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	36.5	36.5	15.0	36.5	36.5	52.5	52.5	48.5	48.5
Total Split (s)	15.0	42.5	42.5	15.0	42.5	42.5	52.5	52.5	52.5	52.5
Total Split (%)	13.6%	38.6%	38.6%	13.6%	38.6%	38.6%	47.7%	47.7%	47.7%	47.7%
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
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.06	0.83	0.06	0.38	0.38	0.04		0.84		0.35
Control Delay	9.5	27.7	2.2	15.7	14.9	0.4		42.3		30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	9.5	27.7	2.2	15.7	14.9	0.4		42.3		30.3
Queue Length 50th (ft)	5	454	0	15	146	0		162		43
Queue Length 95th (ft)	20	#797	13	47	253	2		238		77
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	455	1820	848	211	1916	888		677		458
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	0.05	0.83	0.06	0.32	0.38	0.04		0.52		0.19

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

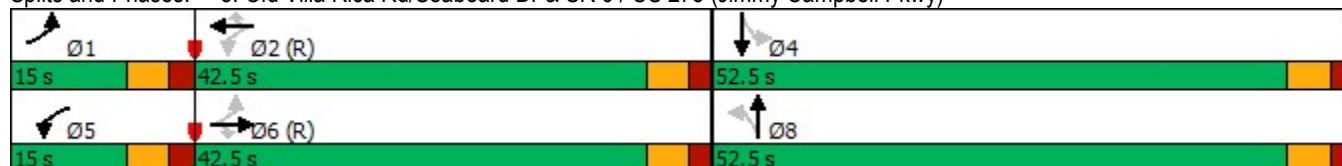
Natural Cycle: 135

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

3a. Future AM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1438	51	65	700	35	51	56	228	32	35	16
Future Volume (veh/h)	24	1438	51	65	700	35	51	56	228	32	35	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	1514	54	68	737	37	54	59	0	34	37	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	513	2291	1022	265	2340	1044	109	84		100	88	
Arrive On Green	0.02	0.72	0.72	0.04	0.73	0.73	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	642	894	0	549	940	0
Grp Volume(v), veh/h	25	1514	54	68	737	37	113	0	0	71	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1535	0	0	1489	0	0
Q Serve(g_s), s	0.5	28.1	1.2	1.2	8.8	0.8	3.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	28.1	1.2	1.2	8.8	0.8	7.7	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.48		0.00	0.48		0.00
Lane Grp Cap(c), veh/h	513	2291	1022	265	2340	1044	193	0		188	0	
V/C Ratio(X)	0.05	0.66	0.05	0.26	0.31	0.04	0.59	0.00		0.38	0.00	
Avail Cap(c_a), veh/h	612	2291	1022	340	2340	1044	671	0		661	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.0	8.4	4.6	8.1	5.1	4.1	48.5	0.0	0.0	47.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.1	0.5	0.4	0.1	2.8	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	11.6	0.5	0.7	3.8	0.3	5.7	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.0	9.9	4.7	8.6	5.5	4.1	51.3	0.0	0.0	48.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	1593				842				113			
Approach Delay, s/veh	9.7				5.7				51.3			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	86.0		15.8	9.9	84.3		15.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	37.0		47.0	9.5	37.0		47.0				
Max Q Clear Time (g_c+I1), s	2.5	10.8		6.8	3.2	30.1		9.7				
Green Ext Time (p_c), s	0.0	9.1		0.4	0.1	6.1		0.6				

Intersection Summary

HCM 6th Ctrl Delay 11.2

HCM 6th LOS B

Notes

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

Intersection													
Int Delay, s/veh	0.9												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱	↱↱	↱	↱	↱↱	↱			↱			↱
Traffic Vol, veh/h	14	100	1506	11	41	662	65	0	0	6	0	0	22
Future Vol, veh/h	14	100	1506	11	41	662	65	0	0	6	0	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	104	1569	11	43	690	68	0	0	6	0	0	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	690	690	0	0	1569	0	0	-	-	785	-	345
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	3.32
Pot Cap-1 Maneuver	524	900	-	-	417	-	-	0	0	336	0	651
Stage 1	-	-	-	-	-	-	-	0	0	-	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	-
Platoon blocked, %			-	-	-	-						
Mov Cap-1 Maneuver	821	821	-	-	417	-	-	-	-	336	-	651
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.8	15.9	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	336	821	-	-	417	-	-	651
HCM Lane V/C Ratio	0.019	0.145	-	-	0.102	-	-	0.035
HCM Control Delay (s)	15.9	10.1	-	-	14.6	-	-	10.7
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0.3	-	-	0.1

Timings

3a. Future AM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1401	71	265	596	166	53	402	327	165	394	102
Future Volume (vph)	117	1401	71	265	596	166	53	402	327	165	394	102
Lane Group Flow (vph)	121	1444	73	273	614	171	55	414	337	170	406	105
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.35	1.58	0.15	0.59	0.43	0.23	0.25	0.78	0.58	0.84	0.72	0.19
Control Delay	21.1	298.0	1.5	31.3	29.4	6.8	20.5	41.2	13.8	61.4	44.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	298.0	1.5	31.3	29.4	6.8	20.5	41.2	13.8	61.4	44.4	3.8
Queue Length 50th (ft)	45	~837	0	131	177	6	18	303	63	90	288	0
Queue Length 95th (ft)	95	#975	7	#322	281	61	m31	290	89	#140	354	27
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	348	914	500	463	1421	730	220	869	833	203	869	804
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	0.35	1.58	0.15	0.59	0.43	0.23	0.25	0.48	0.40	0.84	0.47	0.13

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

														
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)	Ø7	Ø8					
11 s	36.5 s		11 s	61.5 s		11 s	36.5 s	11 s	61.5 s					

HCM 6th Signalized Intersection Summary

3a. Future AM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1401	71	265	596	166	53	402	327	165	394	102
Future Volume (veh/h)	117	1401	71	265	596	166	53	402	327	165	394	102
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	121	1444	0	273	614	0	55	414	0	170	406	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	1693		185	1693		175	465		176	485	
Arrive On Green	0.05	0.48	0.00	0.05	0.48	0.00	0.04	0.25	0.00	0.05	0.26	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	121	1444	0	273	614	0	55	414	0	170	406	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.2	43.0	0.0	5.5	13.1	0.0	2.7	25.6	0.0	5.5	24.6	0.0
Cycle Q Clear(g_c), s	4.2	43.0	0.0	5.5	13.1	0.0	2.7	25.6	0.0	5.5	24.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	438	1693		185	1693		175	465		176	485	
V/C Ratio(X)	0.28	0.85		1.47	0.36		0.31	0.89		0.97	0.84	
Avail Cap(c_a), veh/h	438	1693		185	1693		194	873		176	873	
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	0.90	0.90	0.00
Uniform Delay (d), s/veh	15.5	27.7	0.0	31.9	19.9	0.0	34.2	43.5	0.0	43.9	42.0	0.0
Incr Delay (d2), s/veh	0.3	5.7	0.0	239.8	0.6	0.0	1.0	6.1	0.0	55.2	3.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	24.6	0.0	23.7	8.8	0.0	2.1	17.6	0.0	8.5	16.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	33.4	0.0	271.7	20.5	0.0	35.2	49.6	0.0	99.1	45.6	0.0
LnGrp LOS	B	C		F	C		D	D		F	D	
Approach Vol, veh/h	1565			887			469			576		
Approach Delay, s/veh	32.0			97.8			47.9			61.4		
Approach LOS	C			F			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	62.7	9.7	36.6	11.0	62.7	11.0	35.3				
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	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	6.2	15.1	4.7	26.6	7.5	45.0	7.5	27.6				
Green Ext Time (p_c), s	0.0	5.6	0.0	2.3	0.0	0.0	0.0	2.2				

Intersection Summary

HCM 6th Ctrl Delay 55.7

HCM 6th LOS E

Notes

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

Timings

3a. Future AM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	19	1084	46	106	521	68	73	290	502	39	103
Future Volume (vph)	19	1084	46	106	521	68	73	290	502	39	103
Lane Group Flow (vph)	20	1129	48	110	543	71	0	378	523	41	132
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	40.5	40.5	15.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	33.8%	33.8%	12.5%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.05	0.77	0.07	0.54	0.31	0.08		0.79	0.76	0.17	0.19
Control Delay	18.7	37.7	0.2	29.9	22.9	0.7		51.5	19.9	20.7	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	18.7	37.7	0.2	29.9	22.9	0.7		51.5	19.9	20.7	20.3
Queue Length 50th (ft)	7	408	0	43	124	0		271	132	19	58
Queue Length 95th (ft)	25	#655	0	m101	237	m4		344	240	36	85
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	478	1459	724	216	1732	837		615	794	265	897
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	0.04	0.77	0.07	0.51	0.31	0.08		0.61	0.66	0.15	0.15

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: 125

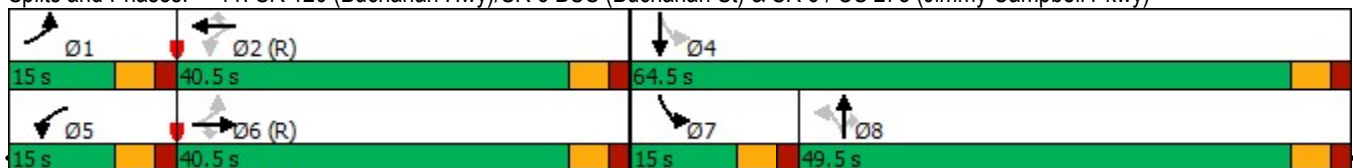
Control Type: Actuated-Coordinated

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.

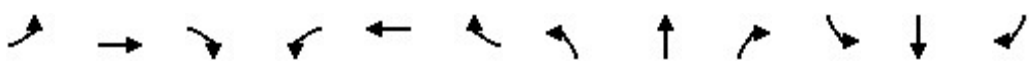
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3a. Future AM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1084	46	106	521	68	73	290	502	39	103	24
Future Volume (veh/h)	19	1084	46	106	521	68	73	290	502	39	103	24
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	20	1129	0	110	543	0	76	302	523	41	107	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	1363		202	1478		140	499	554	228	625	146
Arrive On Green	0.02	0.38	0.00	0.05	0.42	0.00	0.35	0.35	0.35	0.03	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	297	1428	1585	1781	1466	343
Grp Volume(v), veh/h	20	1129	0	110	543	0	378	0	523	41	0	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1726	0	1585	1781	0	1809
Q Serve(g_s), s	0.8	34.4	0.0	4.4	12.6	0.0	16.0	0.0	38.4	1.7	0.0	5.4
Cycle Q Clear(g_c), s	0.8	34.4	0.0	4.4	12.6	0.0	21.6	0.0	38.4	1.7	0.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	0.20		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	364	1363		202	1478		639	0	554	228	0	771
V/C Ratio(X)	0.05	0.83		0.54	0.37		0.59	0.00	0.94	0.18	0.00	0.17
Avail Cap(c_a), veh/h	469	1363		249	1478		668	0	581	314	0	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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	33.4	0.0	26.6	24.2	0.0	32.2	0.0	37.9	24.8	0.0	21.3
Incr Delay (d2), s/veh	0.1	5.9	0.0	2.3	0.7	0.0	1.3	0.0	23.8	0.4	0.0	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(95%),veh/ln	0.6	21.1	0.0	3.3	8.8	0.0	13.9	0.0	24.7	1.3	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	39.3	0.0	28.9	24.9	0.0	33.5	0.0	61.7	25.2	0.0	21.4
LnGrp LOS	C	D		C	C		C	A	E	C	A	C
Approach Vol, veh/h	1149				653		901				173	
Approach Delay, s/veh	39.0				25.5		49.9				22.3	
Approach LOS	D				C		D				C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	55.4		56.7	11.8	51.5	9.2	47.4				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	9.5	35.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.8	14.6		7.4	6.4	36.4	3.7	40.4				
Green Ext Time (p_c), s	0.0	5.6		0.7	0.1	0.0	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay 38.4

HCM 6th LOS D

Notes

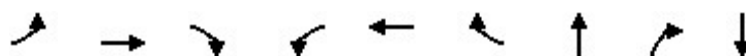
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

3a. Future AM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations									
Traffic Volume (vph)	3	345	528	87	267	9	5	136	25
Future Volume (vph)	3	345	528	87	267	9	5	136	25
Lane Group Flow (vph)	3	363	556	92	281	9	509	143	51
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6		5	2		8		4
Permitted Phases	6		6	2		2		8	
Detector Phase	1	6	6	5	2	2	8	8	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	21.4%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None
v/c Ratio	0.01	0.55	0.65	0.26	0.34	0.01	0.85	0.23	0.36
Control Delay	22.7	37.9	11.3	23.0	26.5	0.0	47.3	4.5	46.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	37.9	11.3	23.0	26.5	0.0	47.3	4.5	46.5
Queue Length 50th (ft)	1	221	47	38	129	0	328	0	27
Queue Length 95th (ft)	8	#438	#211	84	272	0	419	38	65
Internal Link Dist (ft)		564			901		669		284
Turn Bay Length (ft)	100		160	110		155		290	
Base Capacity (vph)	512	658	861	365	816	769	647	668	300
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.55	0.65	0.25	0.34	0.01	0.79	0.21	0.17

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 61 (55%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

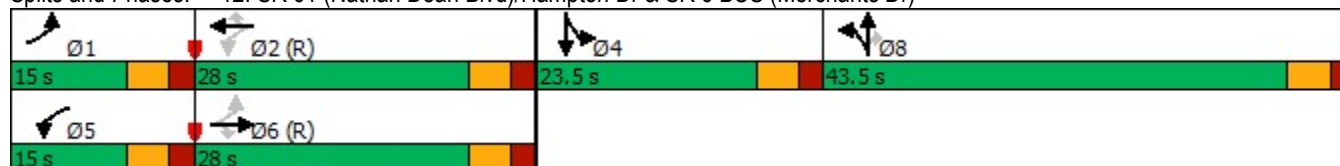
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)



HCM 6th Signalized Intersection Summary

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

3a. Future AM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	345	528	87	267	9	479	5	136	13	25	10
Future Volume (veh/h)	3	345	528	87	267	9	479	5	136	13	25	10
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	3	363	0	92	281	9	504	5	0	14	26	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	755		411	832	705	544	5		21	39	17
Arrive On Green	0.00	0.40	0.00	0.05	0.44	0.44	0.31	0.31	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1765	18	1585	488	906	383
Grp Volume(v), veh/h	3	363	0	92	281	9	509	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1782	0	1585	1777	0	0
Q Serve(g_s), s	0.1	15.8	0.0	3.2	10.8	0.3	30.4	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	15.8	0.0	3.2	10.8	0.3	30.4	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.99		1.00	0.27		0.22
Lane Grp Cap(c), veh/h	450	755		411	832	705	549	0		77	0	0
V/C Ratio(X)	0.01	0.48		0.22	0.34	0.01	0.93	0.00		0.67	0.00	0.00
Avail Cap(c_a), veh/h	597	755		484	832	705	616	0		291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.5	24.3	0.0	18.4	19.9	17.0	36.9	0.0	0.0	51.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.3	1.1	0.0	19.2	0.0	0.0	9.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	11.4	0.0	2.3	8.2	0.2	21.9	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	26.5	0.0	18.7	21.0	17.1	56.1	0.0	0.0	61.4	0.0	0.0
LnGrp LOS	B	C		B	C	B	E	A		E	A	A
Approach Vol, veh/h	366			382			509			51		
Approach Delay, s/veh	26.4			20.4			56.1			61.4		
Approach LOS	C			C			E			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	54.4		10.2	10.5	49.9		39.4				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.1	12.8		5.1	5.2	17.8		32.4				
Green Ext Time (p_c), s	0.0	1.8		0.1	0.1	1.3		1.4				

Intersection Summary

HCM 6th Ctrl Delay 37.6

HCM 6th LOS D

Notes

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

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	175	136	584	608	67
Future Vol, veh/h	43	175	136	584	608	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	125	0	155	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	177	137	590	614	68
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1512	648	682	0	-	0
Stage 1	648	-	-	-	-	-
Stage 2	864	-	-	-	-	-
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	132	470	911	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	112	470	911	-	-	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	443	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	24.9	1.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	911	-	112	470	-	-
HCM Lane V/C Ratio	0.151	-	0.388	0.376	-	-
HCM Control Delay (s)	9.7	-	56.2	17.2	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.5	-	1.6	1.7	-	-

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3a. Future AM
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	8	8	12	5	43	690	90	674	19
Future Volume (vph)	8	8	12	5	43	690	90	674	19
Lane Group Flow (vph)	8	30	13	96	45	725	94	702	20
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	34.5	34.5	35.5	35.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	35.5	35.5	35.5	35.5	64.5	64.5	64.5	64.5	64.5
Total Split (%)	35.5%	35.5%	35.5%	35.5%	64.5%	64.5%	64.5%	64.5%	64.5%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.08	0.21	0.13	0.48	0.08	0.46	0.16	0.44	0.01
Control Delay	43.8	24.9	44.9	18.6	2.4	3.7	2.9	3.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	24.9	44.9	18.6	2.4	3.7	2.9	3.6	0.7
Queue Length 50th (ft)	5	5	8	3	4	94	9	89	0
Queue Length 95th (ft)	19	32	26	51	13	187	25	178	4
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	388	512	412	543	589	1582	571	1583	1350
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.06	0.03	0.18	0.08	0.46	0.16	0.44	0.01

