

**TRAFFIC IMPACT STUDY  
FOR  
PROPOSED RESIDENTIAL DEVELOPMENT  
AT 5083 BIFFLE ROAD**

**CITY OF STONE MOUNTAIN,  
DEKALB COUNTY, GEORGIA**



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A & R Project # 26-086

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# 1.0 INTRODUCTION

The purpose of this study is to determine the traffic impact from the proposed residential development that will be located at 5083 Biffle Road in City of Stone Mountain, Dekalb County, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The development will consist of:

- Single-Family Detached Housing: 44 units
- Multifamily Housing (Low-Rise) – Not Close to Rail Transit: 55 units
- Senior Adult Housing – Multifamily: 131 units



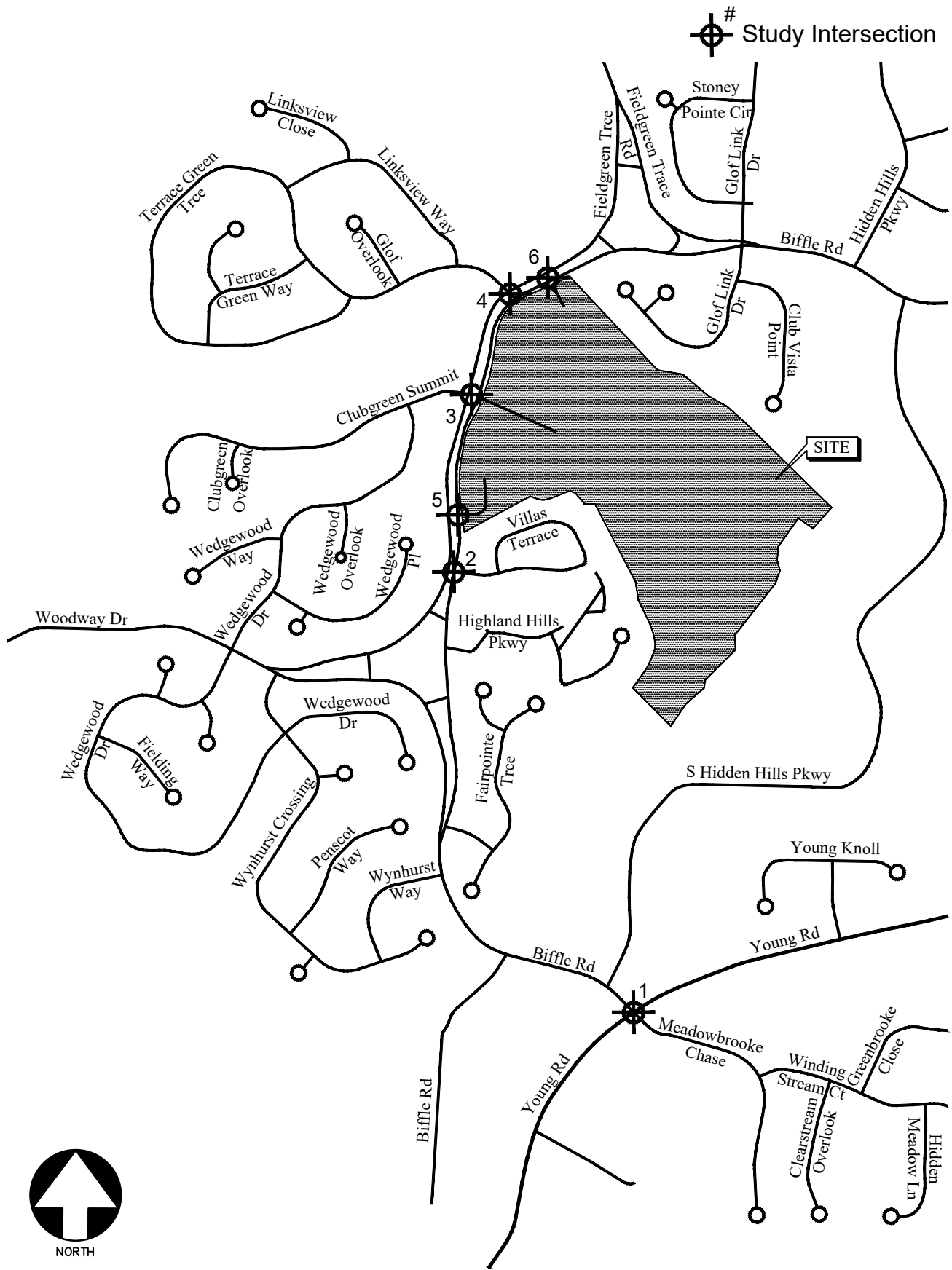
The development proposes access at the following locations:

- Site Driveway 1: Full Access Driveway on Biffle Road, aligned with Clubgreen Summit
- Site Driveway 2: Full Access Driveway on Biffle Road
- Site Driveway 3: Right-In/Right-Out Driveway on Biffle Road

The AM and PM peak hours have been analyzed in this study. This study includes the evaluation of traffic operations at the intersections of:

1. Young Road at Biffle Drive/ Meadowbrook Chase
2. Biffle Road at Villas Terrace
3. Biffle Road at Clubgreen Summit/Site Driveway 2
4. Biffle Road at Terrace Green Trace
5. Biffle Road at Site Driveway 1
6. Biffle Road at Site Driveway 3 (RIRO)

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report. The location of the development and the surrounding roadway network are shown in Figure 1.



LOCATION MAP

FIGURE 1

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## **2.0 EXISTING FACILITIES / CONDITIONS**

### **2.1 Roadway Facilities**

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

#### **2.1.1 *Young Road***

Young Road is a north-south, two-lane undivided roadway with a posted speed limit of 40 mph in the vicinity of the site.

#### **2.1.2 *Biffle Road***

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

#### **2.1.3 *Meadowbrooke Chase***

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

#### **2.1.4 *Villas Terrace***

Villas Terrace is an east-west, two-lane, undivided residential roadway with a posted speed limit of 10 mph in the vicinity of the site.

#### **2.1.5 *Clubgreen Summit***

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

#### **2.1.6 *Terrace Green Trace***

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

### 3.0 STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board Highway Capacity Manual, 7<sup>th</sup> edition (HCM 7). Synchro software, which utilizes the HCM methodology, was used for analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

#### 3.1 Unsignalized Intersections

For unsignalized intersections 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 designated 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, 7<sup>th</sup> edition, Exhibit 20-2 *LOS Criteria: Motorized Vehicle Mode*

### 3.2 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 greater than 1.0 for a lane group indicates failure from capacity perspective. Therefore, such a lane group is assigned LOS F regardless of the amount of control delay.

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

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, 7<sup>th</sup> 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.

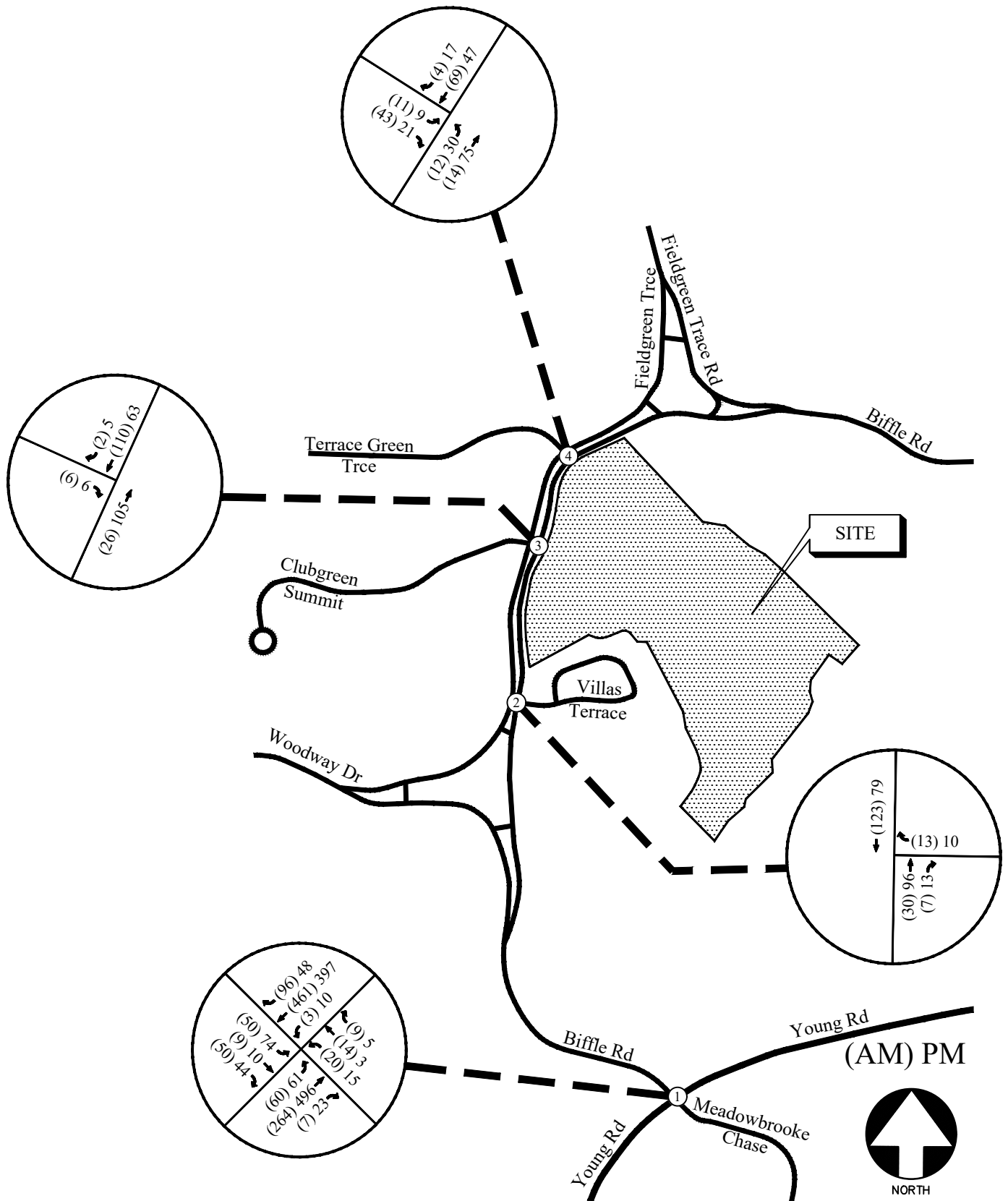
## **4.0 EXISTING 2026 TRAFFIC ANALYSIS**

### **4.1 Existing Traffic Volumes**




Existing traffic counts were obtained at the following study intersections:

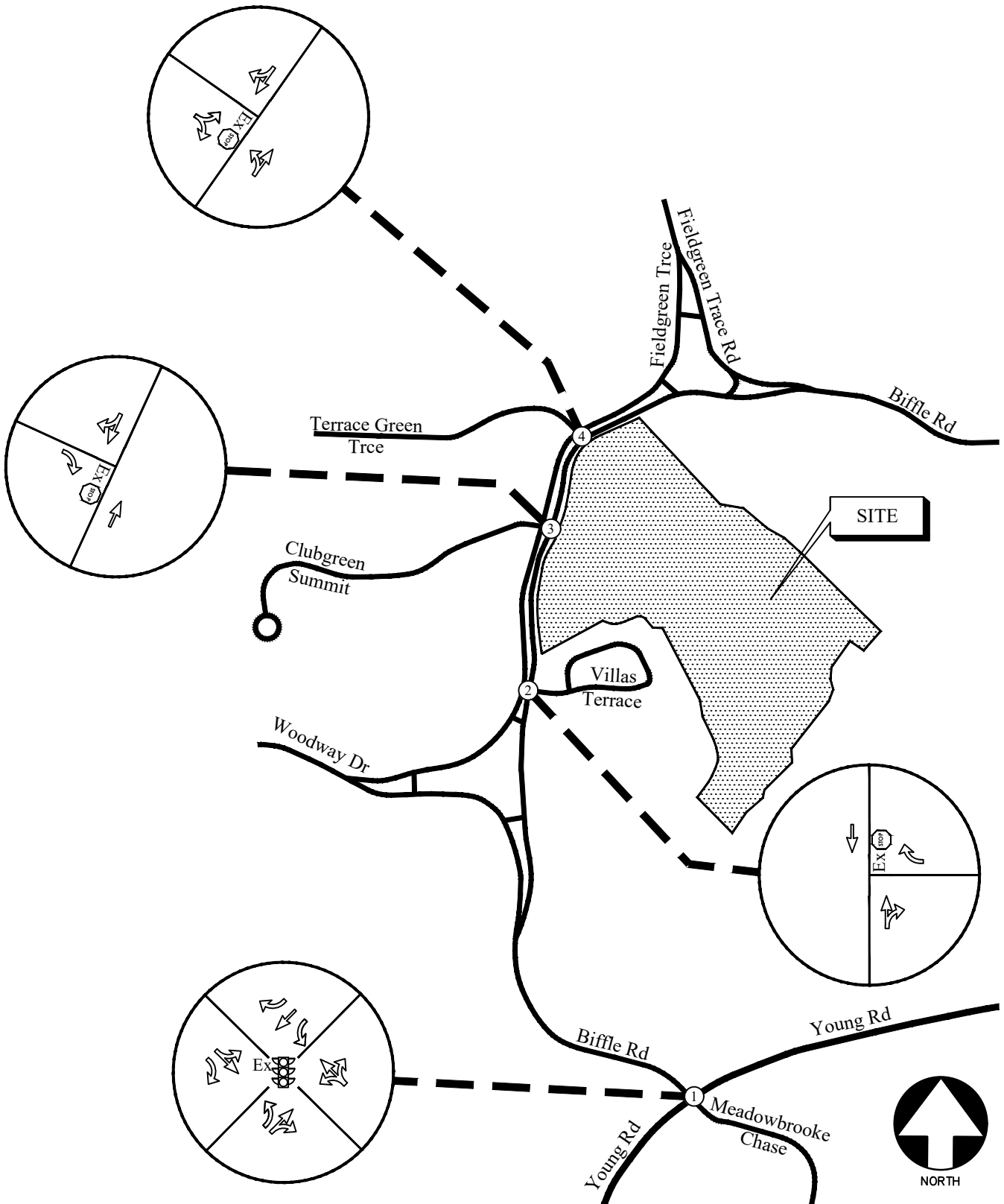
1. Young Road at Biffle Drive/ Meadowbrook Chase
2. Biffle Road at Villas Terrace
3. Biffle Road at Clubgreen Summit
4. Biffle Road at Terrace Green Trace

Turning movement counts were collected on Tuesday, April 28, 2026. All turning movement counts were recorded during the AM and PM peak hours between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, respectively. The four consecutive 15-minute interval volumes that summed to produce the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2. The existing traffic control and lane geometry for the intersections are shown in Figure 3.