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: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3a. Future AM
08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	8	21	12	5	87	43	690	6	90	674	19
Future Volume (veh/h)	8	8	21	12	5	87	43	690	6	90	674	19
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	8	8	22	12	5	91	45	719	6	94	702	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	37	102	165	7	128	576	1492	12	570	1507	1277
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1300	441	1212	1380	83	1515	731	1852	15	729	1870	1585
Grp Volume(v), veh/h	8	0	30	12	0	96	45	0	725	94	702	20
Grp Sat Flow(s),veh/h/ln	1300	0	1652	1380	0	1598	731	0	1868	729	1870	1585
Q Serve(g_s), s	0.6	0.0	1.7	0.8	0.0	5.9	2.0	0.0	12.3	4.7	11.7	0.2
Cycle Q Clear(g_c), s	6.5	0.0	1.7	2.5	0.0	5.9	13.7	0.0	12.3	17.0	11.7	0.2
Prop In Lane	1.00		0.73	1.00		0.95	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	139	165	0	135	576	0	1505	570	1507	1277
V/C Ratio(X)	0.08	0.00	0.22	0.07	0.00	0.71	0.08	0.00	0.48	0.17	0.47	0.02
Avail Cap(c_a), veh/h	386	0	496	463	0	479	576	0	1505	570	1507	1277
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	0.80	0.00	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	42.7	43.9	0.0	44.6	5.2	0.0	3.1	5.8	3.0	1.9
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.2	0.0	6.8	0.2	0.0	0.9	0.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	1.3	0.5	0.0	4.6	0.5	0.0	4.6	1.2	4.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	43.5	44.1	0.0	51.4	5.4	0.0	4.0	6.4	4.1	1.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	38			108			770			816		
Approach Delay, s/veh	44.4			50.6			4.1			4.3		
Approach LOS	D			D			A			A		
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	59.0			30.0			59.0			30.0		
Max Q Clear Time (g_c+l1), s	19.0			8.5			15.7			7.9		
Green Ext Time (p_c), s	12.9			0.1			12.6			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	7.9											
HCM 6th LOS	A											

Intersection						
Int Delay, s/veh	5.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	163	107	12	57	78
Future Vol, veh/h	34	163	107	12	57	78
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	-	-	100	160	-
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	37	177	116	13	62	85
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	325	116	0	0	129	0
Stage 1	116	-	-	-	-	-
Stage 2	209	-	-	-	-	-
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	669	936	-	-	1457	-
Stage 1	909	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	640	936	-	-	1457	-
Mov Cap-2 Maneuver	640	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.5	0	3.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	867	1457	-	
HCM Lane V/C Ratio	-	-	0.247	0.043	-	
HCM Control Delay (s)	-	-	10.5	7.6	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	1	0.1	-	

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	62	92	31	22	44
Future Vol, veh/h	87	62	92	31	22	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	160	-
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	95	67	100	34	24	48
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	196	100	0	0	134	0
Stage 1	100	-	-	-	-	-
Stage 2	96	-	-	-	-	-
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	793	956	-	-	1451	-
Stage 1	924	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	780	956	-	-	1451	-
Mov Cap-2 Maneuver	780	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.8	0	2.5			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 780 956 1451	-	-		
HCM Lane V/C Ratio	-	- 0.121 0.07 0.016	-	-		
HCM Control Delay (s)	-	- 10.3 9.1 7.5	-	-		
HCM Lane LOS	-	- B A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.4 0.2 0.1	-	-		

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	130	214	158	105	13
Future Vol, veh/h	26	130	214	158	105	13
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	173	285	211	140	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	496	0	-	0	634	391
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	243	-
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	1068	-	-	-	443	658
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1068	-	-	-	427	658
Mov Cap-2 Maneuver	-	-	-	-	427	-
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	797	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.4	0		17.5		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1068	-	-	-	444	
HCM Lane V/C Ratio	0.032	-	-	-	0.354	
HCM Control Delay (s)	8.5	0	-	-	17.5	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6	

Timings

3b. Future PM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	168	102	217	278	99	116	550	162	110	693	73
Future Volume (vph)	92	168	102	217	278	99	116	550	162	110	693	73
Lane Group Flow (vph)	95	173	105	224	287	102	120	567	167	113	714	75
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	custom
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		5
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	23.5	23.5	23.5
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	15.0	56.5	56.5	23.5	65.0	23.5
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	12.5%	47.1%	47.1%	19.6%	54.2%	19.6%
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	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
v/c Ratio	0.61	0.39	0.22	0.90	0.64	0.21	0.34	0.55	0.18	0.25	0.70	0.42
Control Delay	56.6	39.4	5.0	80.1	46.9	4.6	11.2	21.6	3.0	10.2	23.5	25.3
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	56.6	39.4	5.0	80.1	46.9	4.6	11.2	21.6	3.0	10.2	23.5	25.3
Queue Length 50th (ft)	65	110	0	166	196	0	32	280	0	34	277	13
Queue Length 95th (ft)	122	169	31	#282	278	29	61	439	36	m53	m421	m42
Internal Link Dist (ft)		2837			1261			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	185	535	542	296	535	542	358	1027	947	576	1020	299
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	0.51	0.32	0.19	0.76	0.54	0.19	0.34	0.55	0.18	0.20	0.70	0.25

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

Natural Cycle: 90

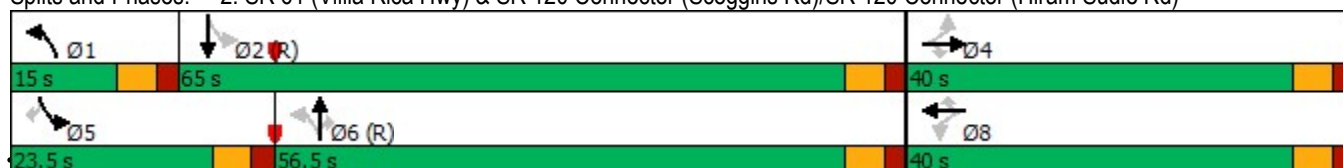
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

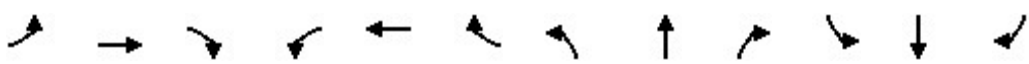
Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

3b. Future PM

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	168	102	217	278	99	116	550	162	110	693	73
Future Volume (veh/h)	92	168	102	217	278	99	116	550	162	110	693	73
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	95	173	0	224	287	0	120	567	0	113	714	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	514		304	514		333	1013		431	1013	
Arrive On Green	0.27	0.27	0.00	0.27	0.27	0.00	0.05	0.54	0.00	0.05	0.54	0.00
Sat Flow, veh/h	1092	1870	1585	1212	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	95	173	0	224	287	0	120	567	0	113	714	0
Grp Sat Flow(s),veh/h/ln	1092	1870	1585	1212	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	9.8	8.9	0.0	21.7	15.8	0.0	3.6	23.9	0.0	3.4	34.0	0.0
Cycle Q Clear(g_c), s	25.6	8.9	0.0	30.6	15.8	0.0	3.6	23.9	0.0	3.4	34.0	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	217	514		304	514		333	1013		431	1013	
V/C Ratio(X)	0.44	0.34		0.74	0.56		0.36	0.56		0.26	0.71	
Avail Cap(c_a), veh/h	230	538		319	538		391	1013		616	1013	
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	48.2	34.8	0.0	47.0	37.3	0.0	16.7	18.1	0.0	13.7	20.4	0.0
Incr Delay (d2), s/veh	1.4	0.4	0.0	8.3	1.2	0.0	0.7	2.2	0.0	0.3	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	7.2	0.0	11.4	11.5	0.0	2.4	15.0	0.0	2.2	20.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	35.1	0.0	55.3	38.4	0.0	17.3	20.3	0.0	14.0	24.5	0.0
LnGrp LOS	D	D		E	D		B	C		B	C	
Approach Vol, veh/h	268			511			687			827		
Approach Delay, s/veh	40.3			45.8			19.8			23.1		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	70.5		38.5	11.0	70.5		38.5				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	59.5		34.5	18.0	51.0		34.5				
Max Q Clear Time (g_c+I1), s	5.6	36.0		27.6	5.4	25.9		32.6				
Green Ext Time (p_c), s	0.1	6.5		0.5	0.2	4.8		0.4				

Intersection Summary

HCM 6th Ctrl Delay 29.2

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	25	16	179	304	6
Future Vol, veh/h	4	25	16	179	304	6
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	-	-	-	-	-
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	5	32	21	229	390	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	665	394	398	0	-	0
Stage 1	394	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	425	655	1161	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	416	655	1161	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.3	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1161	-	607	-	-	
HCM Lane V/C Ratio	0.018	-	0.061	-	-	
HCM Control Delay (s)	8.2	0	11.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	2	25	86	3	32	13	118	3	12	125	0
Future Vol, veh/h	1	2	25	86	3	32	13	118	3	12	125	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	29	99	3	37	15	136	3	14	144	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	8.7	8.6	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	4%	71%	9%
Vol Thru, %	88%	7%	2%	91%
Vol Right, %	2%	89%	26%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	28	121	137
LT Vol	13	1	86	12
Through Vol	118	2	3	125
RT Vol	3	25	32	0
Lane Flow Rate	154	32	139	157
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.038	0.18	0.198
Departure Headway (Hd)	4.523	4.296	4.671	4.531
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	793	832	768	792
Service Time	2.548	2.33	2.699	2.556
HCM Lane V/C Ratio	0.194	0.038	0.181	0.198
HCM Control Delay	8.6	7.5	8.7	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.7	0.7

HCM 6th TWSC
5: SR 120 (Buchanan Hwy) & Cole Lake Rd

3b. Future PM
08/15/2022

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	125	305	12	121	584
Future Vol, veh/h	15	125	305	12	121	584
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	145	355	14	141	679
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1323	362	0	0	369	0
Stage 1	362	-	-	-	-	-
Stage 2	961	-	-	-	-	-
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	172	683	-	-	1190	-
Stage 1	704	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	139	683	-	-	1190	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.3	0		1.4		
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	- 481	1190	-	
HCM Lane V/C Ratio		-	- 0.338	0.118	-	
HCM Control Delay (s)		-	- 16.3	8.4	0	
HCM Lane LOS		-	- C	A	A	
HCM 95th %tile Q(veh)		-	- 1.5	0.4	-	

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	118	2	8	0	111	72	9	192	1
Future Vol, veh/h	0	0	0	118	2	8	0	111	72	9	192	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	153	3	10	0	144	94	12	249	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	472	512	250	465	465	191	250	0	0	238	0	0
Stage 1	274	274	-	191	191	-	-	-	-	-	-	-
Stage 2	198	238	-	274	274	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	502	465	789	508	495	851	1316	-	-	1329	-	-
Stage 1	732	683	-	811	742	-	-	-	-	-	-	-
Stage 2	804	708	-	732	683	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	490	460	789	504	490	851	1316	-	-	1329	-	-
Mov Cap-2 Maneuver	490	460	-	504	490	-	-	-	-	-	-	-
Stage 1	732	676	-	811	742	-	-	-	-	-	-	-
Stage 2	791	708	-	725	676	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		15.2		0		0.3	
HCM LOS	A		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1316	-	-	- 517	1329	-	-
HCM Lane V/C Ratio	-	-	-	- 0.322	0.009	-	-
HCM Control Delay (s)	0	-	-	0 15.2	7.7	0	-
HCM Lane LOS	A	-	-	A C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	- 1.4	0	-	-

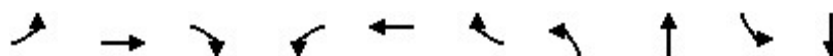
Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	72	16	28	49	32	109
Future Vol, veh/h	72	16	28	49	32	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	19	33	58	38	128
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	226	102	166	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	124	-	-	-	-	-
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	762	953	1412	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	744	953	1412	-	-	-
Mov Cap-2 Maneuver	744	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.4	2.8		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1412	-	775	-	-	
HCM Lane V/C Ratio	0.023	-	0.134	-	-	
HCM Control Delay (s)	7.6	0	10.4	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-	

Timings

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

3b. Future PM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	900	46	223	1456	64	39	31	67	69
Future Volume (vph)	24	900	46	223	1456	64	39	31	67	69
Lane Group Flow (vph)	25	947	48	235	1533	67	0	249	0	219
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	15.0	55.8	55.8	24.2	65.0	65.0	30.0	30.0	30.0	30.0
Total Split (%)	13.6%	50.7%	50.7%	22.0%	59.1%	59.1%	27.3%	27.3%	27.3%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.14	0.56	0.06	0.62	0.77	0.07		0.70		0.94
Control Delay	8.7	19.9	0.1	14.2	20.0	2.1		34.4		85.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	8.7	19.9	0.1	14.2	20.0	2.1		34.4		85.7
Queue Length 50th (ft)	5	229	0	57	443	0		96		137
Queue Length 95th (ft)	14	329	0	89	566	15		188		#283
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	231	1689	819	452	1991	920		374		245
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	0.11	0.56	0.06	0.52	0.77	0.07		0.67		0.89

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

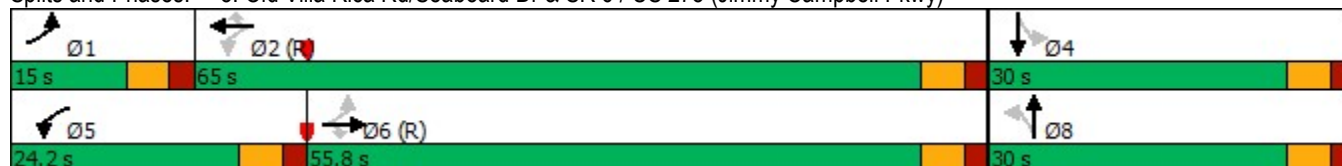
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

3b. Future PM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	900	46	223	1456	64	39	31	166	67	69	71
Future Volume (veh/h)	24	900	46	223	1456	64	39	31	166	67	69	71
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	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	947	48	235	1533	67	41	33	0	71	73	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	2138	954	441	2272	1014	122	82		126	96	
Arrive On Green	0.02	0.67	0.67	0.07	0.71	0.71	0.12	0.12	0.00	0.12	0.12	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	619	710	0	668	836	0
Grp Volume(v), veh/h	25	947	48	235	1533	67	74	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1329	0	0	1504	0	0
Q Serve(g_s), s	0.5	15.3	1.3	4.8	29.3	1.6	0.0	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	15.3	1.3	4.8	29.3	1.6	5.5	0.0	0.0	10.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.55		0.00	0.49		0.00
Lane Grp Cap(c), veh/h	231	2138	954	441	2272	1014	204	0		222	0	
V/C Ratio(X)	0.11	0.44	0.05	0.53	0.67	0.07	0.36	0.00		0.65	0.00	
Avail Cap(c_a), veh/h	331	2138	954	607	2272	1014	351	0		376	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	8.6	6.3	6.5	8.9	4.8	45.3	0.0	0.0	47.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.7	0.1	1.0	1.6	0.1	1.1	0.0	0.0	3.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	7.7	0.6	2.1	12.2	0.7	3.5	0.0	0.0	7.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	9.3	6.4	7.5	10.5	5.0	46.4	0.0	0.0	50.6	0.0	0.0
LnGrp LOS	A	A	A	A	B	A	D	A		D	A	
Approach Vol, veh/h	1020				1835				74			
Approach Delay, s/veh	9.1				9.9				46.4			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	83.7		18.2	12.8	79.0		18.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	59.5		24.5	18.7	50.3		24.5				
Max Q Clear Time (g_c+I1), s	2.5	31.3		12.2	6.8	17.3		7.5				
Green Ext Time (p_c), s	0.0	20.9		0.5	0.5	13.5		0.3				

Intersection Summary

HCM 6th Ctrl Delay 12.4

HCM 6th LOS B

Notes

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

Intersection

Int Delay, s/veh 1.7

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	2	33	962	9	115	1409	32	0	0	9	0	0	132
Future Vol, veh/h	2	33	962	9	115	1409	32	0	0	9	0	0	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	34	1002	9	120	1468	33	0	0	9	0	0	138

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1468	1468	0	0	1002	0	0	-	-	501	-	734
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	3.32
Pot Cap-1 Maneuver	165	456	-	-	687	-	-	0	0	515	0	363
Stage 1	-	-	-	-	-	-	-	0	0	-	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	-
Platoon blocked, %			-	-		-	-					
Mov Cap-1 Maneuver	383	383	-	-	687	-	-	-	-	515	-	363
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8	12.1	20.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	515	383	-	-	687	-	-	363
HCM Lane V/C Ratio	0.018	0.095	-	-	0.174	-	-	0.379
HCM Control Delay (s)	12.1	15.4	-	-	11.3	-	-	20.8
HCM Lane LOS	B	C	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.6	-	-	1.7

Timings

3b. Future PM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	895	102	284	1464	146	93	569	421	237	429	161
Future Volume (vph)	131	895	102	284	1464	146	93	569	421	237	429	161
Lane Group Flow (vph)	135	923	105	293	1509	151	96	587	434	244	442	166
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.62	1.01	0.21	1.03	1.43	0.27	0.32	0.82	0.62	1.29	0.62	0.23
Control Delay	40.7	76.6	5.2	97.2	230.3	10.7	19.2	38.2	19.2	188.0	33.0	3.6
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	40.7	76.6	5.2	97.2	230.3	10.7	19.2	38.2	19.2	188.0	33.0	3.6
Queue Length 50th (ft)	64	~384	0	~209	~880	16	35	271	107	~156	270	0
Queue Length 95th (ft)	#180	#525	32	#502	#1031	71	62	365	196	#264	329	38
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	217	914	500	284	1058	559	297	869	823	189	869	827
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	0.62	1.01	0.21	1.03	1.43	0.27	0.32	0.68	0.53	1.29	0.51	0.20

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: 145

Control Type: Actuated-Coordinated

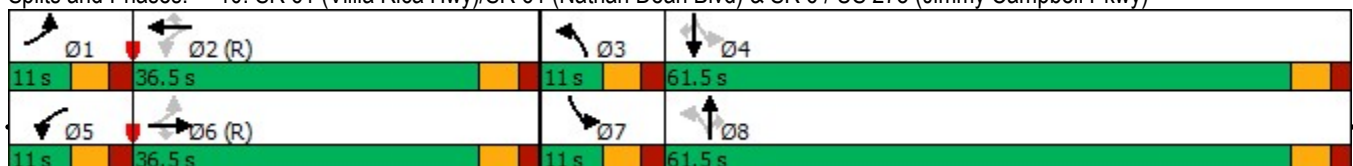
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3b. Future PM

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	895	102	284	1464	146	93	569	421	237	429	161
Future Volume (veh/h)	131	895	102	284	1464	146	93	569	421	237	429	161
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	135	923	0	293	1509	0	96	587	0	244	442	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1359		242	1359		274	641		176	641	
Arrive On Green	0.05	0.38	0.00	0.05	0.38	0.00	0.05	0.34	0.00	0.05	0.34	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	135	923	0	293	1509	0	96	587	0	244	442	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.5	26.0	0.0	5.5	45.9	0.0	4.2	36.1	0.0	5.5	24.4	0.0
Cycle Q Clear(g_c), s	5.5	26.0	0.0	5.5	45.9	0.0	4.2	36.1	0.0	5.5	24.4	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	142	1359		242	1359		274	641		176	641	
V/C Ratio(X)	0.95	0.68		1.21	1.11		0.35	0.92		1.38	0.69	
Avail Cap(c_a), veh/h	142	1359		242	1359		274	873		176	873	
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	0.88	0.88	0.00
Uniform Delay (d), s/veh	30.6	30.9	0.0	39.5	37.1	0.0	26.5	37.8	0.0	39.2	33.9	0.0
Incr Delay (d2), s/veh	61.3	2.8	0.0	126.9	60.7	0.0	0.8	11.4	0.0	200.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	16.3	0.0	19.9	41.6	0.0	3.1	24.2	0.0	19.4	15.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	33.7	0.0	166.4	97.8	0.0	27.2	49.2	0.0	239.3	35.2	0.0
LnGrp LOS	F	C		F	F		C	D		F	D	
Approach Vol, veh/h	1058			1802			683			686		
Approach Delay, s/veh	41.1			108.9			46.1			107.8		
Approach LOS	D			F			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	51.4	11.0	46.6	11.0	51.4	11.0	46.6				
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	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	7.5	47.9	6.2	26.4	7.5	28.0	7.5	38.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.6	0.0	2.1	0.0	3.0				

Intersection Summary

HCM 6th Ctrl Delay 81.6

HCM 6th LOS F

Notes

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

Timings

3b. Future PM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	23	665	59	369	1038	113	36	164	222	119	285
Future Volume (vph)	23	665	59	369	1038	113	36	164	222	119	285
Lane Group Flow (vph)	24	693	61	384	1081	118	0	209	231	124	337
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	33.5	33.5	22.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	27.9%	27.9%	18.3%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.11	0.74	0.11	0.62	0.55	0.13		0.74	0.50	0.47	0.61
Control Delay	16.6	46.1	0.4	24.8	21.1	3.4		62.3	8.7	36.2	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	16.6	46.1	0.4	24.8	21.1	3.4		62.3	8.7	36.2	39.7
Queue Length 50th (ft)	7	248	0	173	297	0		156	0	73	219
Queue Length 95th (ft)	22	#351	0	311	431	32		222	63	111	286
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	270	937	546	621	1948	926		592	726	269	903
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	0.09	0.74	0.11	0.62	0.55	0.13		0.35	0.32	0.46	0.37

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

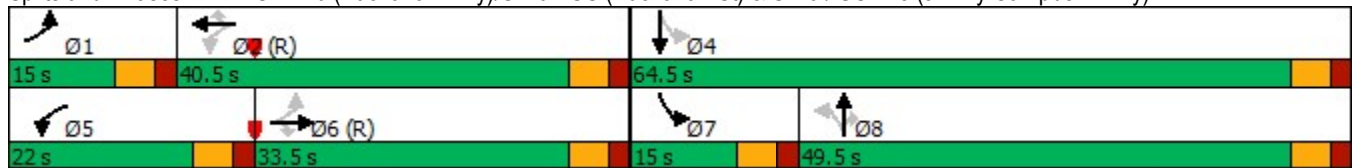
Natural Cycle: 125

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

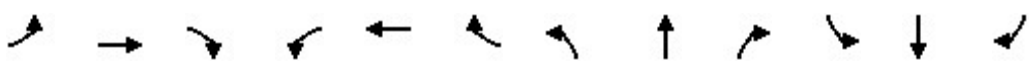
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3b. Future PM

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan St) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	665	59	369	1038	113	36	164	222	119	285	38
Future Volume (veh/h)	23	665	59	369	1038	113	36	164	222	119	285	38
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	24	693	0	384	1081	0	38	171	231	124	297	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	1569		523	1952		74	256	275	245	468	63
Arrive On Green	0.02	0.44	0.00	0.13	0.55	0.00	0.17	0.17	0.17	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	221	1474	1585	1781	1614	217
Grp Volume(v), veh/h	24	693	0	384	1081	0	209	0	231	124	0	337
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1695	0	1585	1781	0	1831
Q Serve(g_s), s	0.9	16.2	0.0	13.6	23.6	0.0	8.3	0.0	16.9	6.6	0.0	19.2
Cycle Q Clear(g_c), s	0.9	16.2	0.0	13.6	23.6	0.0	13.7	0.0	16.9	6.6	0.0	19.2
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	285	1569		523	1952		329	0	275	245	0	531
V/C Ratio(X)	0.08	0.44		0.73	0.55		0.63	0.00	0.84	0.51	0.00	0.63
Avail Cap(c_a), veh/h	385	1569		535	1952		645	0	581	260	0	900
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	23.2	0.0	15.8	17.5	0.0	46.4	0.0	48.0	36.4	0.0	37.0
Incr Delay (d2), s/veh	0.1	0.9	0.0	5.1	1.1	0.0	2.0	0.0	6.8	1.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	10.7	0.0	9.3	13.7	0.0	9.8	0.0	11.3	5.2	0.0	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	24.2	0.0	20.9	18.7	0.0	48.5	0.0	54.8	38.0	0.0	38.3
LnGrp LOS	B	C		C	B		D	A	D	D	A	D
Approach Vol, veh/h	717			1465			440			461		
Approach Delay, s/veh	23.9			19.2			51.8			38.2		
Approach LOS	C			B			D			D		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	71.4		40.3	21.2	58.5	14.0	26.3				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	16.5	28.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.9	25.6		21.2	15.6	18.2	8.6	18.9				
Green Ext Time (p_c), s	0.0	6.5		1.9	0.1	4.6	0.0	1.9				

Intersection Summary

HCM 6th Ctrl Delay 27.8

HCM 6th LOS C

Notes

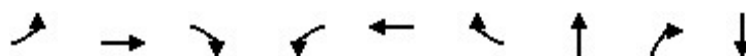
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

3b. Future PM

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Configurations									
Traffic Volume (vph)	9	264	596	122	421	19	18	112	15
Future Volume (vph)	9	264	596	122	421	19	18	112	15
Lane Group Flow (vph)	9	278	627	128	443	20	693	118	34
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6		5	2		8		4
Permitted Phases	6		6	2		2		8	
Detector Phase	1	6	6	5	2	2	8	8	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	23.5
Total Split (s)	15.0	27.5	27.5	15.0	27.5	27.5	44.0	44.0	23.5
Total Split (%)	13.6%	25.0%	25.0%	13.6%	25.0%	25.0%	40.0%	40.0%	21.4%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None
v/c Ratio	0.05	0.69	0.75	0.49	0.73	0.03	0.82	0.14	0.27
Control Delay	25.4	50.7	9.7	32.6	42.7	0.1	35.6	2.9	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	50.7	9.7	32.6	42.7	0.1	35.6	2.9	43.7
Queue Length 50th (ft)	4	186	0	64	271	0	430	0	17
Queue Length 95th (ft)	16	#303	117	112	#542	0	#690	26	48
Internal Link Dist (ft)		564			901		669		284
Turn Bay Length (ft)	100		160	110		155		290	
Base Capacity (vph)	229	400	832	265	604	604	849	826	297
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.69	0.75	0.48	0.73	0.03	0.82	0.14	0.11

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

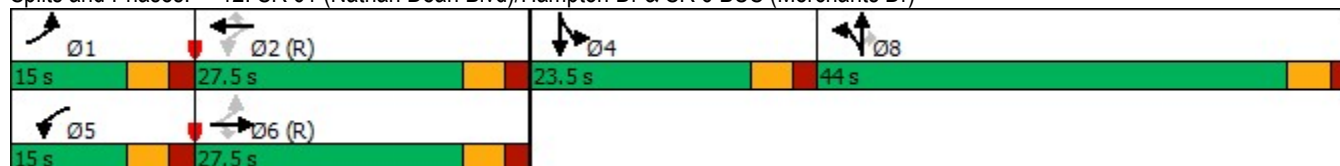
Natural Cycle: 130

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)



HCM 6th Signalized Intersection Summary

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

3b. Future PM

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	264	596	122	421	19	640	18	112	9	15	9
Future Volume (veh/h)	9	264	596	122	421	19	640	18	112	9	15	9
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	9	278	0	128	443	20	674	19	0	9	16	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	661		440	755	640	607	17		16	29	16
Arrive On Green	0.01	0.35	0.00	0.06	0.40	0.40	0.35	0.35	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1735	49	1585	467	830	467
Grp Volume(v), veh/h	9	278	0	128	443	20	693	0	0	34	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1784	0	1585	1763	0	0
Q Serve(g_s), s	0.4	12.4	0.0	4.8	20.4	0.8	38.5	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	0.4	12.4	0.0	4.8	20.4	0.8	38.5	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.97		1.00	0.26		0.26
Lane Grp Cap(c), veh/h	288	661		440	755	640	624	0		62	0	0
V/C Ratio(X)	0.03	0.42		0.29	0.59	0.03	1.11	0.00		0.55	0.00	0.00
Avail Cap(c_a), veh/h	423	661		484	755	640	624	0		288	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.3	27.0	0.0	20.1	25.6	19.8	35.8	0.0	0.0	52.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.4	3.3	0.1	70.1	0.0	0.0	7.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	9.5	0.0	3.5	14.2	0.6	39.1	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	29.0	0.0	20.5	28.9	19.9	105.8	0.0	0.0	59.5	0.0	0.0
LnGrp LOS	C	C		C	C	B	F	A		E	A	A
Approach Vol, veh/h					591		693			34		
Approach Delay, s/veh	28.8				26.8		105.8			59.5		
Approach LOS	C				C		F			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	49.9		9.4	12.3	44.4		44.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.0		18.0	9.5	22.0		38.5				
Max Q Clear Time (g_c+I1), s	2.4	22.4		4.1	6.8	14.4		40.5				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.1	1.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay 62.0

HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	92	148	725	662	71
Future Vol, veh/h	44	92	148	725	662	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	125	0	155	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	93	149	732	669	72
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1735	705	741	0	-	0
Stage 1	705	-	-	-	-	-
Stage 2	1030	-	-	-	-	-
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	96	436	866	-	-	-
Stage 1	490	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	79	436	866	-	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	42.1	1.7		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	866	-	79	436	-	-
HCM Lane V/C Ratio	0.173	-	0.563	0.213	-	-
HCM Control Delay (s)	10	-	97.8	15.5	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.6	-	2.5	0.8	-	-

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3b. Future PM
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	11	3	27	10	28	772	107	647	16
Future Volume (vph)	11	3	27	10	28	772	107	647	16
Lane Group Flow (vph)	11	21	28	188	29	814	111	674	17
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	49.5	49.5	56.5	56.5	41.5	41.5	41.5	41.5	41.5
Total Split (s)	56.5	56.5	56.5	56.5	43.5	43.5	43.5	43.5	43.5
Total Split (%)	56.5%	56.5%	56.5%	56.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.10	0.09	0.15	0.69	0.06	0.58	0.27	0.48	0.01
Control Delay	36.5	16.9	37.0	38.9	4.7	8.4	7.0	6.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	16.9	37.0	38.9	4.7	8.4	7.0	6.9	1.2
Queue Length 50th (ft)	6	2	16	75	4	186	18	136	0
Queue Length 95th (ft)	21	21	39	137	15	376	55	273	5
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	402	836	706	846	504	1401	404	1404	1200
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.03	0.04	0.22	0.06	0.58	0.27	0.48	0.01

Intersection Summary

Cycle Length: 100

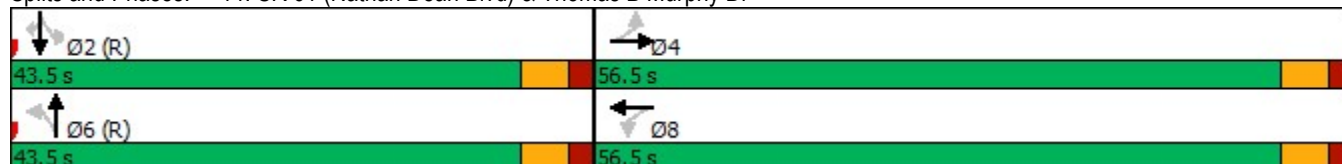
Actuated Cycle Length: 100

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3b. Future PM
08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	3	17	27	10	171	28	772	10	107	647	16
Future Volume (veh/h)	11	3	17	27	10	171	28	772	10	107	647	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	11	3	18	28	10	178	29	804	10	111	674	17
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	34	205	262	13	224	521	1368	17	436	1388	1176
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1195	231	1389	1391	85	1513	752	1843	23	671	1870	1585
Grp Volume(v), veh/h	11	0	21	28	0	188	29	0	814	111	674	17
Grp Sat Flow(s),veh/h/ln	1195	0	1620	1391	0	1598	752	0	1866	671	1870	1585
Q Serve(g_s), s	0.9	0.0	1.1	1.8	0.0	11.4	1.6	0.0	19.9	9.1	14.5	0.3
Cycle Q Clear(g_c), s	12.3	0.0	1.1	2.9	0.0	11.4	16.1	0.0	19.9	29.0	14.5	0.3
Prop In Lane	1.00		0.86	1.00		0.95	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	113	0	240	262	0	236	521	0	1385	436	1388	1176
V/C Ratio(X)	0.10	0.00	0.09	0.11	0.00	0.80	0.06	0.00	0.59	0.25	0.49	0.01
Avail Cap(c_a), veh/h	546	0	826	766	0	815	521	0	1385	436	1388	1176
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	0.66	0.00	0.66	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	0.0	36.8	38.0	0.0	41.2	8.4	0.0	5.9	12.5	5.2	3.4
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.2	0.0	6.0	0.1	0.0	1.2	1.4	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.8	1.1	0.0	8.5	0.5	0.0	8.8	2.5	7.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	0.0	36.9	38.2	0.0	47.2	8.6	0.0	7.1	13.9	6.4	3.4
LnGrp LOS	D	A	D	D	A	D	A	A	A	B	A	A
Approach Vol, veh/h	32		216				843				802	
Approach Delay, s/veh	40.6		46.0				7.2				7.4	
Approach LOS	D		D				A				A	
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	79.7		20.3		79.7		20.3					
Change Period (Y+Rc), s	5.5		5.5		5.5		5.5					
Max Green Setting (Gmax), s	38.0		51.0		38.0		51.0					
Max Q Clear Time (g_c+I1), s	31.0		14.3		21.9		13.4					
Green Ext Time (p_c), s	4.3		0.1		8.7		1.4					
Intersection Summary												
HCM 6th Ctrl Delay	12.3											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	5.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	110	87	39	187	107
Future Vol, veh/h	23	110	87	39	187	107
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	-	-	100	160	-
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	25	120	95	42	203	116
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	617	95	0	0	137	0
Stage 1	95	-	-	-	-	-
Stage 2	522	-	-	-	-	-
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	453	962	-	-	1447	-
Stage 1	929	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	390	962	-	-	1447	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.8	0	5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	767	1447	-	
HCM Lane V/C Ratio	-	-	0.188	0.14	-	
HCM Control Delay (s)	-	-	10.8	7.9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.7	0.5	-	

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	42	82	100	71	94
Future Vol, veh/h	58	42	82	100	71	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	160	-
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	63	46	89	109	77	102
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	345	89	0	0	198	0
Stage 1	89	-	-	-	-	-
Stage 2	256	-	-	-	-	-
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	652	969	-	-	1375	-
Stage 1	934	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	615	969	-	-	1375	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.4	0	3.3			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 615 969	1375	-		
HCM Lane V/C Ratio	-	- 0.103 0.047	0.056	-		
HCM Control Delay (s)	-	- 11.5 8.9	7.8	-		
HCM Lane LOS	-	- B A	A	-		
HCM 95th %tile Q(veh)	-	- 0.3 0.1	0.2	-		

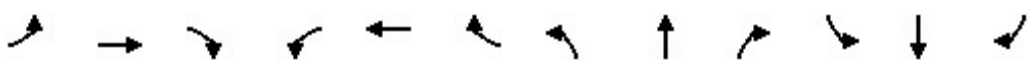
Future “Build” Intersections Analysis with Improvements

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	198	82	80	159	18
Future Vol, veh/h	8	198	82	80	159	18
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	264	109	107	212	24
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	216	0	-	0	449	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1354	-	-	-	568	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1354	-	-	-	562	882
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	763	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		15.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1354	-	-	-	584	
HCM Lane V/C Ratio	0.008	-	-	-	0.404	
HCM Control Delay (s)	7.7	0	-	-	15.3	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	1.9	

Timings

3a. Future AM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	313	121	121	104	136	131	676	204	81	553	28
Future Volume (vph)	212	313	121	121	104	136	131	676	204	81	553	28
Lane Group Flow (vph)	219	323	125	125	107	140	135	697	210	84	570	29
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		2
Detector Phase	4	4	4	8	8	8	1	6	6	5	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	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	15.0	23.5	23.5
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	15.0	67.0	67.0	15.0	67.0	67.0
Total Split (%)	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%	12.5%	55.8%	55.8%	12.5%	55.8%	55.8%
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 Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.74	0.74	0.27	1.07	0.25	0.29	0.25	0.34	0.21	0.17	0.29	0.03
Control Delay	57.5	53.0	7.4	146.3	37.3	7.2	9.0	15.0	2.5	12.3	18.2	3.2
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	57.5	53.0	7.4	146.3	37.3	7.2	9.0	15.0	2.5	12.3	18.2	3.2
Queue Length 50th (ft)	152	224	0	95	65	0	37	157	0	25	105	1
Queue Length 95th (ft)	239	323	46	#217	113	49	64	211	38	m63	180	m4
Internal Link Dist (ft)		2837			1261			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	343	504	519	136	504	530	553	2070	1013	509	1946	903
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.64	0.24	0.92	0.21	0.26	0.24	0.34	0.21	0.17	0.29	0.03

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 65

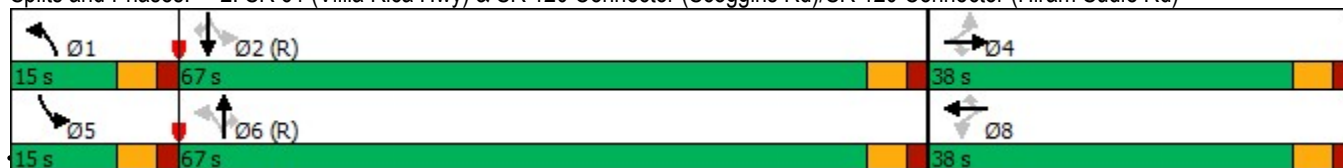
Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