**LEGEND**

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



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY

FIGURE 3

A&R Engineering Inc.

## 4.2 Existing Traffic Operations

Existing 2026 traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analysis are shown in Table 3.

TABLE 3 – EXISTING INTERSECTION OPERATIONS			
Intersection	Traffic Control	LOS (Delay)	
		AM Peak	PM Peak
<b>1</b> <u>Young Road @ Biffle Drive/ Meadowbrook Chase</u> -Eastbound Approach -Westbound Approach -Northbound Approach -Southbound Approach	Signalized	<b>B (12.8)</b> D (47.9) D (48.4) A (6.6) A (6.8)	<b>B (12.0)</b> D (46.8) D (49.0) A (7.4) A (6.2)
<b>2</b> <u>Biffle Road @ Villas Terrace</u> -Westbound Approach	Stop Controlled on WB Approach	A (8.5)	A (8.9)
<b>3</b> <u>Biffle Road @ Clubgreen Terrace</u> -Eastbound Approach	Stop Controlled on EB Approach	A (9.0)	A (8.7)
<b>4</b> <u>Biffle Road @ Terrace Green Trace</u> -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	A (9.2) A (7.4)	A (9.1) A (7.4)

The results of the existing traffic operations analysis indicate that the signalized intersection (intersection #1) is operating at an overall level of service “B” in both AM and PM peak hours. The stop-controlled approaches at the unsignalized study intersections are operating at level of service “A” in both the AM and PM peak hours.

## 5.0 PROPOSED DEVELOPMENT

The proposed residential development that will be located at 5083 Biffle Road in City of Stone Mountain, Dekalb County, Georgia. The traffic analysis evaluates the current operations compared to the future conditions with the traffic generated by the development. The development will consist of:

- Single-Family Detached Housing: 44 units
- Multifamily Housing (Low-Rise) – Not Close to Rail Transit: 55 units
- Senior Adult Housing – Multifamily: 131 units



The development proposes access at the following locations:

- Site Driveway 1: Full Access Driveway on Biffle Road, aligned with Clubgreen Summit
- Site Driveway 2: Full Access Driveway on Biffle Road
- Site Driveway 3: Right-In/Right-Out Driveway on Biffle Road

A site plan is shown in Figure 4.



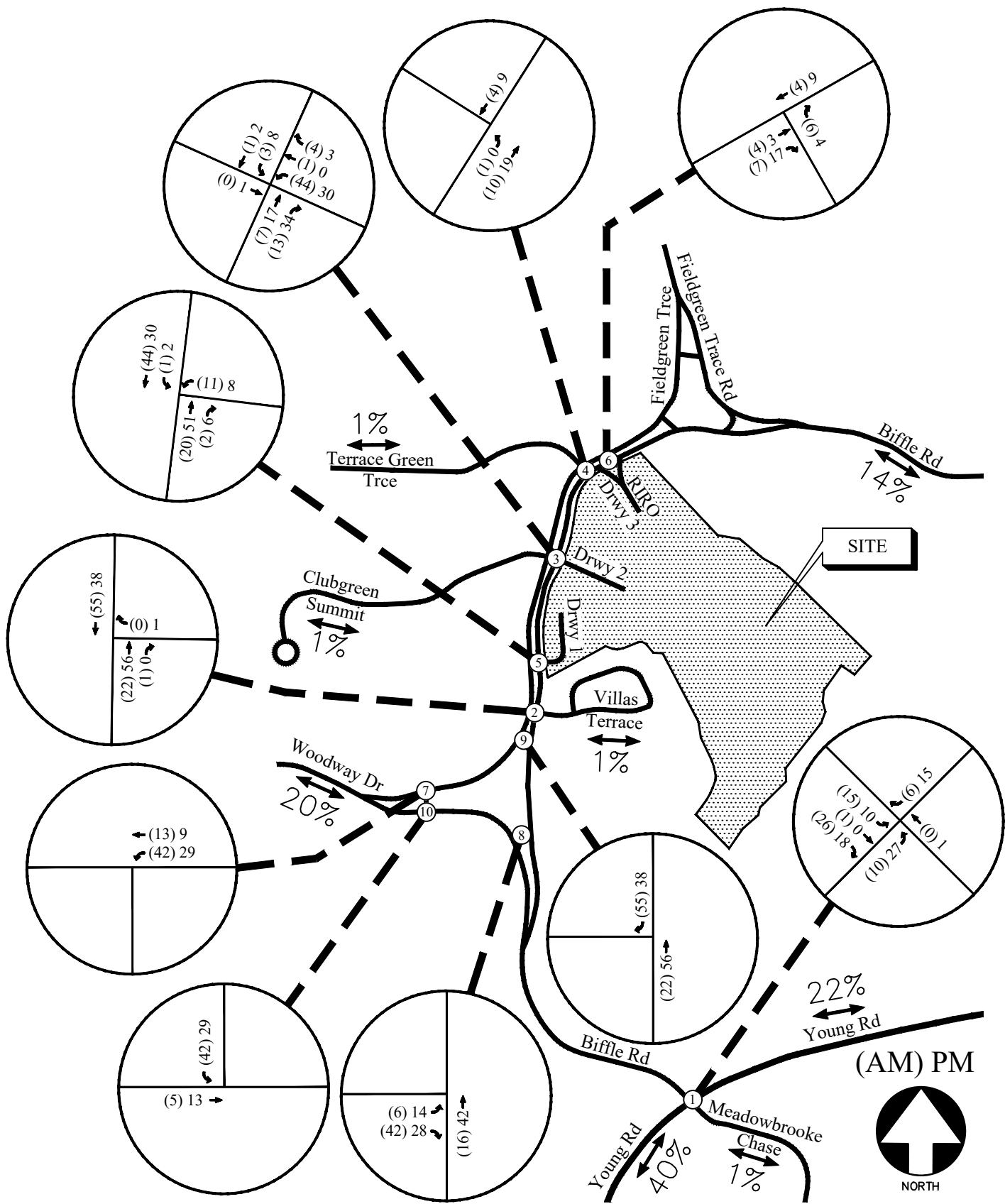
## 5.1 Trip Generation

Trip generation estimates for the project were based on the rates and equations published in the 12<sup>th</sup> edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation estimations were based on the ITE land uses: 210 – *Single-Family Detached Housing*, 220 – *Multifamily Housing (Low-Rise) - Not Close to Rail Transit* and 252 – *Senior Adult Housing – Multifamily*. The projected trip generation volumes for the proposed development are shown in Table 4.

Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	Two-Way
<b>ITE 210 – Single-Family Detached Housing</b>	44 units	9	26	35	28	17	45	621
<b>ITE 220 – Multifamily Housing (Low-Rise)-Not Close to Rail Transit</b>	55 units	8	24	32	21	13	34	430
<b>ITE 252 – Senior Adult Housing – Multifamily</b>	131 units	9	16	25	18	15	33	412
<b>New External Trips</b>		<b>26</b>	<b>66</b>	<b>92</b>	<b>67</b>	<b>45</b>	<b>112</b>	<b>1,463</b>

## 5.2 Trip Distribution

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



TRIP DISTRIBUTION AND NEW SITE-GENERATED  
WEEKDAY PEAK HOUR VOLUMES

FIGURE 5  
A&R Engineering Inc.

## **6.0 FUTURE 2028 TRAFFIC ANALYSIS**

The future 2028 traffic operations are analyzed for the “Build” and “No-Build” conditions.

### **6.1 Future “No-Build” Conditions**

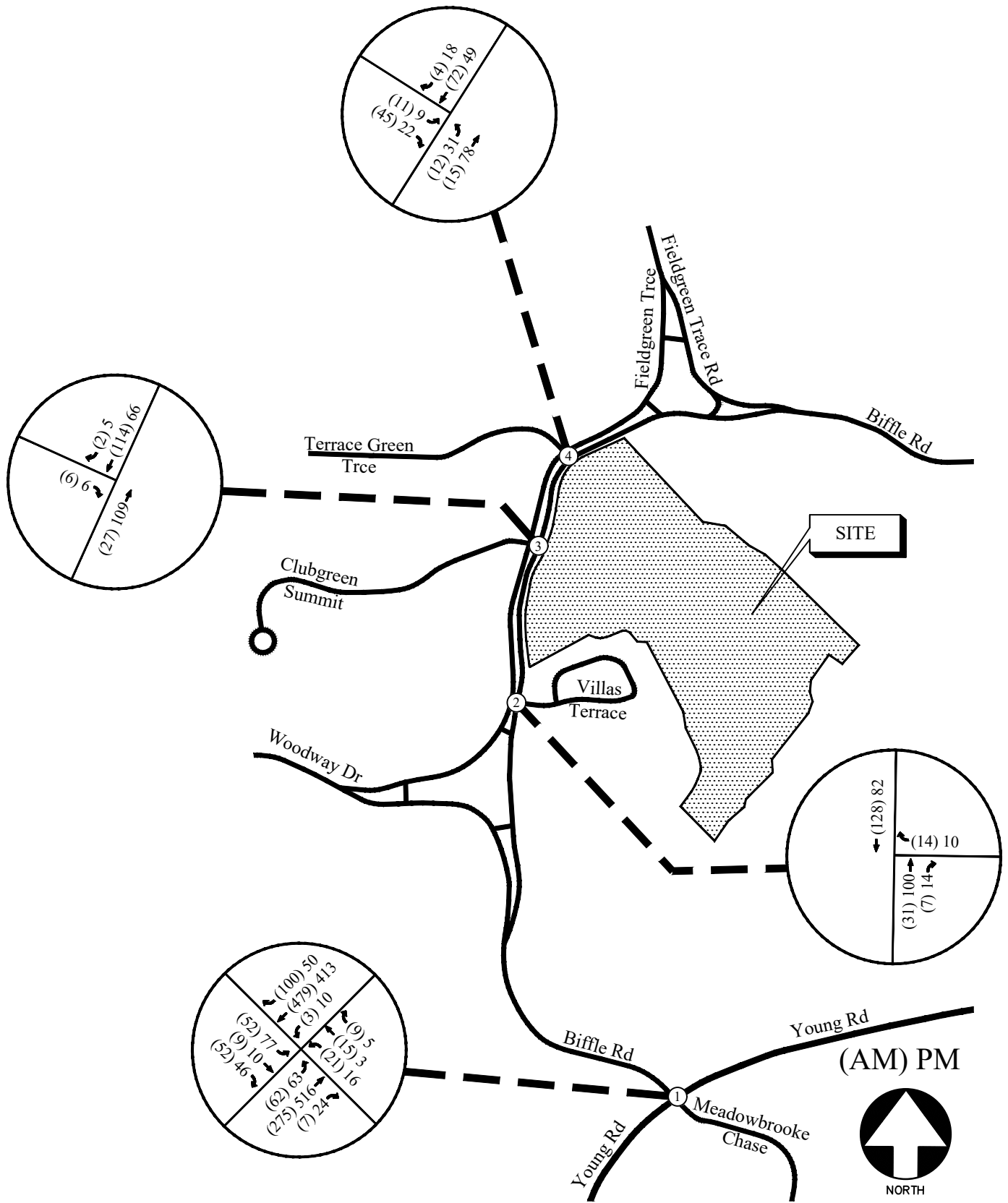
The “No-Build” (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The future “No-Build” volumes consist of the existing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

#### **6.1.1 Annual Traffic Growth**

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 data over the last three years (2022-2024) revealed a traffic volume growth of approximately 2% in the area. This growth factor was applied to the existing traffic volumes between collector and arterial roadways to estimate the future year traffic volumes prior to the addition of site-generated traffic. The resulting future “No-Build” volumes on the roadway are shown in Figure 6.