3a. Future AM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	313	121	121	104	136	131	676	204	81	553	28
Future Volume (veh/h)	212	313	121	121	104	136	131	676	204	81	553	28
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	219	323	0	125	107	0	135	697	0	84	570	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	507		185	507		532	1964		461	1924	
Arrive On Green	0.27	0.27	0.00	0.27	0.27	0.00	0.05	0.55	0.00	0.04	0.54	0.00
Sat Flow, veh/h	1287	1870	1585	1057	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	219	323	0	125	107	0	135	697	0	84	570	0
Grp Sat Flow(s),veh/h/ln	1287	1870	1585	1057	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	19.0	18.3	0.0	14.2	5.3	0.0	4.0	13.1	0.0	2.5	10.5	0.0
Cycle Q Clear(g_c), s	24.3	18.3	0.0	32.5	5.3	0.0	4.0	13.1	0.0	2.5	10.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	352	507		185	507		532	1964		461	1924	
V/C Ratio(X)	0.62	0.64		0.67	0.21		0.25	0.35		0.18	0.30	
Avail Cap(c_a), veh/h	352	507		185	507		583	1964		533	1924	
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	43.3	38.6	0.0	52.9	33.8	0.0	11.4	14.9	0.0	11.7	15.0	0.0
Incr Delay (d2), s/veh	3.4	2.7	0.0	9.3	0.2	0.0	0.2	0.5	0.0	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.3	13.2	0.0	7.4	4.3	0.0	2.6	8.5	0.0	1.6	7.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	41.2	0.0	62.1	34.0	0.0	11.6	15.4	0.0	11.9	15.4	0.0
LnGrp LOS	D	D		E	C		B	B		B	B	
Approach Vol, veh/h	542			232			832			654		
Approach Delay, s/veh	43.4			49.2			14.8			15.0		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	70.5		38.0	10.2	71.8		38.0				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	61.5		32.5	9.5	61.5		32.5				
Max Q Clear Time (g_c+I1), s	6.0	12.5		26.3	4.5	15.1		34.5				
Green Ext Time (p_c), s	0.1	5.4		1.0	0.1	7.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay	25.2											
HCM 6th LOS	C											
Notes												

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	10	22	283	78	0
Future Vol, veh/h	11	10	22	283	78	0
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	-	-	-	-	-
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	14	13	28	363	100	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	519	100	100	0	-	0
Stage 1	100	-	-	-	-	-
Stage 2	419	-	-	-	-	-
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	517	956	1493	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	505	956	1493	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.8	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1493	-	651	-	-	
HCM Lane V/C Ratio	0.019	-	0.041	-	-	
HCM Control Delay (s)	7.5	0	10.8	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	8	31	0	43	21	187	2	6	47	0
Future Vol, veh/h	1	0	8	31	0	43	21	187	2	6	47	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	9	36	0	49	24	215	2	7	54	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.9	8.9	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	11%	42%	11%
Vol Thru, %	89%	0%	0%	89%
Vol Right, %	1%	89%	58%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	9	74	53
LT Vol	21	1	31	6
Through Vol	187	0	0	47
RT Vol	2	8	43	0
Lane Flow Rate	241	10	85	61
Geometry Grp	1	1	1	1
Degree of Util (X)	0.279	0.012	0.103	0.075
Departure Headway (Hd)	4.161	4.195	4.356	4.42
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	852	857	827	814
Service Time	2.239	2.203	2.359	2.428
HCM Lane V/C Ratio	0.283	0.012	0.103	0.075
HCM Control Delay	8.9	7.3	7.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0	0.3	0.2

Intersection						
Int Delay, s/veh	7.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	213	653	4	50	203
Future Vol, veh/h	18	213	653	4	50	203
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	248	759	5	58	236
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1114	762	0	0	764	0
Stage 1	762	-	-	-	-	-
Stage 2	352	-	-	-	-	-
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	230	405	-	-	849	-
Stage 1	461	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	212	405	-	-	849	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	34.8	0	1.9			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	378	849	-	
HCM Lane V/C Ratio	-	-	0.711	0.068	-	
HCM Control Delay (s)	-	-	34.8	9.6	0	
HCM Lane LOS	-	-	D	A	A	
HCM 95th %tile Q(veh)	-	-	5.3	0.2	-	

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	1	39	0	13	2	177	114	17	68	0
Future Vol, veh/h	0	1	1	39	0	13	2	177	114	17	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	51	0	17	3	230	148	22	88	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	451	516	88	443	442	304	88	0	0	378	0	0
Stage 1	132	132	-	310	310	-	-	-	-	-	-	-
Stage 2	319	384	-	133	132	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	519	463	970	525	510	736	1508	-	-	1180	-	-
Stage 1	871	787	-	700	659	-	-	-	-	-	-	-
Stage 2	693	611	-	870	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	498	452	970	514	498	736	1508	-	-	1180	-	-
Mov Cap-2 Maneuver	498	452	-	514	498	-	-	-	-	-	-	-
Stage 1	868	771	-	698	657	-	-	-	-	-	-	-
Stage 2	675	609	-	850	771	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.9		12.4		0.1		1.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1508	-	-	617	556	1180	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.004	0.121	0.019	-	-				
HCM Control Delay (s)	7.4	0	-	10.9	12.4	8.1	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.1	-	-				

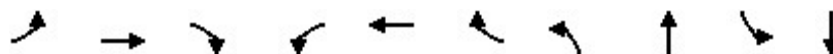
Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	101	19	12	64	23	40
Future Vol, veh/h	101	19	12	64	23	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	119	22	14	75	27	47
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	154	51	74	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	103	-	-	-	-	-
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	838	1017	1526	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	830	1017	1526	-	-	-
Mov Cap-2 Maneuver	830	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10	1.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1526	-	855	-	-	
HCM Lane V/C Ratio	0.009	-	0.165	-	-	
HCM Control Delay (s)	7.4	0	10	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.6	-	-	

Timings

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

3a. Future AM - Improved

08/15/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	1438	51	65	700	35	51	56	32	35
Future Volume (vph)	24	1438	51	65	700	35	51	56	32	35
Lane Group Flow (vph)	25	1514	54	68	737	37	0	353	0	88
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	36.5	36.5	15.0	36.5	36.5	52.5	52.5	48.5	48.5
Total Split (s)	15.0	42.5	42.5	15.0	42.5	42.5	52.5	52.5	52.5	52.5
Total Split (%)	13.6%	38.6%	38.6%	13.6%	38.6%	38.6%	47.7%	47.7%	47.7%	47.7%
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
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.06	0.83	0.06	0.38	0.38	0.04		0.84		0.35
Control Delay	9.5	27.7	2.2	15.7	14.9	0.4		42.3		30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	9.5	27.7	2.2	15.7	14.9	0.4		42.3		30.3
Queue Length 50th (ft)	5	454	0	15	146	0		162		43
Queue Length 95th (ft)	20	#797	13	47	253	2		238		77
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	455	1820	848	211	1916	888		677		458
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	0.05	0.83	0.06	0.32	0.38	0.04		0.52		0.19

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

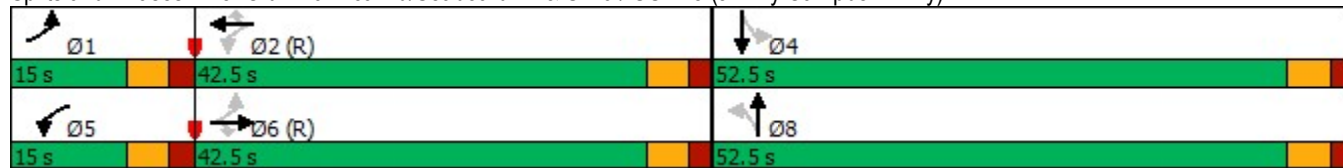
Natural Cycle: 135

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3a. Future AM - Improved

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1438	51	65	700	35	51	56	228	32	35	16
Future Volume (veh/h)	24	1438	51	65	700	35	51	56	228	32	35	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	1514	54	68	737	37	54	59	0	34	37	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	513	2291	1022	265	2340	1044	109	84		100	88	
Arrive On Green	0.02	0.72	0.72	0.04	0.73	0.73	0.09	0.09	0.00	0.09	0.09	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	642	894	0	549	940	0
Grp Volume(v), veh/h	25	1514	54	68	737	37	113	0	0	71	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1535	0	0	1489	0	0
Q Serve(g_s), s	0.5	28.1	1.2	1.2	8.8	0.8	3.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	28.1	1.2	1.2	8.8	0.8	7.7	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.48		0.00	0.48		0.00
Lane Grp Cap(c), veh/h	513	2291	1022	265	2340	1044	193	0		188	0	
V/C Ratio(X)	0.05	0.66	0.05	0.26	0.31	0.04	0.59	0.00		0.38	0.00	
Avail Cap(c_a), veh/h	612	2291	1022	340	2340	1044	671	0		661	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.0	8.4	4.6	8.1	5.1	4.1	48.5	0.0	0.0	47.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.1	0.5	0.4	0.1	2.8	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	11.6	0.5	0.7	3.8	0.3	5.7	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.0	9.9	4.7	8.6	5.5	4.1	51.3	0.0	0.0	48.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A		D	A	
Approach Vol, veh/h	1593				842				113			
Approach Delay, s/veh	9.7				5.7				51.3			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	86.0		15.8	9.9	84.3		15.8				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	37.0		47.0	9.5	37.0		47.0				
Max Q Clear Time (g_c+I1), s	2.5	10.8		6.8	3.2	30.1		9.7				
Green Ext Time (p_c), s	0.0	9.1		0.4	0.1	6.1		0.6				

Intersection Summary

HCM 6th Ctrl Delay 11.2

HCM 6th LOS B

Notes

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

Intersection													
Int Delay, s/veh	0.9												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	14	100	1506	11	41	662	65	0	0	6	0	0	22
Future Vol, veh/h	14	100	1506	11	41	662	65	0	0	6	0	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	104	1569	11	43	690	68	0	0	6	0	0	23
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	690	690	0	0	1569	0	0	-	-	785	-	-	345
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	524	900	-	-	417	-	-	0	0	336	0	0	651
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	821	821	-	-	417	-	-	-	-	336	-	-	651
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.7			0.8			15.9			10.7			
HCM LOS							C			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	336	821	-	-	417	-	-	651					
HCM Lane V/C Ratio	0.019	0.145	-	-	0.102	-	-	0.035					
HCM Control Delay (s)	15.9	10.1	-	-	14.6	-	-	10.7					
HCM Lane LOS	C	B	-	-	B	-	-	B					
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0.3	-	-	0.1					

Timings

3a. Future AM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1401	71	265	596	166	53	402	327	165	394	102
Future Volume (vph)	117	1401	71	265	596	166	53	402	327	165	394	102
Lane Group Flow (vph)	121	1444	73	273	614	171	55	414	337	170	406	105
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.13	0.81	0.09	0.62	0.32	0.19	0.14	0.67	0.44	0.47	0.59	0.26
Control Delay	9.5	30.7	0.7	25.7	17.0	3.7	25.5	42.8	4.0	37.7	48.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	30.7	0.7	25.7	17.0	3.7	25.5	42.8	4.0	37.7	48.0	6.2
Queue Length 50th (ft)	16	475	0	52	133	5	11	157	5	52	156	0
Queue Length 95th (ft)	32	#696	5	104	201	44	m22	170	17	75	196	34
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	927	1777	856	443	1899	922	387	1651	1479	363	1651	804
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	0.13	0.81	0.09	0.62	0.32	0.19	0.14	0.25	0.23	0.47	0.25	0.13

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 145

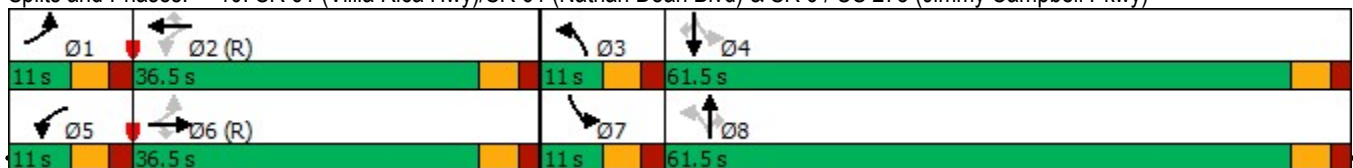
Control Type: Actuated-Coordinated

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: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3a. Future AM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1401	71	265	596	166	53	402	327	165	394	102
Future Volume (veh/h)	117	1401	71	265	596	166	53	402	327	165	394	102
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	121	1444	0	273	614	0	55	414	0	170	406	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1034	2046		483	2063		339	531		349	569	
Arrive On Green	0.04	0.58	0.00	0.05	0.58	0.00	0.04	0.15	0.00	0.05	0.16	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	121	1444	0	273	614	0	55	414	0	170	406	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	1.7	34.9	0.0	3.9	10.5	0.0	1.6	13.5	0.0	5.0	13.0	0.0
Cycle Q Clear(g_c), s	1.7	34.9	0.0	3.9	10.5	0.0	1.6	13.5	0.0	5.0	13.0	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	1034	2046		483	2063		339	531		349	569	
V/C Ratio(X)	0.12	0.71		0.57	0.30		0.16	0.78		0.49	0.71	
Avail Cap(c_a), veh/h	1051	2046		483	2063		377	1658		349	1658	
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	0.90	0.90	0.00
Uniform Delay (d), s/veh	9.6	18.2	0.0	17.5	12.8	0.0	41.1	49.1	0.0	41.7	47.8	0.0
Incr Delay (d2), s/veh	0.0	2.1	0.0	1.5	0.4	0.0	0.2	2.5	0.0	1.0	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	18.8	0.0	2.5	6.9	0.0	1.2	9.9	0.0	3.8	9.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	20.3	0.0	19.0	13.1	0.0	41.4	51.7	0.0	42.7	49.3	0.0
LnGrp LOS	A	C		B	B		D	D		D	D	
Approach Vol, veh/h	1565			887			469			576		
Approach Delay, s/veh	19.5			15.0			50.5			47.3		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	75.2	9.7	24.7	11.0	74.6	11.0	23.4				
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	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	3.7	12.5	3.6	15.0	5.9	36.9	7.0	15.5				
Green Ext Time (p_c), s	0.1	6.1	0.0	2.6	0.0	0.0	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

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

Timings

3a. Future AM - Improved 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan Hwy) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↰	↗	↘	↰	↗	↘		↗	↘	↰	↗
Traffic Volume (vph)	19	1084	46	106	521	68	73	290	502	39	103
Future Volume (vph)	19	1084	46	106	521	68	73	290	502	39	103
Lane Group Flow (vph)	20	1129	48	110	543	71	0	378	523	41	132
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	40.5	40.5	15.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	33.8%	33.8%	12.5%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.05	0.77	0.07	0.54	0.31	0.08		0.79	0.76	0.17	0.19
Control Delay	18.7	37.7	0.2	29.9	22.9	0.7		51.5	19.9	20.7	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	18.7	37.7	0.2	29.9	22.9	0.7		51.5	19.9	20.7	20.3
Queue Length 50th (ft)	7	408	0	43	124	0		271	132	19	58
Queue Length 95th (ft)	25	#655	0	m101	237	m4		344	240	36	85
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	478	1459	724	216	1732	837		615	794	265	897
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	0.04	0.77	0.07	0.51	0.31	0.08		0.61	0.66	0.15	0.15

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: 125

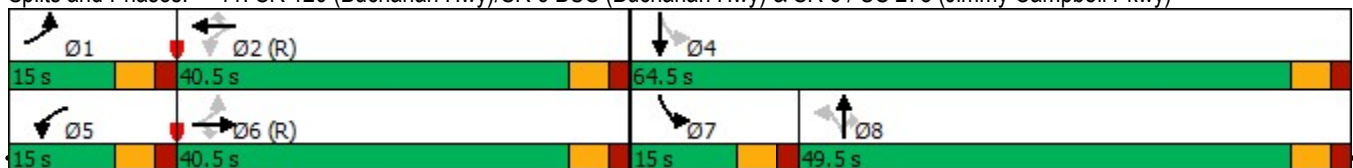
Control Type: Actuated-Coordinated

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.

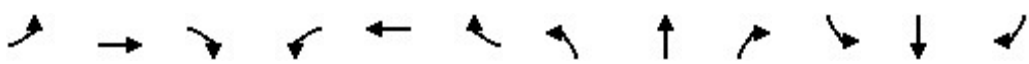
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan Hwy) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3a. Future AM - Improved

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan Hwy) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1084	46	106	521	68	73	290	502	39	103	24
Future Volume (veh/h)	19	1084	46	106	521	68	73	290	502	39	103	24
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	20	1129	0	110	543	0	76	302	523	41	107	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	1363		202	1478		140	499	554	228	625	146
Arrive On Green	0.02	0.38	0.00	0.05	0.42	0.00	0.35	0.35	0.35	0.03	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	297	1428	1585	1781	1466	343
Grp Volume(v), veh/h	20	1129	0	110	543	0	378	0	523	41	0	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1726	0	1585	1781	0	1809
Q Serve(g_s), s	0.8	34.4	0.0	4.4	12.6	0.0	16.0	0.0	38.4	1.7	0.0	5.4
Cycle Q Clear(g_c), s	0.8	34.4	0.0	4.4	12.6	0.0	21.6	0.0	38.4	1.7	0.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	0.20		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	364	1363		202	1478		639	0	554	228	0	771
V/C Ratio(X)	0.05	0.83		0.54	0.37		0.59	0.00	0.94	0.18	0.00	0.17
Avail Cap(c_a), veh/h	469	1363		249	1478		668	0	581	314	0	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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	33.4	0.0	26.6	24.2	0.0	32.2	0.0	37.9	24.8	0.0	21.3
Incr Delay (d2), s/veh	0.1	5.9	0.0	2.3	0.7	0.0	1.3	0.0	23.8	0.4	0.0	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(95%),veh/ln	0.6	21.1	0.0	3.3	8.8	0.0	13.9	0.0	24.7	1.3	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	39.3	0.0	28.9	24.9	0.0	33.5	0.0	61.7	25.2	0.0	21.4
LnGrp LOS	C	D		C	C		C	A	E	C	A	C
Approach Vol, veh/h	1149				653		901				173	
Approach Delay, s/veh	39.0				25.5		49.9				22.3	
Approach LOS	D				C		D				C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	55.4		56.7	11.8	51.5	9.2	47.4				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	9.5	35.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.8	14.6		7.4	6.4	36.4	3.7	40.4				
Green Ext Time (p_c), s	0.0	5.6		0.7	0.1	0.0	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay 38.4

HCM 6th LOS D

Notes

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

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

3a. Future AM - Improved

08/15/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT
Lane Configurations										
Traffic Volume (vph)	3	345	528	87	267	9	479	5	136	25
Future Volume (vph)	3	345	528	87	267	9	479	5	136	25
Lane Group Flow (vph)	3	363	556	92	281	9	252	257	143	51
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	NA
Protected Phases	1	6		5	2		8	8		4
Permitted Phases	6		6	2		2			8	
Detector Phase	1	6	6	5	2	2	8	8	8	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	39.5%	21.4%
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	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.00	0.41	0.55	0.18	0.27	0.01	0.71	0.72	0.32	0.36
Control Delay	15.0	25.0	7.6	14.0	16.9	0.0	50.9	51.5	7.1	46.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	25.0	7.6	14.0	16.9	0.0	50.9	51.5	7.1	46.5
Queue Length 50th (ft)	1	173	37	28	96	0	175	178	0	27
Queue Length 95th (ft)	6	324	171	67	227	0	242	246	46	65
Internal Link Dist (ft)		564			901			669		284
Turn Bay Length (ft)	100		160	110		155	235		290	
Base Capacity (vph)	660	896	1003	528	1053	953	580	582	640	300
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	0.00	0.41	0.55	0.17	0.27	0.01	0.43	0.44	0.22	0.17

Intersection Summary

Cycle Length: 110

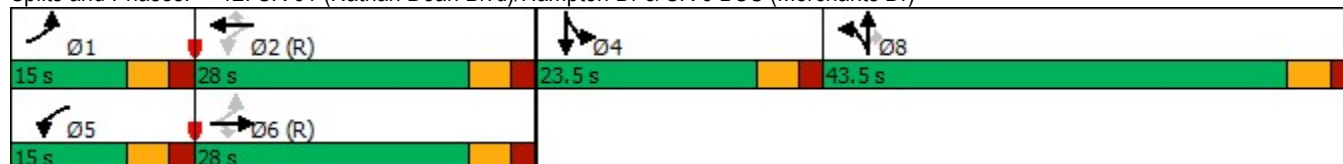
Actuated Cycle Length: 110

Offset: 61 (55%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)



HCM 6th Signalized Intersection Summary

3a. Future AM - Improved

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	345	528	87	267	9	479	5	136	13	25	10
Future Volume (veh/h)	3	345	528	87	267	9	479	5	136	13	25	10
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	3	363	0	92	281	9	508	0	0	14	26	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	1015		582	1087	921	611	0		21	39	17
Arrive On Green	0.00	0.54	0.00	0.04	0.58	0.58	0.17	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3563	0	1585	488	906	383
Grp Volume(v), veh/h	3	363	0	92	281	9	508	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1585	1777	0	0
Q Serve(g_s), s	0.1	12.1	0.0	2.4	8.1	0.3	15.2	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	0.1	12.1	0.0	2.4	8.1	0.3	15.2	0.0	0.0	3.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.27		0.22
Lane Grp Cap(c), veh/h	625	1015		582	1087	921	611	0		77	0	0
V/C Ratio(X)	0.00	0.36		0.16	0.26	0.01	0.83	0.00		0.67	0.00	0.00
Avail Cap(c_a), veh/h	772	1015		660	1087	921	1231	0		291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.93	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.4	14.3	0.0	10.5	11.3	9.7	44.0	0.0	0.0	51.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.1	0.6	0.0	2.8	0.0	0.0	9.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	8.6	0.0	1.6	5.8	0.2	10.8	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	15.3	0.0	10.6	11.9	9.7	46.8	0.0	0.0	61.4	0.0	0.0
LnGrp LOS	B	B		B	B	A	D	A		E	A	A
Approach Vol, veh/h	366			382			508			51		
Approach Delay, s/veh	15.2			11.5			46.8			61.4		
Approach LOS	B			B			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	69.4		10.2	10.2	65.2		24.4				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.1	10.1		5.1	4.4	14.1		17.2				
Green Ext Time (p_c), s	0.0	2.1		0.1	0.1	2.1		1.7				

Intersection Summary

HCM 6th Ctrl Delay 28.2

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

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

Timings
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

3a. Future AM - Improved
08/15/2022

					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	43	175	136	584	608
Future Volume (vph)	43	175	136	584	608
Lane Group Flow (vph)	43	177	137	590	682
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	7		1	6	2
Permitted Phases		4	6		
Detector Phase	7	4	1	6	2
Switch Phase					
Minimum Initial (s)	5.0	6.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	15.0	23.5	23.5
Total Split (s)	23.8	23.8	15.0	66.2	51.2
Total Split (%)	26.4%	26.4%	16.7%	73.6%	56.9%
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			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.27	0.58	0.26	0.40	0.58
Control Delay	41.2	14.2	3.8	4.2	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	14.2	3.8	4.2	12.5
Queue Length 50th (ft)	23	0	13	76	196
Queue Length 95th (ft)	53	57	32	153	350
Internal Link Dist (ft)	426			607	669
Turn Bay Length (ft)	125		155		
Base Capacity (vph)	359	462	538	1465	1173
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	0.12	0.38	0.25	0.40	0.58

Intersection Summary

Cycle Length: 90

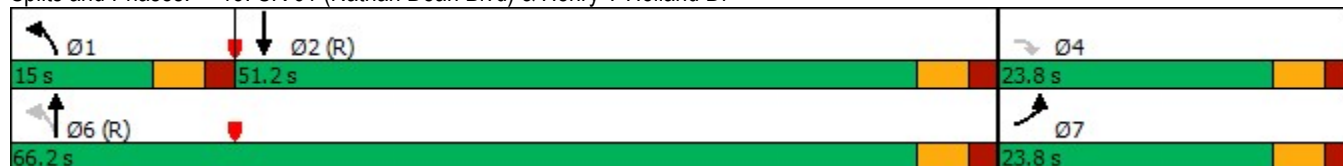
Actuated Cycle Length: 90

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr



HCM 6th Signalized Intersection Summary
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

3a. Future AM - Improved
08/15/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	175	136	584	608	67
Future Volume (veh/h)	43	175	136	584	608	67
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	43	0	137	590	614	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65		604	1573	1201	133
Arrive On Green	0.04	0.00	0.05	0.84	0.73	0.73
Sat Flow, veh/h	1781	1585	1781	1870	1654	183
Grp Volume(v), veh/h	43	0	137	590	0	682
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1837
Q Serve(g_s), s	2.1	0.0	1.5	6.6	0.0	14.5
Cycle Q Clear(g_c), s	2.1	0.0	1.5	6.6	0.0	14.5
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	65		604	1573	0	1335
V/C Ratio(X)	0.66		0.23	0.38	0.00	0.51
Avail Cap(c_a), veh/h	362		697	1573	0	1335
HCM Platoon Ratio	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	0.86
Uniform Delay (d), s/veh	42.8	0.0	3.8	1.7	0.0	5.4
Incr Delay (d2), s/veh	10.8	0.0	0.2	0.7	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	0.0	0.4	1.2	0.0	7.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.6	0.0	3.9	2.3	0.0	6.6
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	43			727	682	
Approach Delay, s/veh	53.6			2.6	6.6	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.3	70.9		8.8		81.2
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	45.7		18.3		60.7
Max Q Clear Time (g_c+I1), s	3.5	16.5		4.1		8.6
Green Ext Time (p_c), s	0.1	9.4		0.1		8.8

Intersection Summary

HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

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

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3a. Future AM - Improved
08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	8	8	12	5	43	690	90	674	19
Future Volume (vph)	8	8	12	5	43	690	90	674	19
Lane Group Flow (vph)	8	30	13	96	45	725	94	702	20
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	34.5	34.5	35.5	35.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	36.0	36.0	36.0	36.0	64.0	64.0	64.0	64.0	64.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.08	0.21	0.13	0.48	0.08	0.46	0.16	0.44	0.01
Control Delay	43.8	24.9	44.9	18.6	2.4	3.7	2.9	3.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	24.9	44.9	18.6	2.4	3.7	2.9	3.6	0.7
Queue Length 50th (ft)	5	5	8	3	4	94	9	89	0
Queue Length 95th (ft)	19	32	26	51	13	187	25	178	4
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	394	520	419	550	589	1582	571	1583	1350
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.06	0.03	0.17	0.08	0.46	0.16	0.44	0.01

Intersection Summary

Cycle Length: 100

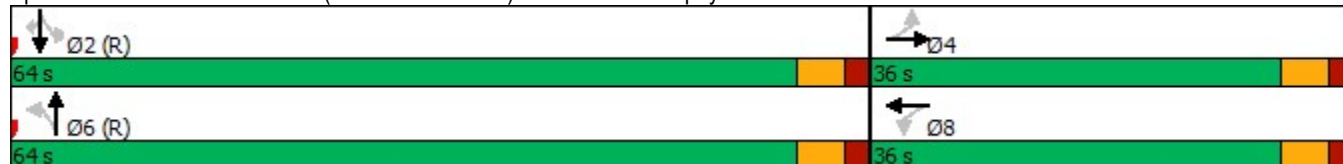
Actuated Cycle Length: 100

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

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3a. Future AM - Improved
08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	8	21	12	5	87	43	690	6	90	674	19
Future Volume (veh/h)	8	8	21	12	5	87	43	690	6	90	674	19
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	8	8	22	12	5	91	45	719	6	94	702	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	37	102	165	7	128	576	1492	12	569	1507	1277
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1300	441	1212	1380	83	1515	731	1852	15	729	1870	1585
Grp Volume(v), veh/h	8	0	30	12	0	96	45	0	725	94	702	20
Grp Sat Flow(s),veh/h/ln	1300	0	1652	1380	0	1598	731	0	1868	729	1870	1585
Q Serve(g_s), s	0.6	0.0	1.7	0.8	0.0	5.9	2.0	0.0	12.3	4.7	11.7	0.2
Cycle Q Clear(g_c), s	6.5	0.0	1.7	2.5	0.0	5.9	13.7	0.0	12.3	17.0	11.7	0.2
Prop In Lane	1.00		0.73	1.00		0.95	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	139	165	0	135	576	0	1505	569	1507	1277
V/C Ratio(X)	0.08	0.00	0.22	0.07	0.00	0.71	0.08	0.00	0.48	0.17	0.47	0.02
Avail Cap(c_a), veh/h	392	0	504	469	0	487	576	0	1505	569	1507	1277
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	0.89	0.00	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	42.7	43.9	0.0	44.6	5.2	0.0	3.1	5.8	3.0	1.9
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.2	0.0	6.8	0.2	0.0	1.0	0.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	1.3	0.5	0.0	4.6	0.5	0.0	4.7	1.2	4.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	43.5	44.1	0.0	51.4	5.4	0.0	4.1	6.4	4.1	1.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h	38			108			770			816		
Approach Delay, s/veh	44.4			50.6			4.1			4.3		
Approach LOS	D			D			A			A		
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	58.5			30.5			58.5			30.5		
Max Q Clear Time (g_c+I1), s	19.0			8.5			15.7			7.9		
Green Ext Time (p_c), s	12.8			0.1			12.5			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	8.0											
HCM 6th LOS	A											

Intersection						
Int Delay, s/veh	5.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	163	107	12	57	78
Future Vol, veh/h	34	163	107	12	57	78
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	-	-	100	160	-
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	37	177	116	13	62	85
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	325	116	0	0	129	0
Stage 1	116	-	-	-	-	-
Stage 2	209	-	-	-	-	-
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	669	936	-	-	1457	-
Stage 1	909	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	640	936	-	-	1457	-
Mov Cap-2 Maneuver	640	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.5	0	3.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	867	1457	-	
HCM Lane V/C Ratio	-	-	0.247	0.043	-	
HCM Control Delay (s)	-	-	10.5	7.6	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	1	0.1	-	

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	62	92	31	22	44
Future Vol, veh/h	87	62	92	31	22	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	160	-
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	95	67	100	34	24	48
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	196	100	0	0	134	0
Stage 1	100	-	-	-	-	-
Stage 2	96	-	-	-	-	-
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	793	956	-	-	1451	-
Stage 1	924	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	780	956	-	-	1451	-
Mov Cap-2 Maneuver	780	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.8	0	2.5			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 780 956 1451	-	-		
HCM Lane V/C Ratio	-	- 0.121 0.07 0.016	-	-		
HCM Control Delay (s)	-	- 10.3 9.1 7.5	-	-		
HCM Lane LOS	-	- B A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.4 0.2 0.1	-	-		

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	130	214	158	105	13
Future Vol, veh/h	26	130	214	158	105	13
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	173	285	211	140	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	496	0	-	0	634	391
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	243	-
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	1068	-	-	-	443	658
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1068	-	-	-	427	658
Mov Cap-2 Maneuver	-	-	-	-	427	-
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	797	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.4	0		17.5		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1068	-	-	-	444	
HCM Lane V/C Ratio	0.032	-	-	-	0.354	
HCM Control Delay (s)	8.5	0	-	-	17.5	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6	

Timings

3b. Future PM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)

	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)	92	168	102	217	278	99	116	550	162	110	693	73
Future Volume (vph)	92	168	102	217	278	99	116	550	162	110	693	73
Lane Group Flow (vph)	95	173	105	224	287	102	120	567	167	113	714	75
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	custom
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8		8	6		6	2		5
Detector Phase	4	4	4	8	8	8	1	6	6	5	2	5
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	23.5	23.5	23.5	23.5	23.5	23.5	15.0	23.5	23.5	23.5	23.5	23.5
Total Split (s)	39.2	39.2	39.2	39.2	39.2	39.2	15.0	57.2	57.2	23.6	65.8	23.6
Total Split (%)	32.7%	32.7%	32.7%	32.7%	32.7%	32.7%	12.5%	47.7%	47.7%	19.7%	54.8%	19.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
v/c Ratio	0.62	0.39	0.22	0.91	0.64	0.22	0.26	0.29	0.18	0.21	0.37	0.42
Control Delay	57.5	39.7	5.0	81.7	47.2	4.7	9.6	15.9	2.9	8.1	11.7	34.6
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	57.5	39.7	5.0	81.7	47.2	4.7	9.6	15.9	2.9	8.1	11.7	34.6
Queue Length 50th (ft)	64	110	0	165	196	0	32	122	0	15	77	14
Queue Length 95th (ft)	124	171	31	#288	280	29	60	176	36	56	167	44
Internal Link Dist (ft)		2837			1261			1482			2744	
Turn Bay Length (ft)	140		210	155		255	270		290	360		165
Base Capacity (vph)	180	523	533	289	523	533	478	1956	949	662	1931	300
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	0.53	0.33	0.20	0.78	0.55	0.19	0.25	0.29	0.18	0.17	0.37	0.25

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

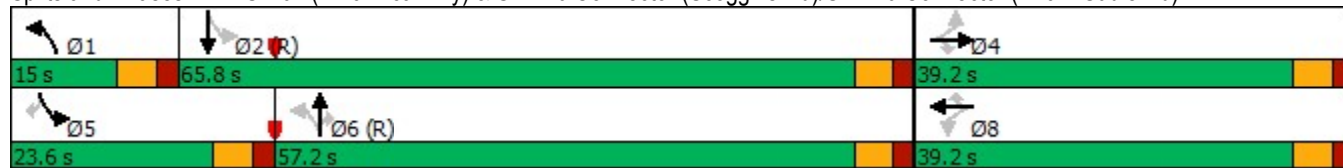
Natural Cycle: 75

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Sudie Rd)



HCM 6th Signalized Intersection Summary

3b. Future PM - Improved

2: SR 61 (Villa Rica Hwy) & SR 120 Connector (Scoggins Rd)/SR 120 Connector (Hiram Rd)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	168	102	217	278	99	116	550	162	110	693	73
Future Volume (veh/h)	92	168	102	217	278	99	116	550	162	110	693	73
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	95	173	0	224	287	0	120	567	0	113	714	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	512		302	512		457	1928		527	1928	
Arrive On Green	0.27	0.27	0.00	0.27	0.27	0.00	0.05	0.54	0.00	0.05	0.54	0.00
Sat Flow, veh/h	1092	1870	1585	1212	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	95	173	0	224	287	0	120	567	0	113	714	0
Grp Sat Flow(s),veh/h/ln	1092	1870	1585	1212	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.8	8.9	0.0	21.8	15.8	0.0	3.6	10.4	0.0	3.3	13.8	0.0
Cycle Q Clear(g_c), s	25.6	8.9	0.0	30.7	15.8	0.0	3.6	10.4	0.0	3.3	13.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	215	512		302	512		457	1928		527	1928	
V/C Ratio(X)	0.44	0.34		0.74	0.56		0.26	0.29		0.21	0.37	
Avail Cap(c_a), veh/h	223	525		311	525		516	1928		713	1928	
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	34.9	0.0	47.1	37.4	0.0	11.8	14.9	0.0	11.4	15.7	0.0
Incr Delay (d2), s/veh	1.4	0.4	0.0	8.9	1.3	0.0	0.3	0.4	0.0	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	7.2	0.0	11.5	11.6	0.0	2.3	7.0	0.0	2.2	8.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	35.2	0.0	56.0	38.6	0.0	12.1	15.3	0.0	11.6	16.3	0.0
LnGrp LOS	D	D		E	D		B	B		B	B	
Approach Vol, veh/h	268				511		687				827	
Approach Delay, s/veh	40.4				46.3		14.8				15.6	
Approach LOS	D				D		B				B	
Timer - Assigned Phs	1	2			4	5	6			8		
Phs Duration (G+Y+Rc), s	11.0	70.6			38.4	11.0	70.6			38.4		
Change Period (Y+Rc), s	5.5	5.5			5.5	5.5	5.5			5.5		
Max Green Setting (Gmax), s	9.5	60.3			33.7	18.1	51.7			33.7		
Max Q Clear Time (g_c+I1), s	5.6	15.8			27.6	5.3	12.4			32.7		
Green Ext Time (p_c), s	0.1	7.2			0.4	0.2	5.3			0.2		