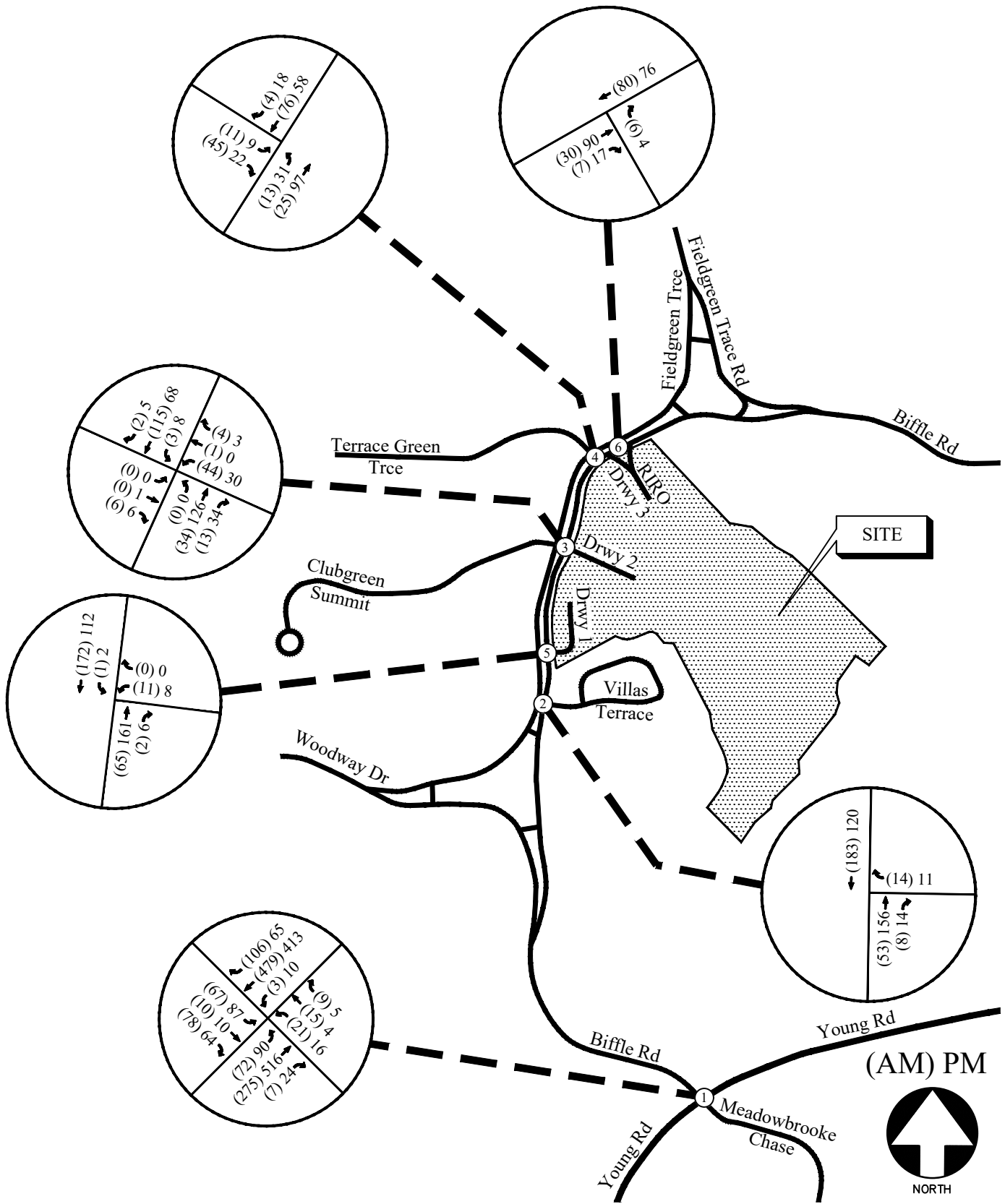
### **6.2 Future “Build” Conditions**

The “Build” or development conditions include the estimated background traffic from the “No-Build” conditions plus the added traffic from the proposed development. To evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 5) were added to base traffic volumes (Figure 6) to calculate the future traffic volumes after the construction of the development. These total future “Build” traffic volumes are shown in Figure 7.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 6  
A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES

FIGURE 7

A&R Engineering Inc.

### 6.3 Auxiliary Lane Analysis

Included below are analyses for left turn and deceleration lanes at all the proposed site driveways per GDOT standards, which are based off the trip distribution included in Section 5.2. According to the project trip generation, the 24-hour two-way volume entering and exiting the entire site is 1,463 vehicles per day. The ADT on Biffle Road was assumed to be less than 6,000 vehicles per day based on GDOT volumes on the surrounding roadway network.

#### 6.3.1.1 Left Turn Lane Analysis

For two-lane roadways with an AADT of less than 6,000 vehicles and a posted speed limit of 25 mph, the threshold for warranting a left-turn lane is 300 left-turn vehicles per day. The projected daily left-turn volumes at the site driveways are presented in Table 5.

TABLE 5 – GDOT REQUIREMENTS FOR LEFT TURN LANES					
Intersection	Left-turn traffic (% total entering)	Left-Turn Volume (vehicles/day)	Roadway Speed/ # lanes / ADT	GDOT Threshold (vehicles/day)	Warrants met?
Biffle Rd @ Site Driveway 1	3% (Southbound)	<b>22</b> (Total Trips) ÷ 2 × 0.03 = (1463) ÷ 2 × 0.03 = 22	25 mph / 2-Lane / < 6,000	300	No
Biffle Rd @ Site Driveway 2/ Clubgreen Summit	12% (Southbound)	<b>88</b> (Total Trips) ÷ 2 × 0.12 = (1463) ÷ 2 × 0.12 = 88	25 mph / 2-Lane / < 6,000	300	No

No left-turn lane is warranted at either of the site driveways on Biffle Road as per GDOT standards. No left-turn lane analysis was performed for Site Driveway 3, as it is a right-in/right-out (RIRO) driveway.

### 6.3.1.2 Deceleration Turn Lane Analysis

For two-lane roadways with an AADT of less than 6,000 vehicles and a posted speed limit of 25 mph, the threshold for warranting a deceleration lane is 200 right-turning vehicles per day. The projected daily right-turn volumes for the driveway are presented in Table 6.

TABLE 6 – GDOT REQUIREMENTS FOR DECELERATION LANES					
Intersection	Right-turn traffic (% total entering)	Right-turn Volume (vehicles/day)	Roadway Speed/ # lanes / ADT	GDOT Threshold (vehicles/day)	Warrants met?
Biffle Rd @ Site Driveway 1	8%	<b>59</b> (Total Trips) ÷ 2 × 0.08 = (1463) ÷ 2 × 0.08 = 59	25 mph / 2-Lane / < 6,000	200	No
Biffle Rd @ Site Driveway 2/ Clubgreen Summit	50%	<b>366</b> (Total Trips) ÷ 2 × 0.5 = (1463) ÷ 2 × 0.5 = 366	25 mph / 2-Lane / < 6,000	200	Yes
Biffle Rd @ Site Driveway 3 (RIRO)	26%	<b>190</b> (Total Trips) ÷ 2 × 0.26 = (1463) ÷ 2 × 0.26 = 190	25 mph / 2-Lane / < 6,000	200	No

A deceleration lane is warranted at Site Driveway 2 and is not warranted at Site Driveways 1 and 3 on Biffle Road as per GDOT standards.

## 6.4 Future Traffic Operations






The future “No-Build” and “Build” traffic operations were analyzed using the volumes in Figure 6 and Figure 7, respectively. Recommendations for future traffic control and lane geometry are shown in Figure 8. The results of the future traffic operations analysis are shown below in Table 7.

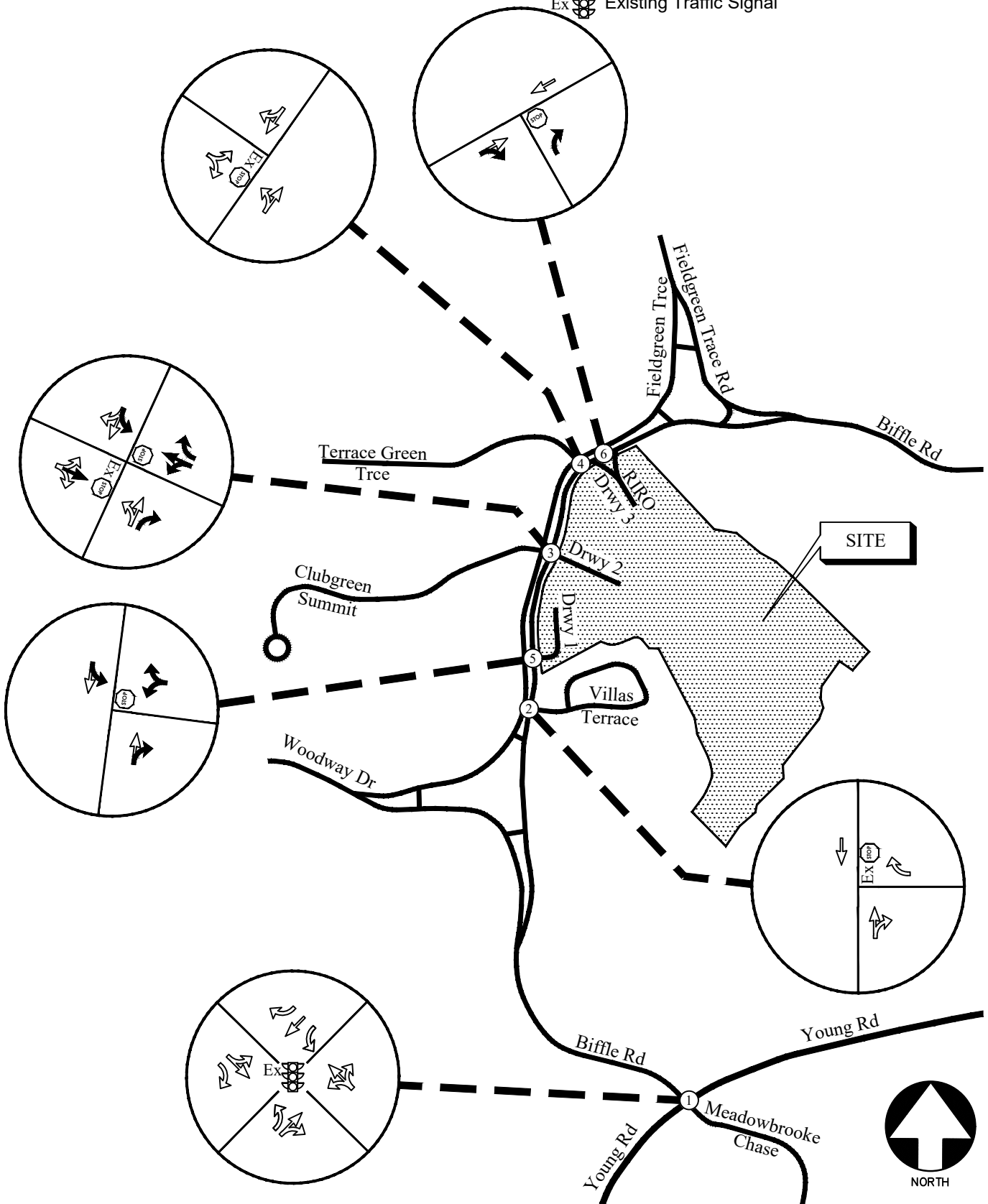
TABLE 7 – FUTURE INTERSECTION OPERATIONS					
Intersection		Future Condition: LOS (Delay)			
		NO-BUILD		BUILD	
		AM	PM	AM	PM
1	<b><u>Young Road @ Biffle Drive/ Meadowbrook Chase</u></b>	<b>B (13.1)</b>	<b>B (12.2)</b>	<b>B (15.1)</b>	<b>B (13.5)</b>
	-Eastbound Approach	D (47.4)	D (46.5)	D (45.1)	D (45.1)
	-Westbound Approach	D (48.5)	D (48.9)	D (48.5)	D (48.7)
	-Northbound Approach	A (6.9)	A (7.8)	A (8.5)	A (8.9)
	-Southbound Approach	A (7.2)	A (6.5)	A (8.6)	A (7.3)
2	<b><u>Biffle Road @ Villas Terrace</u></b>				
	-Westbound Approach	A (8.5)	A (8.9)	A (8.6)	A (9.2)
3	<b><u>Biffle Road @ Clubgreen Terrace/ Site Driveway 2</u></b>				
	-Eastbound Approach	A (9.1)	A (8.7)	A (9.1)	A (9.0)
	-Westbound Approach	-	-	B (10.2)	B (10.4)
	-Northbound Left	-	-	A (7.5)	A (7.4)
	-southbound Left	-	-	A (7.3)	A (7.6)
4	<b><u>Biffle Road @ Terrace Green Trace</u></b>				
	-Eastbound Approach	A (9.2)	A (9.2)	A (9.3)	A (9.3)
	-Northbound Left	A (7.4)	A (7.4)	A (7.5)	A (7.5)
5	<b><u>Biffle Road @ Site Driveway 1</u></b>				
	-Westbound Approach	-	-	B (10.0)	B (10.3)
	-Southbound Left			A (7.4)	A (7.6)
6	<b><u>Biffle Road @ Site Driveway 3 (RIRO)</u></b>				
	-Northbound Approach	-	-	A (8.5)	A (8.8)

The results of the future No-Build traffic operations analysis indicate that the signalized intersection (Intersection #1) will operate at an overall Level of Service (LOS) “B” during both the AM and PM peak hours. The stop-controlled approaches at the unsignalized study intersections will operate at LOS “A” during both the AM and PM peak hours.

The results of the future Build condition traffic analysis indicate that the signalized intersection (Intersection #1) will operate at an overall Level of Service (LOS) “B” during both the AM and PM peak hours. The stop-controlled approaches at the unsignalized study intersections will operate at LOS “B” or better during both the AM and PM peak hours.

**LEGEND**

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



**FUTURE TRAFFIC CONTROL AND LANE GEOMETRY**

**FIGURE 8**

**A&R Engineering Inc.**

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated from the proposed residential development that will be located at 5083 Biffle Road in City of Stone Mountain, Dekalb County, Georgia. The development will consist of:

- Single-Family Detached Housing: 44 units
- Multifamily Housing (Low-Rise) – Not Close to Rail Transit: 55 units
- Senior Adult Housing – Multifamily: 131 units

The development proposes access at the following locations:

- Site Driveway 1: Full Access Driveway on Biffle Road, aligned with Clubgreen Summit
- Site Driveway 2: Full Access Driveway on Biffle Road
- Site Driveway 3: Right-In/Right-Out Driveway on Biffle Road

The AM and PM peak hours have been analyzed in this study. This study includes the evaluation of traffic operations at the intersections of:

1. Young Road at Biffle Drive/ Meadowbrook Chase
2. Biffle Road at Villas Terrace
3. Biffle Road at Clubgreen Summit/Site Driveway 2
4. Biffle Road at Terrace Green Trace
5. Biffle Road at Site Driveway 1
6. Biffle Road at Site Driveway 3 (RIRO)

The analysis included the evaluation of Future operations for “No-Build” and “Build” conditions, the differences between “No-Build” and “Build” accounts for increase in traffic due to proposed retail development.