Intersection Summary

HCM 6th Ctrl Delay 25.1

HCM 6th LOS C

Notes

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

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	25	16	179	304	6
Future Vol, veh/h	4	25	16	179	304	6
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	-	-	-	-	-
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	5	32	21	229	390	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	665	394	398	0	-	0
Stage 1	394	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	425	655	1161	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	416	655	1161	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.3	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1161	-	607	-	-	
HCM Lane V/C Ratio	0.018	-	0.061	-	-	
HCM Control Delay (s)	8.2	0	11.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	2	25	86	3	32	13	118	3	12	125	0
Future Vol, veh/h	1	2	25	86	3	32	13	118	3	12	125	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	29	99	3	37	15	136	3	14	144	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	8.7	8.6	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	4%	71%	9%
Vol Thru, %	88%	7%	2%	91%
Vol Right, %	2%	89%	26%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	28	121	137
LT Vol	13	1	86	12
Through Vol	118	2	3	125
RT Vol	3	25	32	0
Lane Flow Rate	154	32	139	157
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.038	0.18	0.198
Departure Headway (Hd)	4.523	4.296	4.671	4.531
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	793	832	768	792
Service Time	2.548	2.33	2.699	2.556
HCM Lane V/C Ratio	0.194	0.038	0.181	0.198
HCM Control Delay	8.6	7.5	8.7	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.7	0.7

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	125	305	12	121	584
Future Vol, veh/h	15	125	305	12	121	584
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	145	355	14	141	679
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1323	362	0	0	369	0
Stage 1	362	-	-	-	-	-
Stage 2	961	-	-	-	-	-
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	172	683	-	-	1190	-
Stage 1	704	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	139	683	-	-	1190	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	704	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.3	0		1.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	481	1190	-	
HCM Lane V/C Ratio	-	-	0.338	0.118	-	
HCM Control Delay (s)	-	-	16.3	8.4	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	1.5	0.4	-	

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	118	2	8	0	111	72	9	192	1
Future Vol, veh/h	0	0	0	118	2	8	0	111	72	9	192	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	153	3	10	0	144	94	12	249	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	472	512	250	465	465	191	250	0	0	238	0	0
Stage 1	274	274	-	191	191	-	-	-	-	-	-	-
Stage 2	198	238	-	274	274	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	502	465	789	508	495	851	1316	-	-	1329	-	-
Stage 1	732	683	-	811	742	-	-	-	-	-	-	-
Stage 2	804	708	-	732	683	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	490	460	789	504	490	851	1316	-	-	1329	-	-
Mov Cap-2 Maneuver	490	460	-	504	490	-	-	-	-	-	-	-
Stage 1	732	676	-	811	742	-	-	-	-	-	-	-
Stage 2	791	708	-	725	676	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		15.2			0			0.3			
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1316	-	-	-	517	1329	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.322	0.009	-	-				
HCM Control Delay (s)	0	-	-	0	15.2	7.7	0	-				
HCM Lane LOS	A	-	-	A	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	1.4	0	-	-				

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	72	16	28	49	32	109
Future Vol, veh/h	72	16	28	49	32	109
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	19	33	58	38	128

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	226	102	166
Stage 1	102	-	-
Stage 2	124	-	-
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	762	953	1412
Stage 1	922	-	-
Stage 2	902	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	744	953	1412
Mov Cap-2 Maneuver	744	-	-
Stage 1	900	-	-
Stage 2	902	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	2.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1412	-	775	-	-
HCM Lane V/C Ratio	0.023	-	0.134	-	-
HCM Control Delay (s)	7.6	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Timings

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

3b. Future PM - Improved

08/15/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	24	900	46	223	1456	64	39	31	67	69
Future Volume (vph)	24	900	46	223	1456	64	39	31	67	69
Lane Group Flow (vph)	25	947	48	235	1533	67	0	249	0	219
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6		5	2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Total Split (s)	15.0	55.4	55.4	23.6	64.0	64.0	31.0	31.0	31.0	31.0
Total Split (%)	13.6%	50.4%	50.4%	21.5%	58.2%	58.2%	28.2%	28.2%	28.2%	28.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	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 Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.14	0.56	0.06	0.62	0.77	0.07		0.69		0.94
Control Delay	9.0	20.2	0.1	14.3	20.4	2.2		33.8		85.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	9.0	20.2	0.1	14.3	20.4	2.2		33.8		85.3
Queue Length 50th (ft)	5	235	0	59	454	0		94		135
Queue Length 95th (ft)	14	336	0	92	580	16		185		#276
Internal Link Dist (ft)		1731			1130			759		510
Turn Bay Length (ft)	290		135	270		230				
Base Capacity (vph)	230	1687	817	445	1991	920		386		254
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	0.11	0.56	0.06	0.53	0.77	0.07		0.65		0.86

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

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

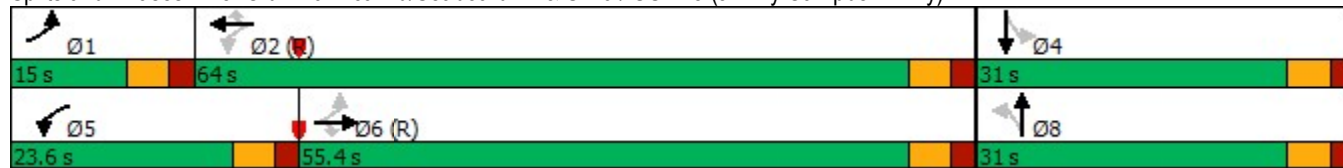
Natural Cycle: 90

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3b. Future PM - Improved

8: Old Villa Rica Rd/Seaboard Dr & SR 6 / US 278 (Jimmy Campbell Pkwy)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	900	46	223	1456	64	39	31	166	67	69	71
Future Volume (veh/h)	24	900	46	223	1456	64	39	31	166	67	69	71
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	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	25	947	48	235	1533	67	41	33	0	71	73	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	2138	953	441	2272	1013	122	82		126	97	
Arrive On Green	0.02	0.67	0.67	0.07	0.71	0.71	0.12	0.12	0.00	0.12	0.12	0.00
Sat Flow, veh/h	1603	3198	1427	1603	3198	1427	619	710	0	668	837	0
Grp Volume(v), veh/h	25	947	48	235	1533	67	74	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1603	1599	1427	1603	1599	1427	1329	0	0	1505	0	0
Q Serve(g_s), s	0.5	15.3	1.3	4.8	29.3	1.6	0.0	0.0	0.0	4.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	15.3	1.3	4.8	29.3	1.6	5.5	0.0	0.0	10.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.55		0.00	0.49		0.00
Lane Grp Cap(c), veh/h	231	2138	953	441	2272	1013	204	0		223	0	
V/C Ratio(X)	0.11	0.44	0.05	0.53	0.67	0.07	0.36	0.00		0.65	0.00	
Avail Cap(c_a), veh/h	331	2138	953	599	2272	1013	364	0		389	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	8.6	6.3	6.5	8.9	4.8	45.3	0.0	0.0	47.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.7	0.1	1.0	1.6	0.1	1.1	0.0	0.0	3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	7.7	0.6	2.1	12.2	0.7	3.5	0.0	0.0	7.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	9.3	6.4	7.5	10.5	5.0	46.4	0.0	0.0	50.5	0.0	0.0
LnGrp LOS	A	A	A	A	B	A	D	A		D	A	
Approach Vol, veh/h	1020				1835				74			
Approach Delay, s/veh	9.1				9.9				46.4			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	83.6		18.2	12.8	79.0		18.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	58.5		25.5	18.1	49.9		25.5				
Max Q Clear Time (g_c+I1), s	2.5	31.3		12.2	6.8	17.3		7.5				
Green Ext Time (p_c), s	0.0	20.3		0.6	0.5	13.5		0.3				

Intersection Summary

HCM 6th Ctrl Delay 12.4

HCM 6th LOS B

Notes

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

Intersection													
Int Delay, s/veh	1.7												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	2	33	962	9	115	1409	32	0	0	9	0	0	132
Future Vol, veh/h	2	33	962	9	115	1409	32	0	0	9	0	0	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	310	-	140	185	-	130	-	-	0	-	-	0
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	34	1002	9	120	1468	33	0	0	9	0	0	138
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	1468	1468	0	0	1002	0	0	-	-	501	-	-	734
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.44	4.14	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	2.22	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	165	456	-	-	687	-	-	0	0	515	0	0	363
Stage 1	-	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %			-	-		-	-						
Mov Cap-1 Maneuver	383	383	-	-	687	-	-	-	-	515	-	-	363
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	0.5			0.8			12.1			20.8			
HCM LOS							B			C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	515	383	-	-	687	-	-	363					
HCM Lane V/C Ratio	0.018	0.095	-	-	0.174	-	-	0.379					
HCM Control Delay (s)	12.1	15.4	-	-	11.3	-	-	20.8					
HCM Lane LOS	B	C	-	-	B	-	-	C					
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.6	-	-	1.7					

Timings

3b. Future PM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	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)	131	895	102	284	1464	146	93	569	421	237	429	161
Future Volume (vph)	131	895	102	284	1464	146	93	569	421	237	429	161
Lane Group Flow (vph)	135	923	105	293	1509	151	96	587	434	244	442	166
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	38.5	38.5	15.0	38.5	38.5	15.0	65.5	65.5	15.0	61.5	61.5
Total Split (s)	11.0	36.5	36.5	11.0	36.5	36.5	11.0	61.5	61.5	11.0	61.5	61.5
Total Split (%)	9.2%	30.4%	30.4%	9.2%	30.4%	30.4%	9.2%	51.3%	51.3%	9.2%	51.3%	51.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
v/c Ratio	0.40	0.62	0.14	0.44	0.91	0.19	0.21	0.70	0.49	0.70	0.53	0.33
Control Delay	16.9	30.2	3.5	14.7	39.5	6.4	33.5	50.1	18.9	40.8	41.5	6.6
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	16.9	30.2	3.5	14.7	39.5	6.4	33.5	50.1	18.9	40.8	41.5	6.6
Queue Length 50th (ft)	22	286	0	51	553	11	28	206	50	70	157	0
Queue Length 95th (ft)	42	401	28	84	#830	57	45	248	100	92	193	50
Internal Link Dist (ft)		1935			1748			1169			896	
Turn Bay Length (ft)	440		160	860		160	210		265	235		730
Base Capacity (vph)	338	1496	740	661	1664	809	461	1651	1457	351	1651	827
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	0.40	0.62	0.14	0.44	0.91	0.19	0.21	0.36	0.30	0.70	0.27	0.20

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

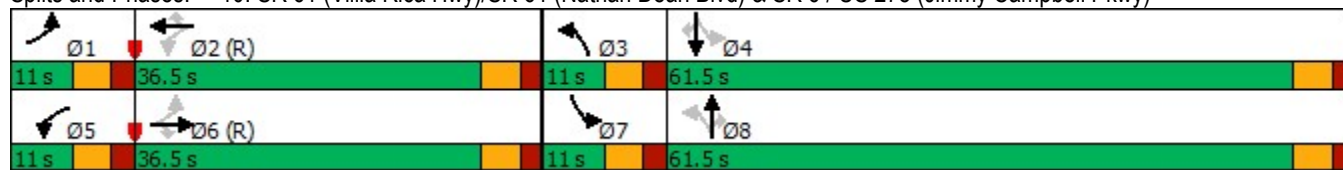
Natural Cycle: 145

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3b. Future PM - Improved

10: SR 61 (Villa Rica Hwy)/SR 61 (Nathan Dean Blvd) & SR 6 / US 278 (Jimmy Campbell Hwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	895	102	284	1464	146	93	569	421	237	429	161
Future Volume (veh/h)	131	895	102	284	1464	146	93	569	421	237	429	161
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	135	923	0	293	1509	0	96	587	0	244	442	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	1850		693	1867		438	726		354	747	
Arrive On Green	0.04	0.52	0.00	0.05	0.53	0.00	0.04	0.20	0.00	0.05	0.21	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	2790	3456	3554	1585
Grp Volume(v), veh/h	135	923	0	293	1509	0	96	587	0	244	442	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1395	1728	1777	1585
Q Serve(g_s), s	2.1	20.2	0.0	4.8	42.0	0.0	2.6	18.9	0.0	5.5	13.5	0.0
Cycle Q Clear(g_c), s	2.1	20.2	0.0	4.8	42.0	0.0	2.6	18.9	0.0	5.5	13.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	1850		693	1867		438	726		354	747	
V/C Ratio(X)	0.36	0.50		0.42	0.81		0.22	0.81		0.69	0.59	
Avail Cap(c_a), veh/h	396	1850		693	1867		459	1658		354	1658	
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	0.88	0.88	0.00
Uniform Delay (d), s/veh	21.0	18.6	0.0	14.6	23.5	0.0	36.0	45.5	0.0	41.4	42.7	0.0
Incr Delay (d2), s/veh	0.6	1.0	0.0	0.4	3.9	0.0	0.2	2.2	0.0	4.9	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	12.3	0.0	3.1	23.2	0.0	1.9	12.8	0.0	2.1	9.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	19.6	0.0	15.0	27.4	0.0	36.2	47.7	0.0	46.4	43.4	0.0
LnGrp LOS	C	B		B	C		D	D		D	D	
Approach Vol, veh/h	1058			1802			683			686		
Approach Delay, s/veh	19.8			25.4			46.1			44.5		
Approach LOS	B			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	68.5	10.3	30.7	11.0	68.0	11.0	30.0				
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	5.5	31.0	5.5	56.0	5.5	31.0	5.5	56.0				
Max Q Clear Time (g_c+I1), s	4.1	44.0	4.6	15.5	6.8	22.2	7.5	20.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.0	5.5	0.0	3.6				

Intersection Summary

HCM 6th Ctrl Delay 30.4

HCM 6th LOS C

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

3b. Future PM - Improved

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan Hwy) & SR 6 / US 278 (Jimmy Campbell Pkwy)

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	23	665	59	369	1038	113	36	164	222	119	285
Future Volume (vph)	23	665	59	369	1038	113	36	164	222	119	285
Lane Group Flow (vph)	24	693	61	384	1081	118	0	209	231	124	337
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	1	6		5	2			8		7	4
Permitted Phases	6		6	2		2	8		8	4	
Detector Phase	1	6	6	5	2	2	8	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	5.0	6.0
Minimum Split (s)	15.0	32.5	32.5	15.0	32.5	32.5	49.5	49.5	49.5	15.0	45.5
Total Split (s)	15.0	33.5	33.5	22.0	40.5	40.5	49.5	49.5	49.5	15.0	64.5
Total Split (%)	12.5%	27.9%	27.9%	18.3%	33.8%	33.8%	41.3%	41.3%	41.3%	12.5%	53.8%
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	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.11	0.74	0.11	0.62	0.55	0.13		0.74	0.50	0.47	0.61
Control Delay	16.6	46.1	0.4	24.8	21.1	3.4		62.3	8.7	36.2	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	16.6	46.1	0.4	24.8	21.1	3.4		62.3	8.7	36.2	39.7
Queue Length 50th (ft)	7	248	0	173	297	0		156	0	73	219
Queue Length 95th (ft)	22	#351	0	311	431	32		222	63	111	286
Internal Link Dist (ft)		1472			1808			407			775
Turn Bay Length (ft)	170		150	170		175			110	70	
Base Capacity (vph)	270	937	546	621	1948	926		592	726	269	903
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	0.09	0.74	0.11	0.62	0.55	0.13		0.35	0.32	0.46	0.37

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

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

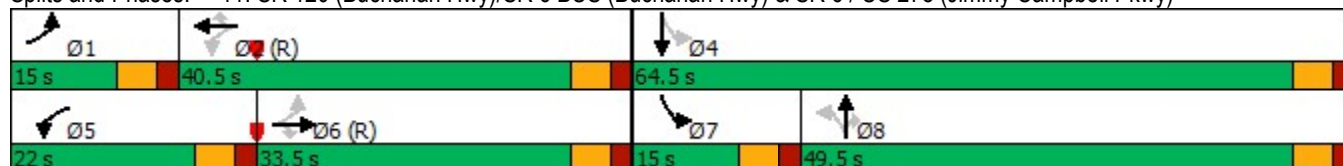
Natural Cycle: 125

Control Type: Actuated-Coordinated

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

Queue shown is maximum after two cycles.