The results of the future No-Build traffic operations analysis indicate that the signalized intersection (Intersection #1) will operate at an overall Level of Service (LOS) “B” during both the AM and PM peak hours. The stop-controlled approaches at the unsignalized study intersections will operate at LOS “A” during both the AM and PM peak hours.

The results of the future Build condition traffic analysis indicate that the signalized intersection (Intersection #1) will operate at an overall Level of Service (LOS) “B” during both the AM and PM peak hours. The stop-controlled approaches at the unsignalized study intersections will operate at LOS “B” or better during both the AM and PM peak hours.

Based on the analysis, the proposed development will have minimal impact on traffic operations in the study network.

## 7.1 Recommendations for Site Access Configuration

The following improvements are recommended at the site driveway intersections.

- Site Driveway 1: Full-access driveway on Biffle Road, aligned with Clubgreen Summit
  - One entering and one exiting lane (as per Site Plan).
  - Stop-sign controlled on the driveway approach and Clubgreen Summit with Biffle Road remaining free flow.
  - Provide/confirm adequate sight distance per AASHTO standards.
  
- Site Driveway 2: Full-access driveway on Biffle Road
  - Two entering and two exiting lanes (as per Site Plan).
  - Stop-sign controlled on the driveway approach with Biffle Road remaining free flow.
  - Deceleration turn lane for entering traffic.
  - Provide/confirm adequate sight distance per AASHTO standards.
  
- Site Driveway 3: Right-In/ Right-Out driveway on Biffle Road
  - One entering and one exiting lane (As per Site plan).
  - Stop-sign controlled on the driveway approach with Biffle Road remaining free flow.
  - Provide/confirm adequate sight distance per AASHTO standards.

# Appendix

- Existing Intersection Traffic Counts .....
- Linear Regression of Daily Traffic.....
- Existing Intersection Analysis.....
- Future “No-Build” Intersection Analysis .....
- Future “Build” Intersection Analysis.....
- Traffic Volume Worksheets .....

# **EXISTING INTERSECTION TRAFFIC COUNTS**

# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'

Marietta, GA 30067

TMC Data  
Biffle Road @ Young Road  
7-9 am | 4-6 pm

File Name : 20260151  
Site Code : 20260151  
Start Date : 04-28-2026  
Page No : 1

Groups Printed- Cars, Buses & Trucks

Start Time	Young Road Northbound				Young Road Southbound				Biffle Dr Eastbound				Meadowbrooke Chase 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	7	42	3	52	1	102	17	120	8	2	13	23	0	10	2	12	207
07:15 AM	7	48	2	57	2	97	25	124	15	1	4	20	2	7	3	12	213
07:30 AM	9	54	1	64	2	114	25	141	9	2	12	23	5	5	2	12	240
07:45 AM	14	78	2	94	1	121	33	155	12	0	10	22	5	4	1	10	281
Total	37	222	8	267	6	434	100	540	44	5	39	88	12	26	8	46	941
08:00 AM	20	73	0	93	0	127	22	149	17	2	13	32	4	5	1	10	284
08:15 AM	17	59	4	80	0	99	16	115	12	5	15	32	6	0	5	11	238
08:30 AM	10	44	1	55	2	106	12	120	8	0	11	19	0	3	2	5	199
08:45 AM	6	39	1	46	1	90	6	97	8	0	9	17	2	2	1	5	165
Total	53	215	6	274	3	422	56	481	45	7	48	100	12	10	9	31	886
*** BREAK ***																	
04:00 PM	16	122	4	142	2	112	12	126	14	2	13	29	2	2	2	6	303
04:15 PM	19	125	5	149	4	84	15	103	12	2	7	21	3	2	2	7	280
04:30 PM	15	128	6	149	0	82	9	91	18	3	11	32	2	2	5	9	281
04:45 PM	16	126	5	147	2	96	15	113	17	1	12	30	2	3	1	6	296
Total	66	501	20	587	8	374	51	433	61	8	43	112	9	9	10	28	1160
05:00 PM	17	112	7	136	3	107	13	123	11	2	11	24	4	0	2	6	289
05:15 PM	17	129	7	153	4	87	9	100	21	4	9	34	3	0	1	4	291
05:30 PM	11	129	4	144	1	107	11	119	25	3	12	40	6	0	1	7	310
05:45 PM	13	123	8	144	2	92	18	112	15	1	8	24	5	0	3	8	288
Total	58	493	26	577	10	393	51	454	72	10	40	122	18	0	7	25	1178
Grand Total	214	1431	60	1705	27	1623	258	1908	222	30	170	422	51	45	34	130	4165
Apprch %	12.6	83.9	3.5		1.4	85.1	13.5		52.6	7.1	40.3		39.2	34.6	26.2		
Total %	5.1	34.4	1.4	40.9	0.6	39	6.2	45.8	5.3	0.7	4.1	10.1	1.2	1.1	0.8	3.1	

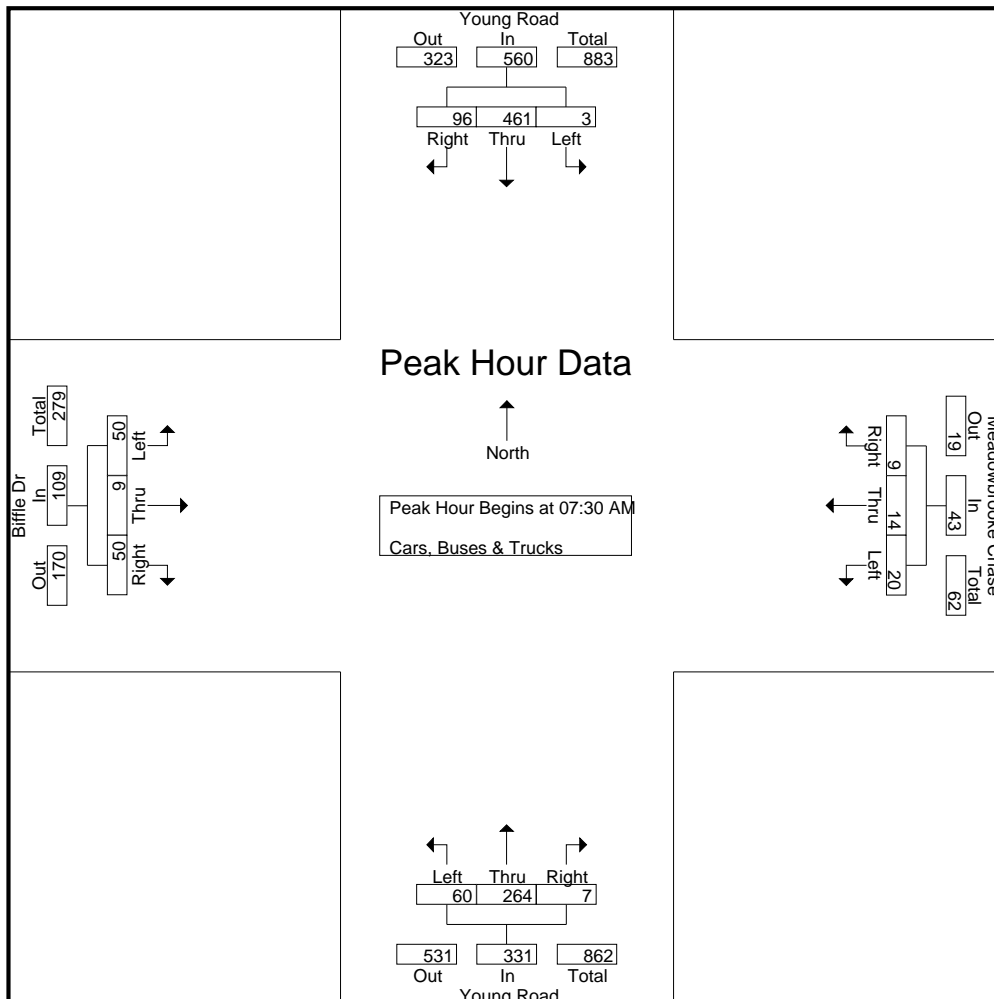
# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'  
Marietta, GA 30067

TMC Data  
Biffle Road @ Young Road  
7-9 am | 4-6 pm

File Name : 20260151  
Site Code : 20260151  
Start Date : 04-28-2026  
Page No : 2

Start Time	Young Road Northbound				Young Road Southbound				Biffle Dr Eastbound				Meadowbrooke Chase Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	9	54	1	64	2	114	25	141	9	2	12	23	5	5	2	12	240
07:45 AM	14	78	2	94	1	121	33	155	12	0	10	22	5	4	1	10	281
08:00 AM	20	73	0	93	0	127	22	149	17	2	13	32	4	5	1	10	284
08:15 AM	17	59	4	80	0	99	16	115	12	5	15	32	6	0	5	11	238
Total Volume	60	264	7	331	3	461	96	560	50	9	50	109	20	14	9	43	1043
% App. Total	18.1	79.8	2.1		0.5	82.3	17.1		45.9	8.3	45.9		46.5	32.6	20.9		
PHF	.750	.846	.438	.880	.375	.907	.727	.903	.735	.450	.833	.852	.833	.700	.450	.896	.918



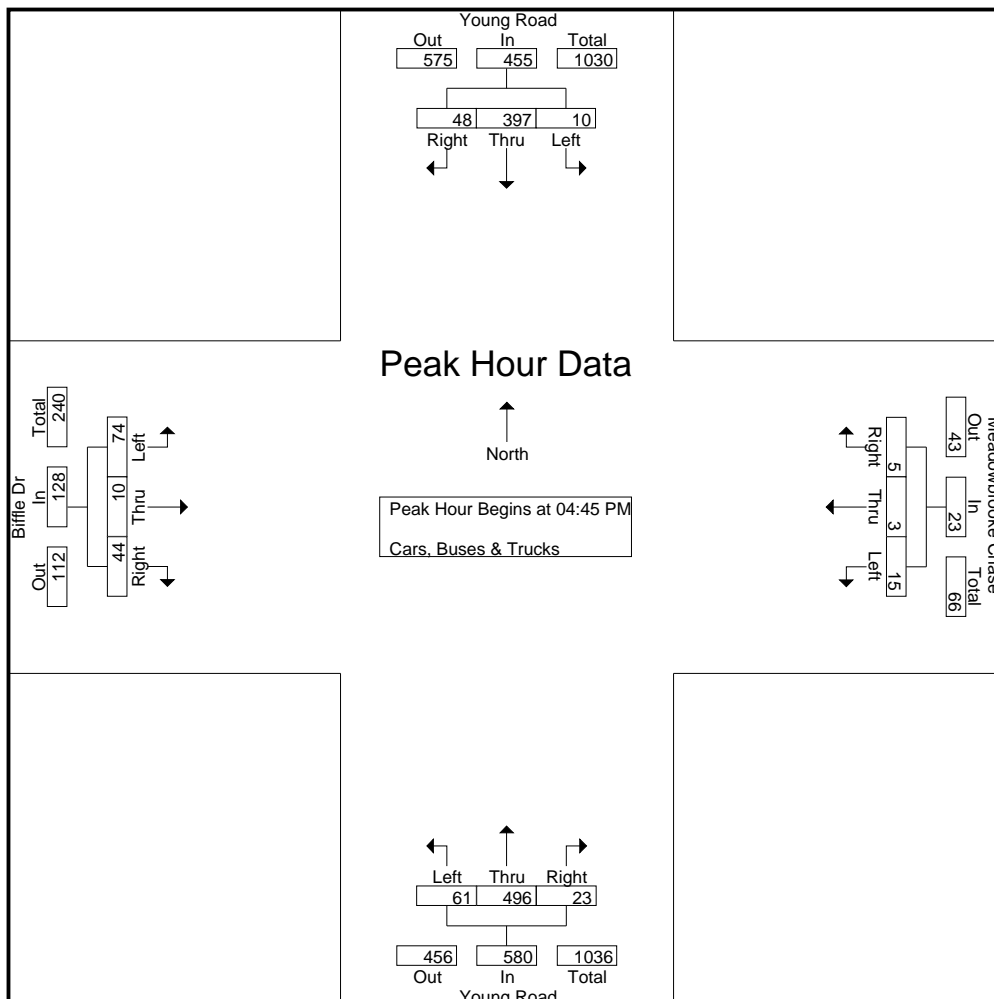
# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'  
Marietta, GA 30067

TMC Data  
Biffle Road @ Young Road  
7-9 am | 4-6 pm

File Name : 20260151  
Site Code : 20260151  
Start Date : 04-28-2026  
Page No : 3

Start Time	Young Road Northbound				Young Road Southbound				Biffle Dr Eastbound				Meadowbrooke Chase Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	16	126	5	147	2	96	15	113	17	1	12	30	2	3	1	6	296
05:00 PM	17	112	7	136	3	107	13	123	11	2	11	24	4	0	2	6	289
05:15 PM	17	129	7	153	4	87	9	100	21	4	9	34	3	0	1	4	291
05:30 PM	11	129	4	144	1	107	11	119	25	3	12	40	6	0	1	7	310
Total Volume	61	496	23	580	10	397	48	455	74	10	44	128	15	3	5	23	1186
% App. Total	10.5	85.5	4		2.2	87.3	10.5		57.8	7.8	34.4		65.2	13	21.7		
PHF	.897	.961	.821	.948	.625	.928	.800	.925	.740	.625	.917	.800	.625	.250	.625	.821	.956



# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'

Marietta, GA 30067

TMC Data  
Biffle Road @ Villas Terrace  
7-9 am | 4-6 pm

File Name : 20260150  
Site Code : 20260150  
Start Date : 04-28-2026  
Page No : 1

Groups Printed- Cars, Buses & Trucks

Start Time	Biffle Road Northbound				Biffle Road Southbound				Eastbound				Villas Terrace Westbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
07:00 AM	0	5	1	6	0	40	0	40	0	0	0	0	0	0	1	1	1	47
07:15 AM	0	6	0	6	0	27	0	27	0	0	0	0	0	0	2	2	2	35
07:30 AM	0	7	2	9	0	30	0	30	0	0	0	0	0	0	5	5	5	44
07:45 AM	0	12	4	16	0	26	0	26	0	0	0	0	0	0	5	5	5	47
Total	0	30	7	37	0	123	0	123	0	0	0	0	0	0	13	13	13	173
08:00 AM	0	14	0	14	0	19	0	19	0	0	0	0	0	0	2	2	2	35
08:15 AM	0	16	6	22	0	22	0	22	0	0	0	0	0	0	3	3	3	47
08:30 AM	0	7	1	8	0	20	0	20	0	0	0	0	0	0	3	3	3	31
08:45 AM	0	16	1	17	0	24	0	24	0	0	0	0	0	0	2	2	2	43
Total	0	53	8	61	0	85	0	85	0	0	0	0	0	0	10	10	10	156
*** BREAK ***																		
04:00 PM	0	21	4	25	0	18	0	18	0	0	0	0	0	0	0	0	0	43
04:15 PM	0	26	2	28	0	19	0	19	0	0	0	0	0	0	1	1	1	48
04:30 PM	0	26	4	30	0	15	0	15	0	0	0	0	0	0	3	3	3	48
04:45 PM	0	22	3	25	0	20	0	20	0	0	0	0	0	0	3	3	3	48
Total	0	95	13	108	0	72	0	72	0	0	0	0	0	0	7	7	7	187
05:00 PM	0	22	4	26	0	25	0	25	0	0	0	0	0	0	3	3	3	54
05:15 PM	0	17	4	21	0	17	0	17	0	0	0	0	0	0	5	5	5	43
05:30 PM	0	20	2	22	0	17	0	17	0	0	0	0	0	0	0	0	0	39
05:45 PM	0	26	4	30	0	14	0	14	0	0	0	0	0	0	1	1	1	45
Total	0	85	14	99	0	73	0	73	0	0	0	0	0	0	9	9	9	181
Grand Total	0	263	42	305	0	353	0	353	0	0	0	0	0	0	39	39	39	697
Apprch %	0	86.2	13.8		0	100	0		0	0	0		0	0	100			
Total %	0	37.7	6	43.8	0	50.6	0	50.6	0	0	0	0	0	0	5.6	5.6	5.6	

# A & R Engineering, Inc.

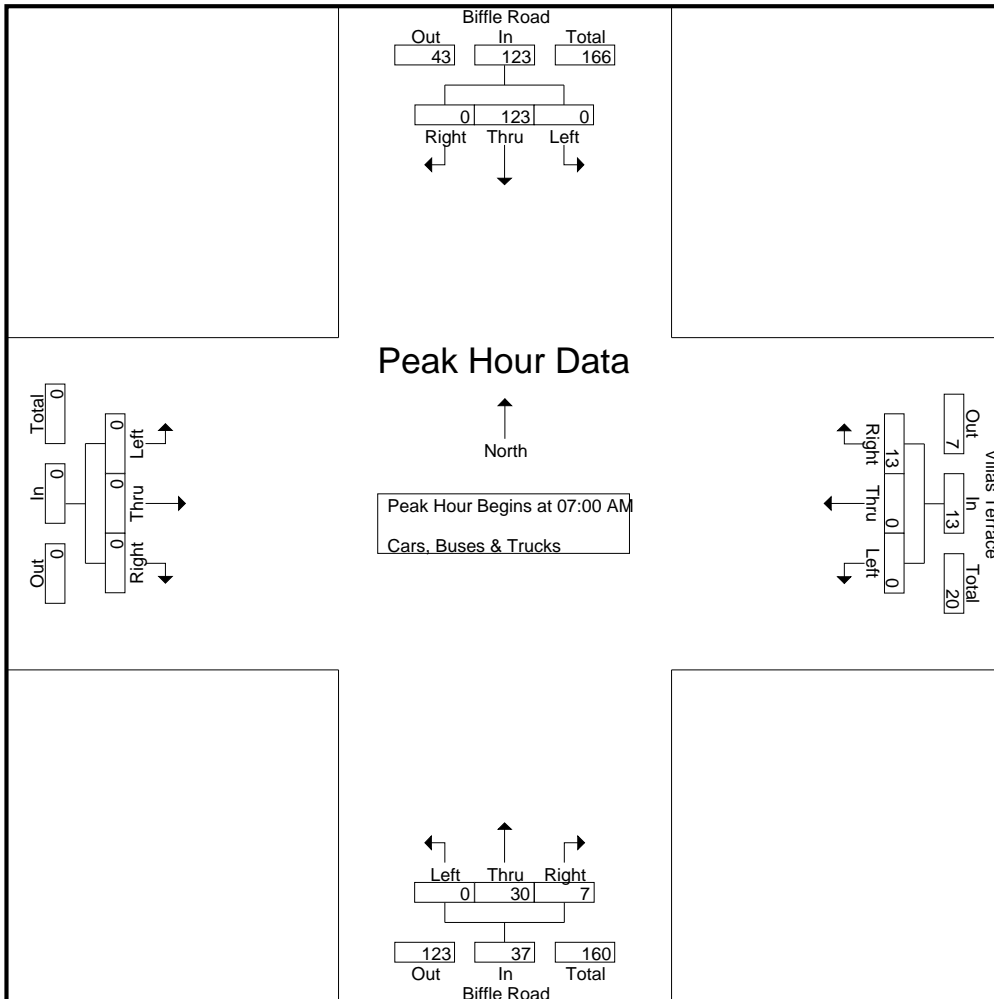
2160 Kingston Court Suite 'O'

Marietta, GA 30067

TMC Data  
 Biffle Road @ Villas Terrace  
 7-9 am | 4-6 pm

File Name : 20260150  
 Site Code : 20260150  
 Start Date : 04-28-2026  
 Page No : 2

Start Time	Biffle Road Northbound				Biffle Road Southbound				Eastbound				Villas Terrace Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	5	1	6	0	40	0	40	0	0	0	0	0	0	1	1	47
07:15 AM	0	6	0	6	0	27	0	27	0	0	0	0	0	0	2	2	35
07:30 AM	0	7	2	9	0	30	0	30	0	0	0	0	0	0	5	5	44
07:45 AM	0	12	4	16	0	26	0	26	0	0	0	0	0	0	5	5	47
Total Volume	0	30	7	37	0	123	0	123	0	0	0	0	0	0	13	13	173
% App. Total	0	81.1	18.9		0	100	0		0	0	0		0	0	100		
PHF	.000	.625	.438	.578	.000	.769	.000	.769	.000	.000	.000	.000	.000	.000	.650	.650	.920



# A & R Engineering, Inc.

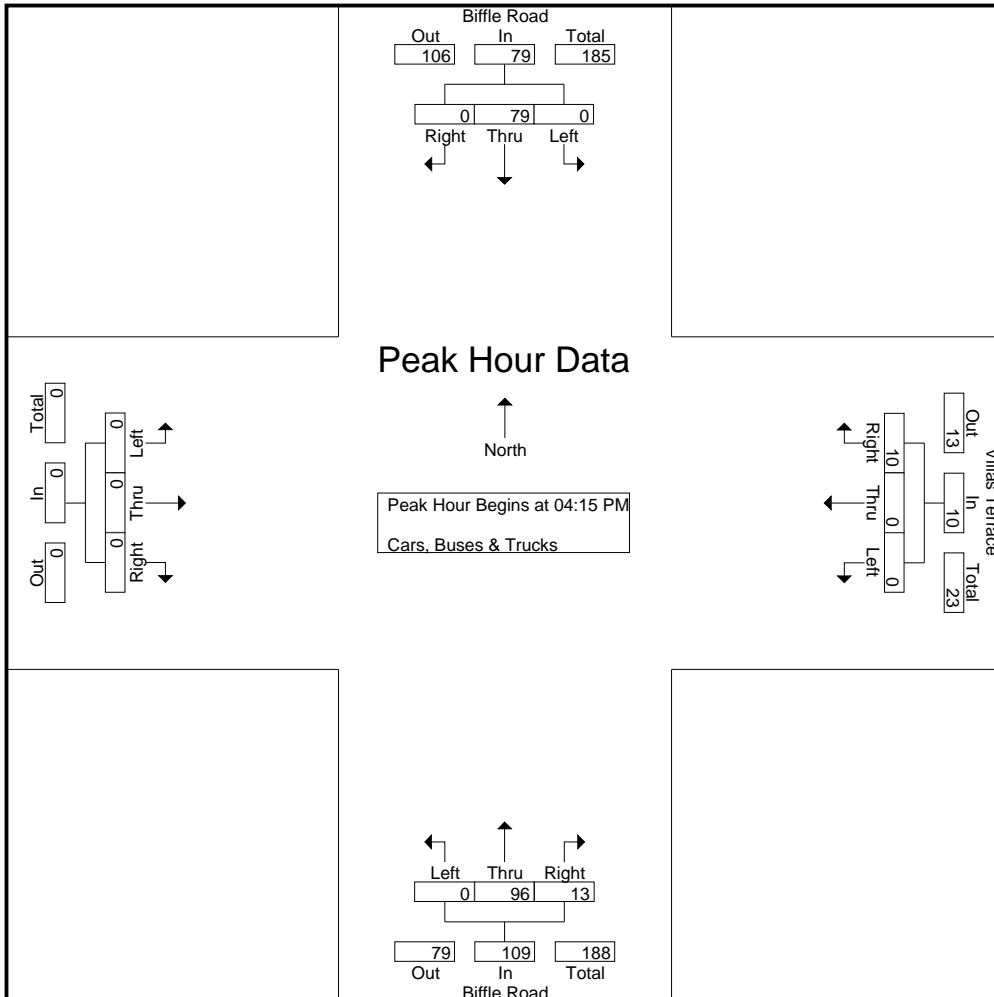
2160 Kingston Court Suite 'O'

Marietta, GA 30067

TMC Data  
 Biffle Road @ Villas Terrace  
 7-9 am | 4-6 pm

File Name : 20260150  
 Site Code : 20260150  
 Start Date : 04-28-2026  
 Page No : 3

Start Time	Biffle Road Northbound				Biffle Road Southbound				Eastbound				Villas Terrace Westbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	26	2	28	0	19	0	19	0	0	0	0	0	0	0	1	1	48
04:30 PM	0	26	4	30	0	15	0	15	0	0	0	0	0	0	3	3	48	
04:45 PM	0	22	3	25	0	20	0	20	0	0	0	0	0	0	3	3	48	
05:00 PM	0	22	4	26	0	25	0	25	0	0	0	0	0	0	3	3	54	
Total Volume	0	96	13	109	0	79	0	79	0	0	0	0	0	0	10	10	198	
% App. Total	0	88.1	11.9		0	100	0		0	0	0	0	0	0	100			
PHF	.000	.923	.813	.908	.000	.790	.000	.790	.000	.000	.000	.000	.000	.000	.833	.833	.917	



# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'

Marietta, GA 30067

TMC Data

Biffle Road @ Terrace Green Trace

7-9 am | 4-6 pm

File Name : 20260149

Site Code : 20260149

Start Date : 04-28-2026

Page No : 1

Groups Printed- Cars, Buses & Trucks

Start Time	Biffle Road Northbound				Biffle Road Southbound				Terrace Green Trace Eastbound				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	5	0	0	5	0	27	0	27	3	0	15	18	0	0	0	0	50
07:15 AM	3	5	0	8	0	15	2	17	2	0	10	12	0	0	0	0	37
07:30 AM	3	3	0	6	0	11	0	11	5	0	14	19	0	0	0	0	36
07:45 AM	1	6	0	7	0	16	2	18	1	0	4	5	0	0	0	0	30
Total	12	14	0	26	0	69	4	73	11	0	43	54	0	0	0	0	153
08:00 AM	3	11	0	14	0	12	2	14	1	0	8	9	0	0	0	0	37
08:15 AM	2	13	0	15	0	8	2	10	1	0	7	8	0	0	0	0	33
08:30 AM	9	7	0	16	0	12	1	13	2	0	7	9	0	0	0	0	38
08:45 AM	3	5	0	8	0	14	3	17	0	0	5	5	0	0	0	0	30
Total	17	36	0	53	0	46	8	54	4	0	27	31	0	0	0	0	138
*** BREAK ***																	
04:00 PM	4	18	0	22	0	9	3	12	3	0	6	9	0	0	0	0	43
04:15 PM	7	23	0	30	0	16	6	22	2	0	5	7	0	0	0	0	59
04:30 PM	9	14	0	23	0	8	2	10	5	0	4	9	0	0	0	0	42
04:45 PM	8	15	0	23	0	12	6	18	0	0	4	4	0	0	0	0	45
Total	28	70	0	98	0	45	17	62	10	0	19	29	0	0	0	0	189
05:00 PM	6	23	0	29	0	11	3	14	2	0	8	10	0	0	0	0	53
05:15 PM	5	13	0	18	0	14	11	25	4	0	5	9	0	0	0	0	52
05:30 PM	5	14	0	19	0	8	2	10	6	0	7	13	0	0	0	0	42
05:45 PM	3	14	0	17	0	7	4	11	0	0	4	4	0	0	0	0	32
Total	19	64	0	83	0	40	20	60	12	0	24	36	0	0	0	0	179
Grand Total	76	184	0	260	0	200	49	249	37	0	113	150	0	0	0	0	659
Apprch %	29.2	70.8	0		0	80.3	19.7		24.7	0	75.3		0	0	0		
Total %	11.5	27.9	0	39.5	0	30.3	7.4	37.8	5.6	0	17.1	22.8	0	0	0	0	