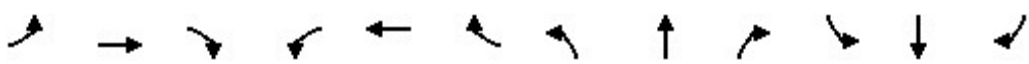
Splits and Phases: 11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan Hwy) & SR 6 / US 278 (Jimmy Campbell Pkwy)



HCM 6th Signalized Intersection Summary

3b. Future PM - Improved

11: SR 120 (Buchanan Hwy)/SR 6 BUS (Buchanan Hwy) & SR 6 / US 278 (Jimmy Campbell Pkwy)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	665	59	369	1038	113	36	164	222	119	285	38
Future Volume (veh/h)	23	665	59	369	1038	113	36	164	222	119	285	38
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	24	693	0	384	1081	0	38	171	231	124	297	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	1569		523	1952		74	256	275	245	468	63
Arrive On Green	0.02	0.44	0.00	0.13	0.55	0.00	0.17	0.17	0.17	0.07	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	221	1474	1585	1781	1614	217
Grp Volume(v), veh/h	24	693	0	384	1081	0	209	0	231	124	0	337
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1695	0	1585	1781	0	1831
Q Serve(g_s), s	0.9	16.2	0.0	13.6	23.6	0.0	8.3	0.0	16.9	6.6	0.0	19.2
Cycle Q Clear(g_c), s	0.9	16.2	0.0	13.6	23.6	0.0	13.7	0.0	16.9	6.6	0.0	19.2
Prop In Lane	1.00		1.00	1.00		1.00	0.18		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	285	1569		523	1952		329	0	275	245	0	531
V/C Ratio(X)	0.08	0.44		0.73	0.55		0.63	0.00	0.84	0.51	0.00	0.63
Avail Cap(c_a), veh/h	385	1569		535	1952		645	0	581	260	0	900
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	23.2	0.0	15.8	17.5	0.0	46.4	0.0	48.0	36.4	0.0	37.0
Incr Delay (d2), s/veh	0.1	0.9	0.0	5.1	1.1	0.0	2.0	0.0	6.8	1.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	10.7	0.0	9.3	13.7	0.0	9.8	0.0	11.3	5.2	0.0	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	24.2	0.0	20.9	18.7	0.0	48.5	0.0	54.8	38.0	0.0	38.3
LnGrp LOS	B	C		C	B		D	A	D	D	A	D
Approach Vol, veh/h	717			1465			440			461		
Approach Delay, s/veh	23.9			19.2			51.8			38.2		
Approach LOS	C			B			D			D		
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	71.4		40.3	21.2	58.5	14.0	26.3				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5	5.5	5.5				
Max Green Setting (Gmax), s	9.5	35.0		59.0	16.5	28.0	9.5	44.0				
Max Q Clear Time (g_c+I1), s	2.9	25.6		21.2	15.6	18.2	8.6	18.9				
Green Ext Time (p_c), s	0.0	6.5		1.9	0.1	4.6	0.0	1.9				

Intersection Summary

HCM 6th Ctrl Delay 27.8

HCM 6th LOS C

Notes

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

Timings

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

3b. Future PM - Improved

08/15/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT
Lane Configurations										
Traffic Volume (vph)	9	264	596	122	421	19	640	18	112	15
Future Volume (vph)	9	264	596	122	421	19	640	18	112	15
Lane Group Flow (vph)	9	278	627	128	443	20	344	349	118	34
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	NA
Protected Phases	1	6		5	2		8	8		4
Permitted Phases	6		6	2		2			8	
Detector Phase	1	6	6	5	2	2	8	8	8	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	6.0	6.0	6.0	6.0
Minimum Split (s)	15.0	23.5	23.5	15.0	23.5	23.5	43.5	43.5	43.5	23.5
Total Split (s)	15.0	28.0	28.0	15.0	28.0	28.0	43.5	43.5	43.5	23.5
Total Split (%)	13.6%	25.5%	25.5%	13.6%	25.5%	25.5%	39.5%	39.5%	39.5%	21.4%
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	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.02	0.36	0.61	0.24	0.44	0.02	0.76	0.77	0.23	0.27
Control Delay	18.1	28.6	5.7	16.5	22.4	0.1	47.8	48.2	4.4	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	28.6	5.7	16.5	22.4	0.1	47.8	48.2	4.4	43.7
Queue Length 50th (ft)	3	142	0	45	191	0	234	238	0	17
Queue Length 95th (ft)	14	271	110	98	#440	0	307	312	30	48
Internal Link Dist (ft)		564			901			669		284
Turn Bay Length (ft)	100		160	110		155	235		290	
Base Capacity (vph)	503	779	1026	553	997	909	583	586	636	297
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	0.36	0.61	0.23	0.44	0.02	0.59	0.60	0.19	0.11

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), 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: 12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

					
Ø1	Ø2 (R)		Ø4		Ø8
15 s	28 s		23.5 s		43.5 s
					
Ø5	Ø6 (R)				
15 s	28 s				

HCM 6th Signalized Intersection Summary

3b. Future PM - Improved

12: SR 61 (Nathan Dean Blvd)/Hampton Dr & SR 6 BUS (Merchants Dr)

08/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	264	596	122	421	19	640	18	112	9	15	9
Future Volume (veh/h)	9	264	596	122	421	19	640	18	112	9	15	9
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	9	278	0	128	443	20	688	0	0	9	16	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	912		598	990	839	800	0		16	29	16
Arrive On Green	0.01	0.49	0.00	0.05	0.53	0.53	0.22	0.00	0.00	0.04	0.04	0.04
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	3563	0	1585	467	830	467
Grp Volume(v), veh/h	9	278	0	128	443	20	688	0	0	34	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1585	1763	0	0
Q Serve(g_s), s	0.3	9.8	0.0	3.8	16.1	0.7	20.4	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	0.3	9.8	0.0	3.8	16.1	0.7	20.4	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.26		0.26
Lane Grp Cap(c), veh/h	441	912		598	990	839	800	0		62	0	0
V/C Ratio(X)	0.02	0.30		0.21	0.45	0.02	0.86	0.00		0.55	0.00	0.00
Avail Cap(c_a), veh/h	575	912		658	990	839	1231	0		288	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.88	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.5	17.0	0.0	12.6	16.0	12.3	41.0	0.0	0.0	52.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.2	1.5	0.1	3.6	0.0	0.0	7.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	7.5	0.0	2.6	10.9	0.4	13.6	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	17.8	0.0	12.8	17.4	12.4	44.5	0.0	0.0	59.5	0.0	0.0
LnGrp LOS	B	B		B	B	B	D	A		E	A	A
Approach Vol, veh/h	287			591			688			34		
Approach Delay, s/veh	17.7			16.3			44.5			59.5		
Approach LOS	B			B			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	63.7		9.4	11.3	59.1		30.2				
Change Period (Y+Rc), s	5.5	5.5		5.5	5.5	5.5		5.5				
Max Green Setting (Gmax), s	9.5	22.5		18.0	9.5	22.5		38.0				
Max Q Clear Time (g_c+I1), s	2.3	18.1		4.1	5.8	11.8		22.4				
Green Ext Time (p_c), s	0.0	1.7		0.1	0.1	1.8		2.3				

Intersection Summary

HCM 6th Ctrl Delay 29.6

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

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

Timings
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

3b. Future PM - Improved
08/15/2022

					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	44	92	148	725	662
Future Volume (vph)	44	92	148	725	662
Lane Group Flow (vph)	44	93	149	732	741
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	7		1	6	2
Permitted Phases		4	6		
Detector Phase	7	4	1	6	2
Switch Phase					
Minimum Initial (s)	6.0	6.0	5.0	15.0	15.0
Minimum Split (s)	23.5	23.5	15.0	23.5	23.5
Total Split (s)	23.6	23.6	15.0	66.4	51.4
Total Split (%)	26.2%	26.2%	16.7%	73.8%	57.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.29	0.42	0.30	0.47	0.60
Control Delay	42.6	14.5	3.8	4.3	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	14.5	3.8	4.3	12.2
Queue Length 50th (ft)	24	0	14	105	224
Queue Length 95th (ft)	55	44	31	190	377
Internal Link Dist (ft)	426			607	669
Turn Bay Length (ft)	125		155		
Base Capacity (vph)	355	392	523	1543	1227
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	0.12	0.24	0.28	0.47	0.60

Intersection Summary

Cycle Length: 90

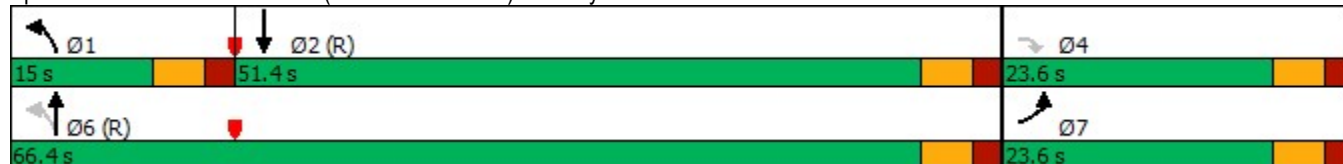
Actuated Cycle Length: 90

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

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr



HCM 6th Signalized Intersection Summary
13: SR 61 (Nathan Dean Blvd) & Henry Y Holland Dr

3b. Future PM - Improved
08/15/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	92	148	725	662	71
Future Volume (veh/h)	44	92	148	725	662	71
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	44	0	149	732	669	72
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	79		555	1559	1192	128
Arrive On Green	0.04	0.00	0.05	0.83	0.72	0.72
Sat Flow, veh/h	1781	1585	1781	1870	1660	179
Grp Volume(v), veh/h	44	0	149	732	0	741
Grp Sat Flow(s), veh/h/ln	1781	1585	1781	1870	0	1838
Q Serve(g_s), s	2.2	0.0	1.7	9.6	0.0	17.1
Cycle Q Clear(g_c), s	2.2	0.0	1.7	9.6	0.0	17.1
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	79		555	1559	0	1320
V/C Ratio(X)	0.56		0.27	0.47	0.00	0.56
Avail Cap(c_a), veh/h	358		647	1559	0	1320
HCM Platoon Ratio	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	0.83
Uniform Delay (d), s/veh	42.1	0.0	4.6	2.1	0.0	6.0
Incr Delay (d2), s/veh	6.0	0.0	0.3	1.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.7	2.1	0.0	8.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.1	0.0	4.9	3.1	0.0	7.4
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	44			881	741	
Approach Delay, s/veh	48.1			3.4	7.4	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.4	70.1		9.5		80.5
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	9.5	45.9		18.1		60.9
Max Q Clear Time (g_c+I1), s	3.7	19.1		4.2		11.6
Green Ext Time (p_c), s	0.2	10.2		0.1		12.2

Intersection Summary

HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Notes

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

Timings
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3b. Future PM - Improved

08/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	11	3	27	10	28	772	107	647	16
Future Volume (vph)	11	3	27	10	28	772	107	647	16
Lane Group Flow (vph)	11	21	28	188	29	814	111	674	17
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		6		2	
Permitted Phases	4		8		6		2		2
Detector Phase	4	4	8	8	6	6	2	2	2
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	49.5	49.5	56.5	56.5	41.5	41.5	41.5	41.5	41.5
Total Split (s)	56.5	56.5	56.5	56.5	43.5	43.5	43.5	43.5	43.5
Total Split (%)	56.5%	56.5%	56.5%	56.5%	43.5%	43.5%	43.5%	43.5%	43.5%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.10	0.09	0.15	0.69	0.06	0.58	0.27	0.48	0.01
Control Delay	36.5	16.9	37.0	38.9	4.7	8.4	7.0	6.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	16.9	37.0	38.9	4.7	8.4	7.0	6.9	1.2
Queue Length 50th (ft)	6	2	16	75	4	186	18	136	0
Queue Length 95th (ft)	21	21	39	137	15	376	55	273	5
Internal Link Dist (ft)		780		703		896		1218	
Turn Bay Length (ft)	110		120		140		200		125
Base Capacity (vph)	402	836	706	846	504	1401	404	1404	1200
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.03	0.04	0.22	0.06	0.58	0.27	0.48	0.01

Intersection Summary

Cycle Length: 100

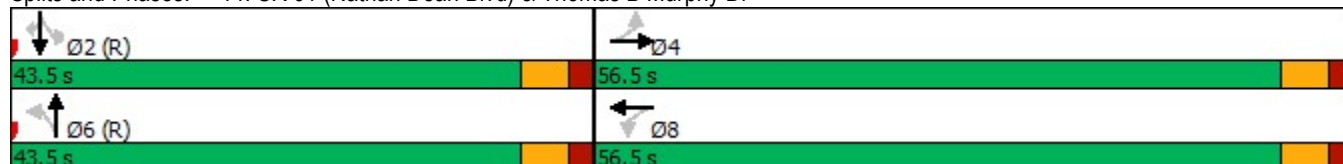
Actuated Cycle Length: 100

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

Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr



HCM 6th Signalized Intersection Summary
14: SR 61 (Nathan Dean Blvd) & Thomas B Murphy Dr

3b. Future PM - Improved

08/15/2022

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	11	3	17	27	10	171	28	772	10	107	647	16	
Future Volume (veh/h)	11	3	17	27	10	171	28	772	10	107	647	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
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	11	3	18	28	10	178	29	804	10	111	674	17	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	113	34	205	262	13	224	521	1368	17	436	1388	1176	
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	0.74	0.74	0.74	
Sat Flow, veh/h	1195	231	1389	1391	85	1513	752	1843	23	671	1870	1585	
Grp Volume(v), veh/h	11	0	21	28	0	188	29	0	814	111	674	17	
Grp Sat Flow(s),veh/h/ln	1195	0	1620	1391	0	1598	752	0	1866	671	1870	1585	
Q Serve(g_s), s	0.9	0.0	1.1	1.8	0.0	11.4	1.6	0.0	19.9	9.1	14.5	0.3	
Cycle Q Clear(g_c), s	12.3	0.0	1.1	2.9	0.0	11.4	16.1	0.0	19.9	29.0	14.5	0.3	
Prop In Lane	1.00		0.86	1.00		0.95	1.00		0.01	1.00		1.00	
Lane Grp Cap(c), veh/h	113	0	240	262	0	236	521	0	1385	436	1388	1176	
V/C Ratio(X)	0.10	0.00	0.09	0.11	0.00	0.80	0.06	0.00	0.59	0.25	0.49	0.01	
Avail Cap(c_a), veh/h	546	0	826	766	0	815	521	0	1385	436	1388	1176	
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	0.80	0.00	0.80	1.00	1.00	1.00	
Uniform Delay (d), s/veh	47.1	0.0	36.8	38.0	0.0	41.2	8.4	0.0	5.9	12.5	5.2	3.4	
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.2	0.0	6.0	0.2	0.0	1.5	1.4	1.2	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.8	1.1	0.0	8.5	0.5	0.0	9.3	2.5	7.7	0.1	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	47.4	0.0	36.9	38.2	0.0	47.2	8.6	0.0	7.4	13.9	6.4	3.4	
LnGrp LOS	D	A	D	D	A	D	A	A	A	B	A	A	
Approach Vol, veh/h	32			216				843				802	
Approach Delay, s/veh	40.6			46.0				7.4				7.4	
Approach LOS	D			D				A				A	
Timer - Assigned Phs	2			4			6			8			
Phs Duration (G+Y+Rc), s	79.7			20.3			79.7			20.3			
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5			
Max Green Setting (Gmax), s	38.0			51.0			38.0			51.0			
Max Q Clear Time (g_c+I1), s	31.0			14.3			21.9			13.4			
Green Ext Time (p_c), s	4.3			0.1			8.7			1.4			
Intersection Summary													
HCM 6th Ctrl Delay	12.4												
HCM 6th LOS	B												

Intersection						
Int Delay, s/veh	5.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	110	87	39	187	107
Future Vol, veh/h	23	110	87	39	187	107
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	-	-	100	160	-
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	25	120	95	42	203	116
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	617	95	0	0	137	0
Stage 1	95	-	-	-	-	-
Stage 2	522	-	-	-	-	-
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	453	962	-	-	1447	-
Stage 1	929	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	390	962	-	-	1447	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.8	0	5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	767	1447	-	
HCM Lane V/C Ratio	-	-	0.188	0.14	-	
HCM Control Delay (s)	-	-	10.8	7.9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.7	0.5	-	

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	42	82	100	71	94
Future Vol, veh/h	58	42	82	100	71	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	160	-
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	63	46	89	109	77	102
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	345	89	0	0	198	0
Stage 1	89	-	-	-	-	-
Stage 2	256	-	-	-	-	-
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	652	969	-	-	1375	-
Stage 1	934	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	615	969	-	-	1375	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.4	0	3.3			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 615 969	1375	-		
HCM Lane V/C Ratio	-	- 0.103 0.047	0.056	-		
HCM Control Delay (s)	-	- 11.5 8.9	7.8	-		
HCM Lane LOS	-	- B A	A	-		
HCM 95th %tile Q(veh)	-	- 0.3 0.1	0.2	-		

Traffic Volume Worksheets

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

1. Cole Lake @ Scoggins Rd

A.M. Peak Hour

Condition	Northbound				Cole Lake Road Southbound				SR 120 Connector (Scoggins Road) Eastbound				SR 120 Connector (Scoggins Road) Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	Tot
Existing 2022 Traffic Counts:	0	0	0	0	0	0	51	0	1	52	0	2	183	0	185	116
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2	2	2
No-Build 2026 Volumes:	0	0	0	0	0	0	55	0	1	56	0	2	198	0	200	125
Total New Trips:	0	0	0	0	0	0	104	0	17	121	0	6	0	0	6	37
Future 2026 Traffic Volumes:	0	0	0	0	0	0	159	0	18	177	0	8	198	0	206	162

P.M. Peak Hour

Condition	Northbound				Cole Lake Road Southbound				SR 120 Connector (Scoggins Road) Eastbound				SR 120 Connector (Scoggins Road) Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	Tot
Existing 2022 Traffic Counts:	0	0	0	0	0	0	32	0	1	33	0	6	120	0	126	224
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2	2	2
No-Build 2026 Volumes:	0	0	0	0	0	0	35	0	1	36	0	6	130	0	136	253
Total New Trips:	0	0	0	0	0	0	70	0	12	82	0	20	0	0	20	119
Future 2026 Traffic Volumes:	0	0	0	0	0	0	105	0	13	118	0	26	130	0	156	372

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

2. Scoggins Rd @ SR 61
A.M. Peak Hour

Condition	SR 61 (Villa Rica Highway)					SR 61 (Villa Rica Highway)					SR 120 Connector (Scoggins Road)					SR 120 Connector (Hiram Sudie Road)				
	Northbound					Southbound					Eastbound					Westbound				
Existing 2022 Traffic Counts:	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Growth Factor (%):	0	116	626	189	931	0	75	512	15	602	0	164	242	96	502	0	112	80	126	318
No-Build 2026 Volumes:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total New Trips:	0	125	676	204	1005	0	81	553	16	650	0	177	261	104	542	0	121	86	136	343
Future 2026 Traffic Volumes:	0	6	0	0	6	0	0	0	12	12	0	35	52	17	104	0	0	18	0	18
	0	131	676	204	1011	0	81	553	28	662	0	212	313	121	646	0	121	104	136	361

P.M. Peak Hour

Condition	SR 61 (Villa Rica Highway)					SR 61 (Villa Rica Highway)					SR 120 Connector (Scoggins Road)					SR 120 Connector (Hiram Sudie Road)				
	Northbound					Southbound					Eastbound					Westbound				
Existing 2022 Traffic Counts:	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Growth Factor (%):	0	89	509	150	748	0	102	642	31	775	0	64	123	83	270	0	201	202	92	495
No-Build 2026 Volumes:	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total New Trips:	0	96	550	162	808	0	110	693	33	836	0	69	133	90	292	0	217	218	99	534
Future 2026 Traffic Volumes:	0	20	0	0	20	0	0	0	40	40	0	23	35	12	70	0	0	60	0	60
	0	116	550	162	828	0	110	693	73	876	0	92	168	102	362	0	217	278	99	594