# A & R Engineering, Inc.

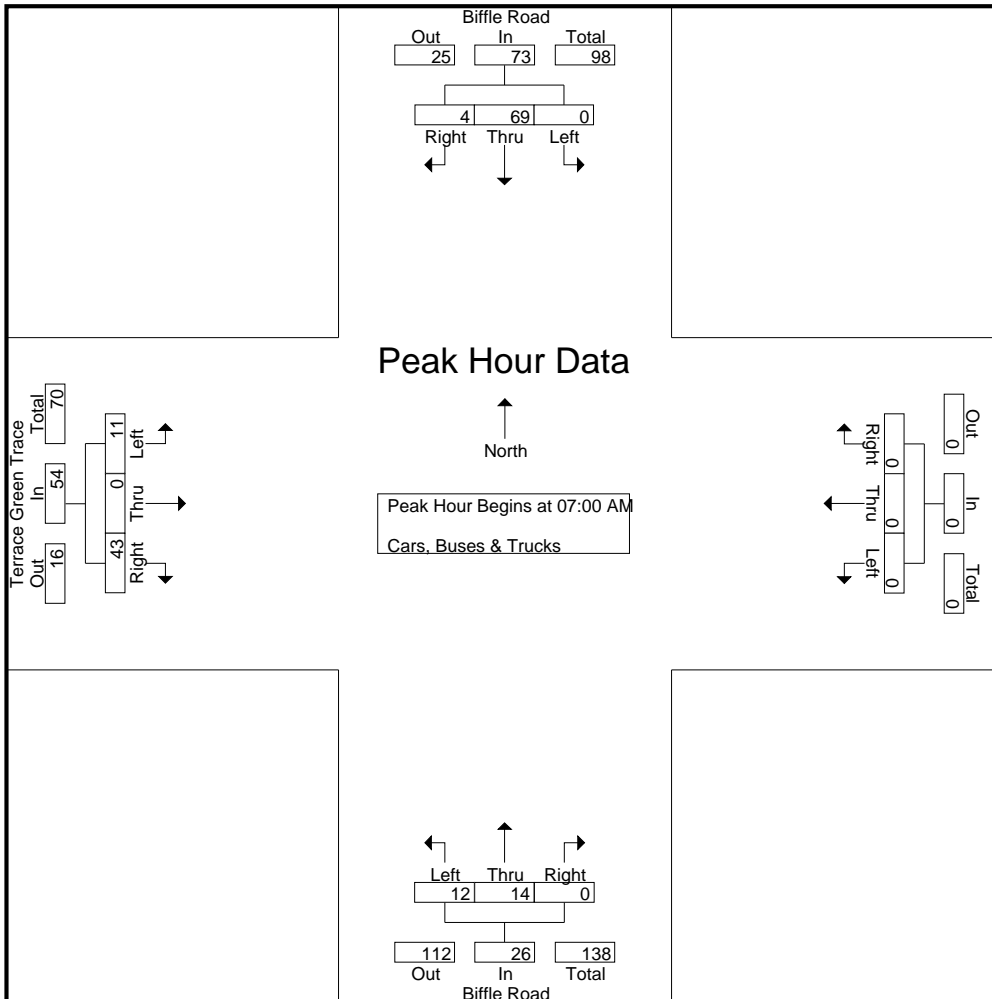
2160 Kingston Court Suite 'O'

Marietta, GA 30067

TMC Data  
 Biffle Road @ Terrace Green Trace  
 7-9 am | 4-6 pm

File Name : 20260149  
 Site Code : 20260149  
 Start Date : 04-28-2026  
 Page No : 2

Start Time	Biffle Road Northbound				Biffle Road Southbound				Terrace Green Trace Eastbound				Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	5	0	0	5	0	27	0	27	3	0	15	18	0	0	0	0	50
07:15 AM	3	5	0	8	0	15	2	17	2	0	10	12	0	0	0	0	37
07:30 AM	3	3	0	6	0	11	0	11	5	0	14	19	0	0	0	0	36
07:45 AM	1	6	0	7	0	16	2	18	1	0	4	5	0	0	0	0	30
Total Volume	12	14	0	26	0	69	4	73	11	0	43	54	0	0	0	0	153
% App. Total	46.2	53.8	0		0	94.5	5.5		20.4	0	79.6		0	0	0		
PHF	.600	.583	.000	.813	.000	.639	.500	.676	.550	.000	.717	.711	.000	.000	.000	.000	.765



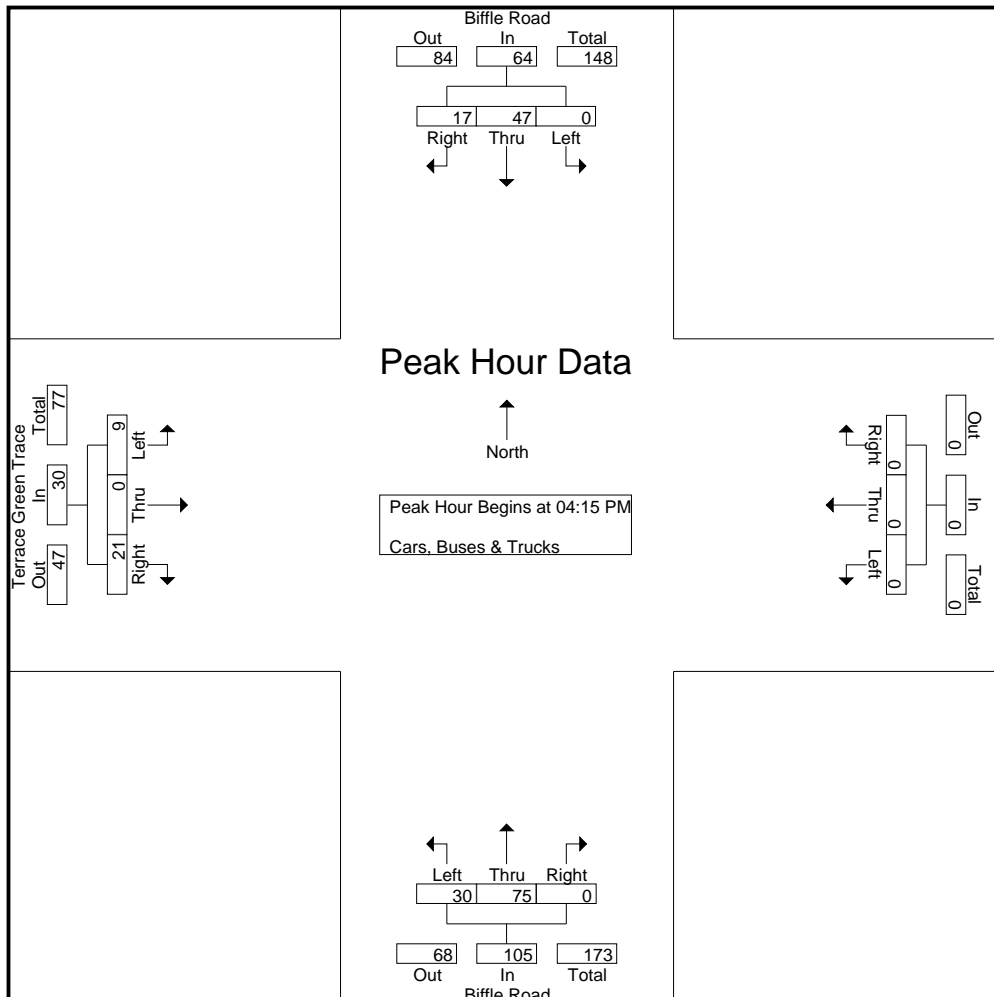
# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'  
Marietta, GA 30067

TMC Data  
Biffle Road @ Terrace Green Trace  
7-9 am | 4-6 pm

File Name : 20260149  
Site Code : 20260149  
Start Date : 04-28-2026  
Page No : 3

Start Time	Biffle Road Northbound				Biffle Road Southbound				Terrace Green Trace Eastbound				Terrace Green Trace Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	7	23	0	30	0	16	6	22	2	0	5	7	0	0	0	0	59
04:30 PM	9	14	0	23	0	8	2	10	5	0	4	9	0	0	0	0	42
04:45 PM	8	15	0	23	0	12	6	18	0	0	4	4	0	0	0	0	45
05:00 PM	6	23	0	29	0	11	3	14	2	0	8	10	0	0	0	0	53
Total Volume	30	75	0	105	0	47	17	64	9	0	21	30	0	0	0	0	199
% App. Total	28.6	71.4	0		0	73.4	26.6		30	0	70		0	0	0		
PHF	.833	.815	.000	.875	.000	.734	.708	.727	.450	.000	.656	.750	.000	.000	.000	.000	.843



# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'

Marietta, GA 30067

TMC Data

Biffle Road @ Clubgreen Summit

7-9 am | 4-6 pm

File Name : 20260148

Site Code : 20260148

Start Date : 04-28-2026

Page No : 1

Groups Printed- Cars, Buses & Trucks

Start Time	Biffle Road Northbound				Biffle Road Southbound				Clubgreen Summit Eastbound				Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	5	0	5	0	42	0	42	0	0	1	1	0	0	0	0	48
07:15 AM	0	8	0	8	0	24	1	25	0	0	2	2	0	0	0	0	35
07:30 AM	0	6	0	6	0	25	0	25	0	0	1	1	0	0	0	0	32
07:45 AM	0	7	0	7	0	19	1	20	0	0	2	2	0	0	0	0	29
Total	0	26	0	26	0	110	2	112	0	0	6	6	0	0	0	0	144
08:00 AM	0	14	0	14	0	19	1	20	0	0	1	1	0	0	0	0	35
08:15 AM	0	15	0	15	0	14	1	15	0	0	3	3	0	0	0	0	33
08:30 AM	0	16	0	16	0	19	0	19	0	0	0	0	0	0	0	0	35
08:45 AM	0	8	0	8	0	18	1	19	0	0	1	1	0	0	0	0	28
Total	0	53	0	53	0	70	3	73	0	0	5	5	0	0	0	0	131
*** BREAK ***																	
04:00 PM	0	22	0	22	0	15	0	15	0	0	1	1	0	0	0	0	38
04:15 PM	0	30	0	30	0	19	2	21	0	0	2	2	0	0	0	0	53
04:30 PM	0	23	0	23	0	10	2	12	0	0	0	0	0	0	0	0	35
04:45 PM	0	23	0	23	0	15	1	16	0	0	3	3	0	0	0	0	42
Total	0	98	0	98	0	59	5	64	0	0	6	6	0	0	0	0	168
05:00 PM	0	29	0	29	0	19	0	19	0	0	1	1	0	0	0	0	49
05:15 PM	0	18	0	18	0	17	2	19	0	0	0	0	0	0	0	0	37
05:30 PM	0	19	0	19	0	15	0	15	0	0	1	1	0	0	0	0	35
05:45 PM	0	17	0	17	0	11	0	11	0	0	1	1	0	0	0	0	29
Total	0	83	0	83	0	62	2	64	0	0	3	3	0	0	0	0	150
Grand Total	0	260	0	260	0	301	12	313	0	0	20	20	0	0	0	0	593
Apprch %	0	100	0		0	96.2	3.8		0	0	100		0	0	0		
Total %	0	43.8	0	43.8	0	50.8	2	52.8	0	0	3.4	3.4	0	0	0	0	

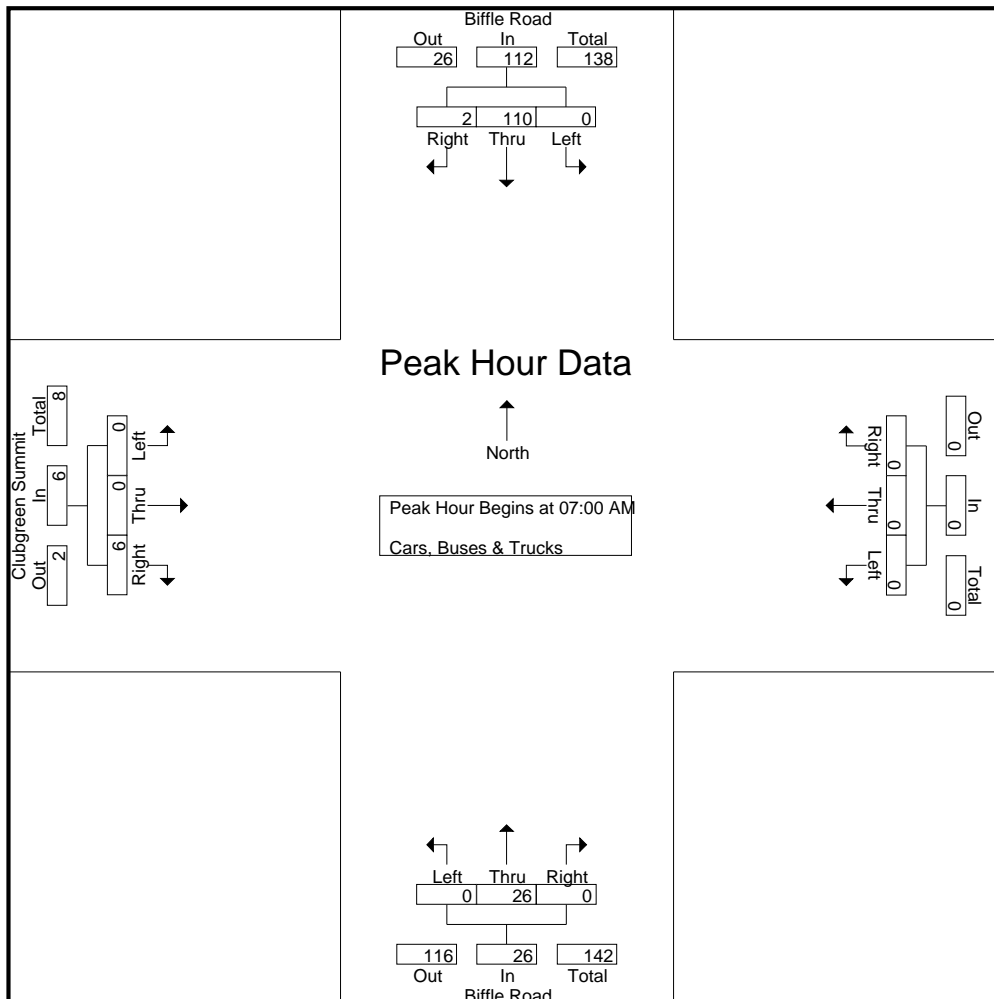
# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'  
Marietta, GA 30067

TMC Data  
Biffle Road @ Clubgreen Summit  
7-9 am | 4-6 pm

File Name : 20260148  
Site Code : 20260148  
Start Date : 04-28-2026  
Page No : 2

Start Time	Biffle Road Northbound				Biffle Road Southbound				Clubgreen Summit Eastbound				Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	5	0	5	0	42	0	42	0	0	1	1	0	0	0	0	48
07:15 AM	0	8	0	8	0	24	1	25	0	0	2	2	0	0	0	0	35
07:30 AM	0	6	0	6	0	25	0	25	0	0	1	1	0	0	0	0	32
07:45 AM	0	7	0	7	0	19	1	20	0	0	2	2	0	0	0	0	29
Total Volume	0	26	0	26	0	110	2	112	0	0	6	6	0	0	0	0	144
% App. Total	0	100	0		0	98.2	1.8		0	0	100		0	0	0		
PHF	.000	.813	.000	.813	.000	.655	.500	.667	.000	.000	.750	.750	.000	.000	.000	.000	.750



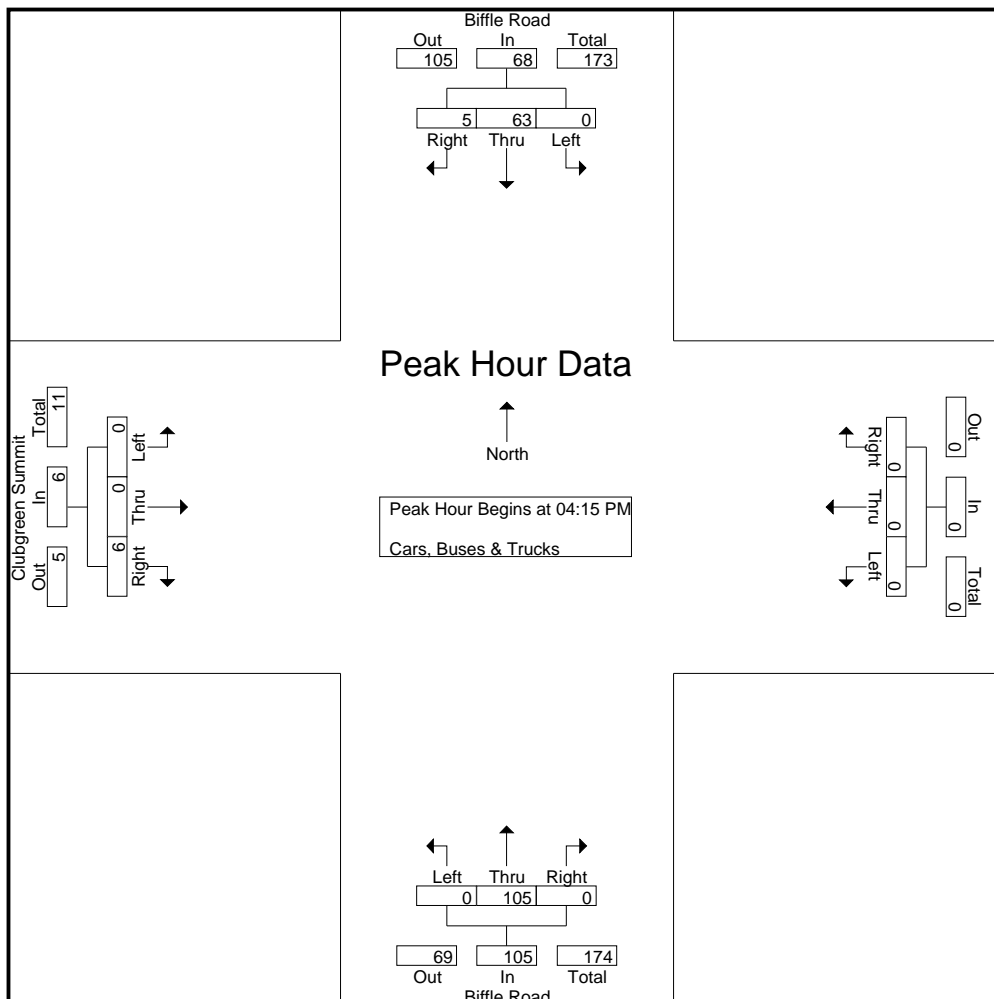
# A & R Engineering, Inc.

2160 Kingston Court Suite 'O'  
Marietta, GA 30067

TMC Data  
Biffle Road @ Clubgreen Summit  
7-9 am | 4-6 pm

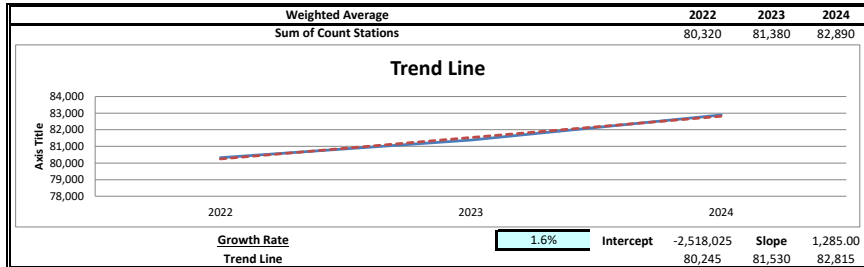
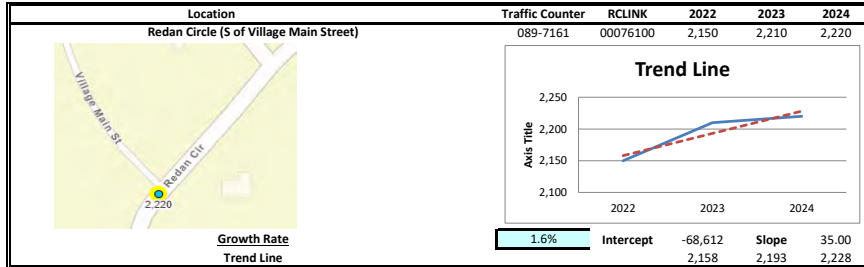
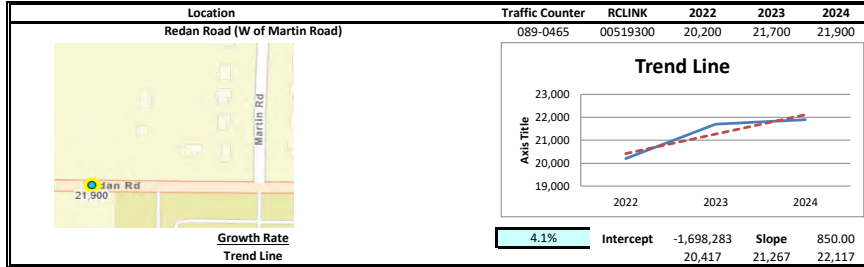
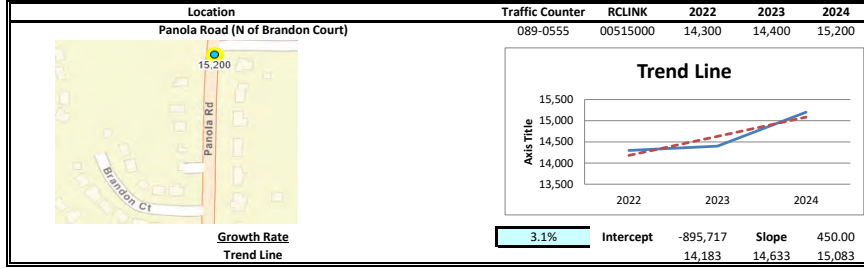
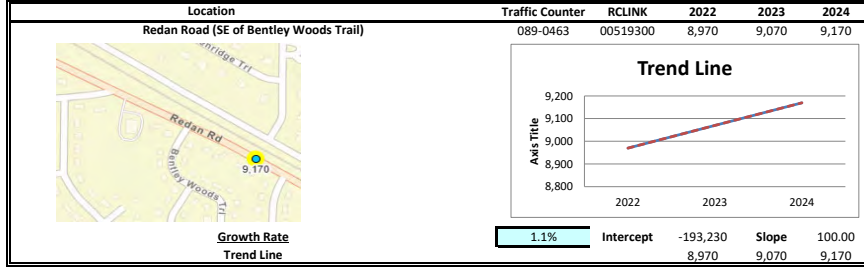
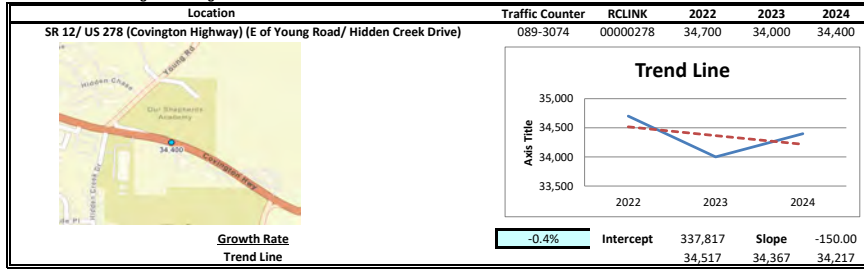
File Name : 20260148  
Site Code : 20260148  
Start Date : 04-28-2026  
Page No : 3

Start Time	Biffle Road Northbound				Biffle Road Southbound				Clubgreen Summit Eastbound				Westbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	30	0	30	0	19	2	21	0	0	2	2	0	0	0	0	53
04:30 PM	0	23	0	23	0	10	2	12	0	0	0	0	0	0	0	0	35
04:45 PM	0	23	0	23	0	15	1	16	0	0	3	3	0	0	0	0	42
05:00 PM	0	29	0	29	0	19	0	19	0	0	1	1	0	0	0	0	49
Total Volume	0	105	0	105	0	63	5	68	0	0	6	6	0	0	0	0	179
% App. Total	0	100	0		0	92.6	7.4		0	0	100		0	0	0		
PHF	.000	.875	.000	.875	.000	.829	.625	.810	.000	.000	.500	.500	.000	.000	.000	.000	.844



# **LINEAR REGRESSION OF DAILY TRAFFIC**

Location	Growth Rate	R Squared	Station ID	Route	2022	2023	2024
SR 12/ US 278 (Covington Highway) (E of Young Road/ Hidc	-0.4%	0.18	089-3074	00000278	34,700	34,000	34,400
Redan Road (SE of Bentley Woods Trail)	1.1%	1.00	089-0463	00519300	8,970	9,070	9,170
Panola Road (N of Brandon Court)	3.1%	0.83	089-0555	00515000	14,300	14,400	15,200
Redan Road (W of Martin Road)	4.1%	0.84	089-0465	00519300	20,200	21,700	21,900
Redan Circle (S of Village Main Street)	1.6%	0.85	089-7161	00076100	2,150	2,210	2,220
<b>Weighted Average</b>	<b>1.6%</b>	<b>0.99</b>	<b>Sum of Count Stations =</b>		<b>80,320</b>	<b>81,380</b>	<b>82,890</b>



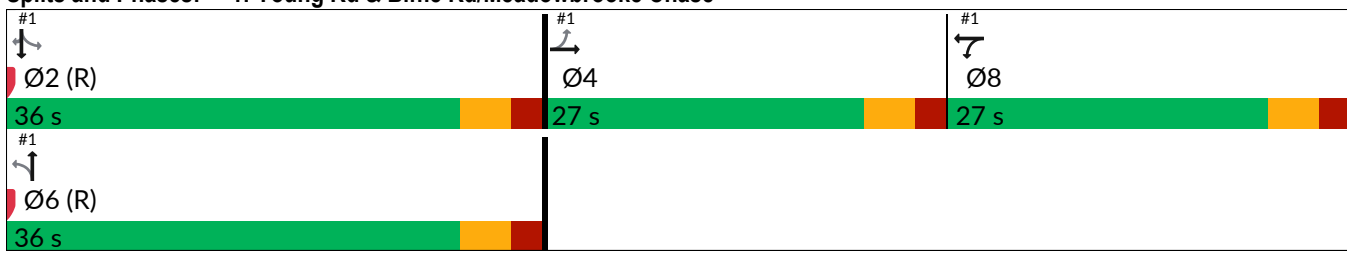
## **EXISTING INTERSECTION ANALYSIS**



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↕	↗	↗	↗	↗	↗
Traffic Volume (vph)	50	9	14	60	264	3	461	96
Future Volume (vph)	50	9	14	60	264	3	461	96
Lane Group Flow (vph)	0	118	47	65	295	3	501	104
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		6		2	
Permitted Phases	4			6		2		2
Detector Phase	4	4	8	6	6	2	2	2
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	25.5	26.5	23.5	23.5	35.5	35.5	35.5
Total Split (s)	27.0	27.0	27.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	30.0%	30.0%	30.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio		0.64	0.30	0.13	0.24	0.00	0.41	0.10
Control Delay (s/veh)		38.6	36.6	10.1	9.2	9.7	11.0	2.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		38.6	36.6	10.1	9.2	9.7	11.0	2.9
Queue Length 50th (ft)		41	21	14	71	1	139	1
Queue Length 95th (ft)		91	53	44	149	5	277	26
Internal Link Dist (ft)		121	357		399		268	
Turn Bay Length (ft)				165		115		75
Base Capacity (vph)		313	429	513	1220	698	1225	1074
Starvation Cap Reductn		0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0
Reduced v/c Ratio		0.38	0.11	0.13	0.24	0.00	0.41	0.10




















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

**Splits and Phases: 1: Young Rd & Biffle Rd/Meadowbrooke Chase**



HCM 7th Signalized Intersection Summary  
 1: Young Rd & Biffle Rd/Meadowbrooke Chase