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

3. Cole Lake @ Monroe Cole Rd

A.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					Monroe Cole Road Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	5	69	0	74	0	25	5	0	30	0	10	0	4	14	0	0	0	0	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	5	75	0	80	0	27	5	0	32	0	11	0	4	15	0	0	0	0	0
Total New Trips:	0	17	208	0	225	0	0	73	0	73	0	0	0	6	6	0	0	0	0	0
Future 2026 Traffic Volumes:	0	22	283	0	305	0	27	78	0	105	0	11	0	10	21	0	0	0	0	0

P.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					Monroe Cole Road Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	4	36	0	40	0	0	61	6	67	0	4	0	5	9	0	0	0	0	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	4	39	0	43	0	0	66	6	72	0	4	0	5	9	0	0	0	0	0
Total New Trips:	0	12	140	0	152	0	0	238	0	238	0	0	0	20	20	0	0	0	0	0
Future 2026 Traffic Volumes:	0	16	179	0	195	0	0	304	6	310	0	4	0	25	29	0	0	0	0	0

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

4. West Ave @ Cole Lake Rd
A.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					West Avenue Eastbound					West Avenue Westbound				
	L		T	R	Tot	L		T	R	Tot	L		T	R	Tot	L		T	R	Tot
	U					U					U					U				
Existing 2022 Traffic Counts:	0	4	77	2	83	0	6	27	0	33	0	1	0	2	3	0	12	0	40	52
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	4	83	2	89	0	6	29	0	35	0	1	0	2	3	0	13	0	43	56
Total New Trips:	0	17	104	0	121	0	0	18	0	18	0	0	0	6	6	0	18	0	0	18
Future 2026 Traffic Volumes:	0	21	187	2	210	0	6	47	0	53	0	1	0	8	9	0	31	0	43	74

P.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					West Avenue Eastbound					West Avenue Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	1	44	3	48	0	11	60	0	71	0	1	2	5	8	0	24	3	30	57
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	1	48	3	52	0	12	65	0	77	0	1	2	5	8	0	26	3	32	61
Total New Trips:	0	12	70	0	82	0	0	60	0	60	0	0	0	20	20	0	60	0	0	60
Future 2026 Traffic Volumes:	0	13	118	3	134	0	12	125	0	137	0	1	2	25	28	0	86	3	32	121

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

5. Buchanan St @ Cole Lake Rd
A.M. Peak Hour

Condition	SR 120 (Buchanan Highway)						- Eastbound						Cole Lake Road Westbound					
	Northbound			Southbound			Eastbound			-			Westbound			-		
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot
Existing 2022 Traffic Counts:	0	0	605	3	608		0	31	188	0	219		0	14	0	104	118	
Growth Factor (%):	2	2	2	2			2	2	2	2			2	2	2	2		
No-Build 2026 Volumes:	0	0	653	3	656		0	33	203	0	236		0	15	0	112	127	
Total New Trips:	0	0	0	1	1		0	17	0	0	17		0	3	0	101	104	
Future 2026 Traffic Volumes:	0	0	653	4	657		0	50	203	0	253		0	18	0	213	231	

P.M. Peak Hour

Condition	SR 120 (Buchanan Highway)						- Eastbound						Cole Lake Road Westbound					
	Northbound			Southbound			Eastbound			-			Westbound			-		
	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot	U	L	Tot
Existing 2022 Traffic Counts:	0	0	282	7	289		0	60	541	0	601		0	12	0	53	65	
Growth Factor (%):	2	2	2	2			2	2	2	2			2	2	2	2		
No-Build 2026 Volumes:	0	0	305	8	313		0	65	584	0	649		0	13	0	57	70	
Total New Trips:	0	0	0	4	4		0	56	0	0	56		0	2	0	68	70	
Future 2026 Traffic Volumes:	0	0	305	12	317		0	121	584	0	705		0	15	0	125	140	

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

6. Happy Villy Ch @ Cole Lake Rd
A.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					China Ridge Drive Eastbound					Happy Valley Church Road Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	2	52	25	79	0	16	23	0	39	0	0	1	1	2	0	7	0	12	19
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	2	56	27	85	0	17	25	0	42	0	0	1	1	2	0	8	0	13	21
Total New Trips:	0	0	121	87	208	0	0	43	0	43	0	0	0	0	0	0	31	0	0	31
Future 2026 Traffic Volumes:	0	2	177	114	293	0	17	68	0	85	0	0	1	1	2	0	39	0	13	52

P.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					China Ridge Drive Eastbound					Happy Valley Church Road Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	27	13	40	0	8	49	1	58	0	0	0	0	0	0	18	2	7	27
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	0	29	14	43	0	9	53	1	63	0	0	0	0	0	0	19	2	8	29
Total New Trips:	0	0	82	58	140	0	0	139	0	139	0	0	0	0	0	0	99	0	0	99
Future 2026 Traffic Volumes:	0	0	111	72	183	0	9	192	1	202	0	0	0	0	0	0	118	2	8	128

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

7. Hpy Vly Ch@Old Villa Rica Rd

A.M. Peak Hour

Condition	Old Villa Rica Road Northbound					Old Villa Rica Road Southbound					Happy Valley Church Road Eastbound					- Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	6	59	0	65	0	0	21	15	36	0	30	0	2	32	0	0	0	0	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	6	64	0	70	0	0	23	16	39	0	32	0	2	34	0	0	0	0	0
Total New Trips:	0	6	0	0	6	0	0	0	24	24	0	69	0	17	86	0	0	0	0	0
Future 2026 Traffic Volumes:	0	12	64	0	76	0	0	23	40	63	0	101	0	19	120	0	0	0	0	0

P.M. Peak Hour

Condition	Old Villa Rica Road Northbound					Old Villa Rica Road Southbound					Happy Valley Church Road Eastbound					- Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	7	45	0	52	0	0	30	28	58	0	23	0	4	27	0	0	0	0	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	8	49	0	57	0	0	32	30	62	0	25	0	4	29	0	0	0	0	0
Total New Trips:	0	20	0	0	20	0	0	0	79	79	0	47	0	12	59	0	0	0	0	0
Future 2026 Traffic Volumes:	0	28	49	0	77	0	0	32	109	141	0	72	0	16	88	0	0	0	0	0

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

8. US 278 @ Old Villa Rica Rd

A.M. Peak Hour

Condition	Old Villa Rica Road Northbound					Seaboard Drive Southbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Eastbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	0	47	52	147	246	0	30	32	15	77	0	22	1268	47	1337	0	38	626	32	696
Existing 2022 Traffic Counts:																				
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	51	56	159	266	0	32	35	16	83	0	24	1369	51	1444	0	41	676	35	752
Total New Trips:	0	0	0	69	69	0	0	0	0	0	0	0	69	0	69	0	24	24	0	48
Future 2026 Traffic Volumes:	0	51	56	228	335	0	32	35	16	83	0	24	1438	51	1513	0	65	700	35	800

P.M. Peak Hour

Condition	Old Villa Rica Road Northbound					Seaboard Drive Southbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Eastbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
	0	36	29	110	175	0	62	64	66	192	0	22	790	43	855	0	133	1275	59	1467
Existing 2022 Traffic Counts:																				
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	39	31	119	189	0	67	69	71	207	0	24	853	46	923	0	144	1377	64	1585
Total New Trips:	0	0	0	47	47	0	0	0	0	0	0	0	47	0	47	0	79	79	0	158
Future 2026 Traffic Volumes:	0	39	31	166	236	0	67	69	71	207	0	24	900	46	970	0	223	1456	64	1743

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
August 2022

9. West Ave @ US 278
A.M. Peak Hour

Condition	West Avenue Northbound					South Main Street Southbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Eastbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	6	6	0	0	0	20	20	13	93	1331	10	1447	0	21	607	60	688
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	0	0	6	6	0	0	0	22	22	14	100	1437	11	1562	0	23	656	65	744
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	0	69	0	69	0	18	6	0	24
Future 2026 Traffic Volumes:	0	0	0	6	6	0	0	0	22	22	14	100	1506	11	1631	0	41	662	65	768

P.M. Peak Hour

Condition	West Avenue Northbound					South Main Street Southbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Eastbound					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway) Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	0	0	8	8	0	0	0	122	122	2	31	847	8	888	0	51	1286	30	1367
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	0	0	9	9	0	0	0	132	132	2	33	915	9	959	0	55	1389	32	1476
Total New Trips:	0	0	0	0	0	0	0	0	0	0	0	0	47	0	47	0	60	20	0	80
Future 2026 Traffic Volumes:	0	0	0	9	9	0	0	0	132	132	2	33	962	9	1006	0	115	1409	32	1556

Number of Years = 4 (2022 to 2026)
Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

10. US 278 @ Nathan Dean Blvd
A.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)				SR 61 (Nathan Dean Boulevard)				US 278/SR 6/ SR 120 (Jimmy Campbell Parkway)				US 278/SR 6/ SR 120 (Jimmy Campbell Parkway)			
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	
Existing 2022 Traffic Counts:	0	49	363	287	699	0	153	361	83	597	0	76	1201	66	1343	
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2	2	
No-Build 2026 Volumes:	0	53	392	310	755	0	165	390	90	645	0	82	1297	71	1450	984
Total New Trips:	0	0	10	17	27	0	0	4	12	16	0	35	104	0	139	43
Future 2026 Traffic Volumes:	0	53	402	327	782	0	165	394	102	661	0	117	1401	71	1589	1027

P.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)				SR 61 (Nathan Dean Boulevard)				US 278/SR 6/ SR 120 (Jimmy Campbell Parkway)				US 278/SR 6/ SR 120 (Jimmy Campbell Parkway)			
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	
Existing 2022 Traffic Counts:	0	86	520	379	985	0	219	386	112	717	0	100	764	94	958	1624
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2	2	
No-Build 2026 Volumes:	0	93	562	409	1064	0	237	417	121	775	0	108	825	102	1035	1755
Total New Trips:	0	0	7	12	19	0	0	12	40	52	0	23	70	0	93	139
Future 2026 Traffic Volumes:	0	93	569	421	1083	0	237	429	161	827	0	131	895	102	1128	1894

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

11. US 278 @ Buchanan St
A.M. Peak Hour

Condition	SR 120 (Buchanan Highway)					SR 6 Business (Buchanan Street)					US 278/SR 6 (Jimmy Campbell Parkway)					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway)				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	55	253	401	709	0	36	90	22	148	0	18	1004	38	1060	0	93	482	63	638
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	59	273	433	765	0	39	97	24	160	0	19	1084	41	1144	0	100	521	68	689
Total New Trips:	0	14	17	69	100	0	0	6	0	6	0	0	0	5	5	0	6	0	0	6
Future 2026 Traffic Volumes:	0	73	290	502	865	0	39	103	24	166	0	19	1084	46	1149	0	106	521	68	695

P.M. Peak Hour

Condition	SR 120 (Buchanan Highway)					SR 6 Business (Buchanan Street)					US 278/SR 6 (Jimmy Campbell Parkway)					US 278/SR 6/ SR 120 (Jimmy Campbell Parkway)				
	Northbound					Southbound					Eastbound					Westbound				
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot
Existing 2022 Traffic Counts:	0	25	141	162	328	0	110	245	35	390	0	21	616	40	677	0	323	961	105	1389
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	27	152	175	354	0	119	265	38	422	0	23	665	43	731	0	349	1038	113	1500
Total New Trips:	0	9	12	47	68	0	0	20	0	20	0	0	0	16	16	0	20	0	0	20
Future 2026 Traffic Volumes:	0	36	164	222	422	0	119	285	38	442	0	23	665	59	747	0	369	1038	113	1520

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

12. Nathan Dean Blvd@ SR 6

A.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)					Hampton Drive Southbound					SR 6 Business (Merchants Drive) Eastbound					SR 6 Business (Merchants Drive) 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
Existing 2022 Traffic Counts:	0	418	5	119	542	0	12	23	9	44	0	3	319	480	802	0	79	247	8	334
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	451	5	129	585	0	13	25	10	48	0	3	345	518	866	0	85	267	9	361
Total New Trips:	0	28	0	7	35	0	0	0	0	0	0	0	0	10	10	0	2	0	0	2
Future 2026 Traffic Volumes:	0	479	5	136	620	0	13	25	10	48	0	3	345	528	876	0	87	267	9	363

P.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)					Hampton Drive Southbound					SR 6 Business (Merchants Drive) Eastbound					SR 6 Business (Merchants Drive) 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
Existing 2022 Traffic Counts:	0	575	17	99	691	0	8	14	8	30	0	8	244	522	774	0	106	390	18	514
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	621	18	107	746	0	9	15	9	33	0	9	264	564	837	0	114	421	19	554
Total New Trips:	0	19	0	5	24	0	0	0	0	0	0	0	0	32	32	0	8	0	0	8
Future 2026 Traffic Volumes:	0	640	18	112	770	0	9	15	9	33	0	9	264	596	869	0	122	421	19	562

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

13.Nathan Dean @Henry Y Holland
A.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)				SR 61 (Nathan Dean Boulevard)				Henry Y Holland Drive				-			
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	Tot
Existing 2022 Traffic Counts:	0	117	508	0	625	0	0	552	62	614	0	40	0	158	198	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2	2	2
No-Build 2026 Volumes:	0	126	549	0	675	0	0	596	67	663	0	43	0	171	214	0
Total New Trips:	0	10	35	0	45	0	0	12	0	12	0	0	0	4	4	0
Future 2026 Traffic Volumes:	0	136	584	0	720	0	0	608	67	675	0	43	0	175	218	0

P.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)				SR 61 (Nathan Dean Boulevard)				Henry Y Holland Drive				-			
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	Tot	U	L	T	R	Tot	U	L	T	R	Tot	Tot
Existing 2022 Traffic Counts:	0	131	650	0	781	0	0	576	66	642	0	41	0	74	115	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2	2	2
No-Build 2026 Volumes:	0	141	702	0	843	0	0	622	71	693	0	44	0	80	124	0
Total New Trips:	0	7	23	0	30	0	0	40	0	40	0	0	0	12	12	0
Future 2026 Traffic Volumes:	0	148	725	0	873	0	0	662	71	733	0	44	0	92	136	0

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

14.Nathan Dean @Thomas B Murphy
A.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)					SR 61 (Nathan Dean Boulevard)					Thomas B Murphy Drive Eastbound					Thomas B Murphy Drive 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
Existing 2022 Traffic Counts:	0	40	597	6	643	0	83	609	18	710	0	7	7	19	33	0	11	5	81	97
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	43	645	6	694	0	90	658	19	767	0	8	8	21	37	0	12	5	87	104
Total New Trips:	0	0	45	0	45	0	0	16	0	16	0	0	0	0	0	0	0	0	0	0
Future 2026 Traffic Volumes:	0	43	690	6	739	0	90	674	19	783	0	8	8	21	37	0	12	5	87	104

P.M. Peak Hour

Condition	SR 61 (Nathan Dean Boulevard)					SR 61 (Nathan Dean Boulevard)					Thomas B Murphy Drive Eastbound					Thomas B Murphy Drive 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
Existing 2022 Traffic Counts:	0	26	687	9	722	0	99	551	15	665	0	10	3	16	29	0	25	9	158	192
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	28	742	10	780	0	107	595	16	718	0	11	3	17	31	0	27	10	171	208
Total New Trips:	0	0	30	0	30	0	0	52	0	52	0	0	0	0	0	0	0	0	0	0
Future 2026 Traffic Volumes:	0	28	772	10	810	0	107	647	16	770	0	11	3	17	31	0	27	10	171	208

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

15, Cole Lake Rd @ Site Drwy 1

A.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					- Eastbound					Site Driveway 1 Westbound				
	U		L		Tot	U		L		Tot	U		L		Tot	U		L		Tot
	T		R			T		R			T		R							
Existing 2022 Traffic Counts:	0	0	42	0	42	0	0	52	0	52	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	0	45	0	45	0	0	56	0	56	0	0	0	0	0	0	0	0	0	0
Total New Trips:	0	0	62	12	74	0	57	22	0	79	0	0	0	0	0	0	34	0	163	197
Future 2026 Traffic Volumes:	0	0	107	12	119	0	57	78	0	135	0	0	0	0	0	0	34	0	163	197

P.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					- Eastbound					Site Driveway 1 Westbound				
	U		L		Tot	U		L		Tot	U		L		Tot	U		L		Tot
	T		R			T		R			T		R			T		R		
Existing 2022 Traffic Counts:	0	0	42	0	42	0	0	33	0	33	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
No-Build 2026 Volumes:	0	0	45	0	45	0	0	36	0	36	0	0	0	0	0	0	0	0	0	0
Total New Trips:	0	0	42	39	81	0	187	71	0	258	0	0	0	0	0	0	23	0	110	133
Future 2026 Traffic Volumes:	0	0	87	39	126	0	187	107	0	294	0	0	0	0	0	0	23	0	110	133

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2

21-134 Canebreak West Residential Development on Cole Lake Road (DRI # 3599)
Traffic Volumes

A&R Engineering
 August 2022

16. Cole Lake Rd @ Site Drwy 2

A.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					- Eastbound					Site Driveway 2 Westbound				
	U		L		Tot	U		L		Tot	U		L		Tot	U		L		Tot
Existing 2022 Traffic Counts:	0	0	74	0	74	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
No-Build 2026 Volumes:	0	0	80	0	80	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0
Total New Trips:	0	0	12	31	43	0	22	34	0	56	0	0	0	0	0	0	0	87	0	149
Future 2026 Traffic Volumes:	0	0	92	31	123	0	22	44	0	66	0	0	0	0	0	0	0	87	0	149

P.M. Peak Hour

Condition	Cole Lake Road Northbound					Cole Lake Road Southbound					- Eastbound					Site Driveway 2 Westbound				
	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
Existing 2022 Traffic Counts:	0	0	40	0	40	0	0	66	0	66	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
No-Build 2026 Volumes:	0	0	43	0	43	0	0	71	0	71	0	0	0	0	0	0	0	0	0	0
Total New Trips:	0	0	39	100	139	0	71	23	0	94	0	0	0	0	0	0	58	0	42	100
Future 2026 Traffic Volumes:	0	0	82	100	182	0	71	94	0	165	0	0	0	0	0	0	58	0	42	100

Number of Years = 4 (2022 to 2026)
 Growth Factor (%) = 2