1a. Existing 2026 AM  
 05/22/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	9	50	20	14	9	60	264	7	3	461	96
Future Volume (veh/h)	50	9	50	20	14	9	60	264	7	3	461	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	54	10	54	22	15	10	65	287	8	3	501	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	13	70	38	26	17	539	1231	34	752	1272	1078
Arrive On Green	0.09	0.09	0.09	0.05	0.05	0.05	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	774	143	774	825	562	375	815	1811	50	1084	1870	1585
Grp Volume(v), veh/h	118	0	0	47	0	0	65	0	295	3	501	104
Grp Sat Flow(s),veh/h/ln	1692	0	0	1762	0	0	815	0	1861	1084	1870	1585
Q Serve(g_s), s	6.1	0.0	0.0	2.4	0.0	0.0	3.4	0.0	5.4	0.1	10.5	2.0
Cycle Q Clear(g_c), s	6.1	0.0	0.0	2.4	0.0	0.0	13.9	0.0	5.4	5.5	10.5	2.0
Prop In Lane	0.46		0.46	0.47		0.21	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	153	0	0	81	0	0	539	0	1266	752	1272	1078
V/C Ratio(X)	0.77	0.00	0.00	0.58	0.00	0.00	0.12	0.00	0.23	0.00	0.39	0.10
Avail Cap(c_a), veh/h	404	0	0	421	0	0	539	0	1266	752	1272	1078
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	0.0	42.1	0.0	0.0	9.3	0.0	5.5	6.5	6.3	4.9
Incr Delay (d2), s/veh	7.9	0.0	0.0	6.4	0.0	0.0	0.5	0.0	0.4	0.0	0.9	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.2	0.0	0.0	0.6	0.0	1.8	0.0	3.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.9	0.0	0.0	48.4	0.0	0.0	9.8	0.0	5.9	6.5	7.2	5.1
LnGrp LOS	D			D			A		A		A	A
Approach Vol, veh/h		118			47			360			608	
Approach Delay, s/veh		47.9			48.4			6.6			6.8	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.7		13.7		66.7		9.6				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		30.5		21.5		30.5		21.5				
Max Q Clear Time (g_c+I1), s		12.5		8.1		15.9		4.4				
Green Ext Time (p_c), s		5.9		0.5		3.1		0.1				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh				12.8								
HCM 7th LOS				B								
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												

**Intersection**

Int Delay, s/veh 0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Vol, veh/h	0	13	30	7	0	123
Future Vol, veh/h	0	13	30	7	0	123
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	0	14	33	8	0	134

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	36	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	1036	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	1036	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.52	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	1036
HCM Lane V/C Ratio	-	-	0.014
HCM Ctrl Dly (s/v)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

**Intersection**

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	6	0	26	110	2
Future Vol, veh/h	0	6	0	26	110	2
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	0	35	147	3

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 148	- 0	- 0
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -
Critical Hdwy	- 6.22	- -	- -
Critical Hdwy Stg 1	- -	- -	- -
Critical Hdwy Stg 2	- -	- -	- -
Follow-up Hdwy	- 3.318	- -	- -
Pot Cap-1 Maneuver	0 899	0 -	- -
Stage 1	0 -	0 -	- -
Stage 2	0 -	0 -	- -
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 899	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.04	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 899	- -	- -
HCM Lane V/C Ratio	- 0.009	- -	- -
HCM Ctrl Dly (s/v)	- 9	- -	- -
HCM Lane LOS	- A	- -	- -
HCM 95th %tile Q(veh)	- 0	- -	- -

**Intersection**

Int Delay, s/veh	3.8					
<b>Movement</b>	<b>EBL</b>	<b>EBR</b>	<b>NBL</b>	<b>NBT</b>	<b>SBT</b>	<b>SBR</b>
Lane Configurations						
Traffic Vol, veh/h	11	43	12	14	69	4
Future Vol, veh/h	11	43	12	14	69	4
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	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	57	16	18	91	5

<b>Major/Minor</b>	<b>Minor2</b>	<b>Major1</b>		<b>Major2</b>	
Conflicting Flow All	143	93	96	0	-
Stage 1	93	-	-	-	-
Stage 2	50	-	-	-	-
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	849	964	1498	-	-
Stage 1	930	-	-	-	-
Stage 2	972	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	840	964	1498	-	-
Mov Cap-2 Maneuver	840	-	-	-	-
Stage 1	920	-	-	-	-
Stage 2	972	-	-	-	-

<b>Approach</b>	<b>EB</b>	<b>NB</b>	<b>SB</b>
HCM Ctrl Dly, s/v	9.16	3.43	0
HCM LOS	A		

<b>Minor Lane/Major Mvmt</b>	<b>NBL</b>	<b>NBT</b>	<b>EBLn1</b>	<b>SBT</b>	<b>SBR</b>
Capacity (veh/h)	831	-	936	-	-
HCM Lane V/C Ratio	0.011	-	0.076	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

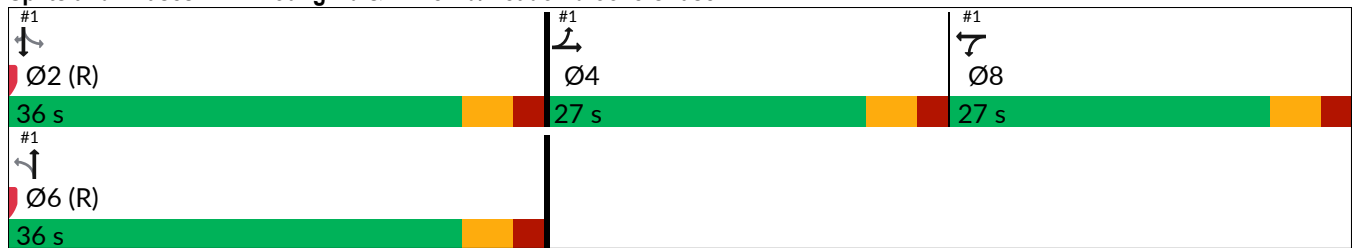





















Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	10	3	61	496	10	397	48
Future Volume (vph)	10	3	61	496	10	397	48
Lane Group Flow (vph)	133	24	64	541	10	414	50
Turn Type	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	8		6		2	
Permitted Phases			6		2		2
Detector Phase	4	8	6	6	2	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	26.5	23.5	23.5	35.5	35.5	35.5
Total Split (s)	27.0	27.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	30.0%	30.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.57	0.18	0.10	0.42	0.02	0.32	0.04
Control Delay (s/veh)	38.2	35.7	7.8	9.1	8.1	8.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.2	35.7	7.8	9.1	8.1	8.1	0.4
Queue Length 50th (ft)	58	11	8	85	1	60	0
Queue Length 95th (ft)	110	35	38	277	10	198	4
Internal Link Dist (ft)	121	357		399		268	
Turn Bay Length (ft)			165		115		75
Base Capacity (vph)	433	422	634	1291	523	1299	1133
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.06	0.10	0.42	0.02	0.32	0.04

Intersection Summary

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

Splits and Phases: 1: Young Rd & Biffle Rd/Meadowbrooke Chase



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	10	44	15	3	5	61	496	23	10	397	48
Future Volume (veh/h)	74	10	44	15	3	5	61	496	23	10	397	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	10	46	16	3	5	64	517	24	10	414	50
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	99	13	59	35	7	11	635	1217	57	562	1284	1088
Arrive On Green	0.10	0.10	0.10	0.03	0.03	0.03	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	992	129	593	1164	218	364	928	1773	82	865	1870	1585
Grp Volume(v), veh/h	133	0	0	24	0	0	64	0	541	10	414	50
Grp Sat Flow(s),veh/h/ln	1714	0	0	1747	0	0	928	0	1856	865	1870	1585
Q Serve(g_s), s	6.8	0.0	0.0	1.2	0.0	0.0	2.7	0.0	11.6	0.5	8.0	0.9
Cycle Q Clear(g_c), s	6.8	0.0	0.0	1.2	0.0	0.0	10.7	0.0	11.6	12.1	8.0	0.9
Prop In Lane	0.58		0.35	0.67		0.21	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	172	0	0	53	0	0	635	0	1274	562	1284	1088
V/C Ratio(X)	0.78	0.00	0.00	0.46	0.00	0.00	0.10	0.00	0.42	0.02	0.32	0.05
Avail Cap(c_a), veh/h	409	0	0	417	0	0	635	0	1274	562	1284	1088
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	0.0	42.9	0.0	0.0	7.8	0.0	6.2	8.9	5.7	4.6
Incr Delay (d2), s/veh	7.3	0.0	0.0	6.1	0.0	0.0	0.3	0.0	1.0	0.1	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.0	0.6	0.0	0.0	0.5	0.0	3.8	0.1	2.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.8	0.0	0.0	49.0	0.0	0.0	8.2	0.0	7.3	9.0	6.3	4.6
LnGrp LOS	D			D			A		A	A	A	A
Approach Vol, veh/h		133			24			605			474	
Approach Delay, s/veh		46.8			49.0			7.4			6.2	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.3		14.5		67.3		8.2				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		30.5		21.5		30.5		21.5				
Max Q Clear Time (g_c+I1), s		14.1		8.8		13.6		3.2				
Green Ext Time (p_c), s		4.4		0.5		6.1		0.1				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh			12.0									
HCM 7th LOS			B									

**Intersection**

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Vol, veh/h	0	10	96	13	0	79
Future Vol, veh/h	0	10	96	13	0	79
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	0	11	104	14	0	86

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	111	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	942	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	942	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.87	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	942
HCM Lane V/C Ratio	-	-	0.012
HCM Ctrl Dly (s/v)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

**Intersection**

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	6	0	105	63	5
Future Vol, veh/h	0	6	0	105	63	5
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	125	75	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	78	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	983	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	983	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.69	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	983	-
HCM Lane V/C Ratio	-	0.007	-
HCM Ctrl Dly (s/v)	-	8.7	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0	-

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	9	21	30	75	47	17
Future Vol, veh/h	9	21	30	75	47	17
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	25	36	89	56	20

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	227	66	76	0	-	0
Stage 1	66	-	-	-	-	-
Stage 2	161	-	-	-	-	-
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	761	998	1523	-	-	-
Stage 1	957	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	743	998	1523	-	-	-
Mov Cap-2 Maneuver	743	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	868	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.14	2.12	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	514	-	904	-	-
HCM Lane V/C Ratio	0.023	-	0.039	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

**FUTURE “NO-BUILD” INTERSECTION  
ANALYSIS**

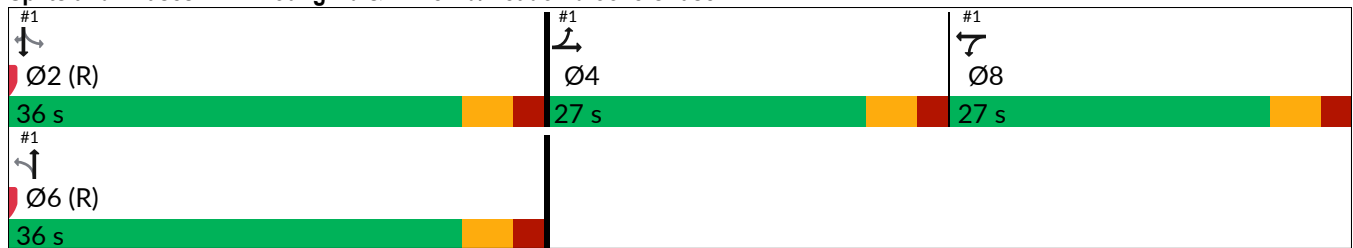


Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↕	↕	↙	↘	↙	↘	↙
Traffic Volume (vph)	9	15	62	275	3	479	100
Future Volume (vph)	9	15	62	275	3	479	100
Lane Group Flow (vph)	124	49	67	307	3	521	109
Turn Type	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	8		6		2	
Permitted Phases			6		2		2
Detector Phase	4	8	6	6	2	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	26.5	23.5	23.5	35.5	35.5	35.5
Total Split (s)	27.0	27.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	30.0%	30.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.55	0.31	0.13	0.25	0.00	0.42	0.10
Control Delay (s/veh)	33.1	37.0	9.0	8.3	8.7	10.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.1	37.0	9.0	8.3	8.7	10.0	2.8
Queue Length 50th (ft)	44	22	14	71	1	141	2
Queue Length 95th (ft)	94	55	41	142	5	267	26
Internal Link Dist (ft)	121	357		399		268	
Turn Bay Length (ft)			165		115		75
Base Capacity (vph)	442	430	515	1249	707	1254	1097
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.11	0.13	0.25	0.00	0.42	0.10

Intersection Summary




















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

Splits and Phases: 1: Young Rd & Biffle Rd/Meadowbrooke Chase



HCM 7th Signalized Intersection Summary  
 1: Young Rd & Biffle Rd/Meadowbrooke Chase

2a. No Build 2028 AM  
 05/22/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	9	52	21	15	9	62	275	7	3	479	100
Future Volume (veh/h)	52	9	52	21	15	9	62	275	7	3	479	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	57	10	57	23	16	10	67	299	8	3	521	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	13	74	39	27	17	517	1223	33	735	1262	1069
Arrive On Green	0.09	0.09	0.09	0.05	0.05	0.05	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	778	136	778	828	576	360	796	1813	49	1072	1870	1585
Grp Volume(v), veh/h	124	0	0	49	0	0	67	0	307	3	521	109
Grp Sat Flow(s),veh/h/ln	1692	0	0	1764	0	0	796	0	1862	1072	1870	1585
Q Serve(g_s), s	6.4	0.0	0.0	2.5	0.0	0.0	3.7	0.0	5.8	0.1	11.3	2.2
Cycle Q Clear(g_c), s	6.4	0.0	0.0	2.5	0.0	0.0	15.0	0.0	5.8	5.9	11.3	2.2
Prop In Lane	0.46		0.46	0.47		0.20	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	160	0	0	83	0	0	517	0	1256	735	1262	1069
V/C Ratio(X)	0.77	0.00	0.00	0.59	0.00	0.00	0.13	0.00	0.24	0.00	0.41	0.10
Avail Cap(c_a), veh/h	404	0	0	421	0	0	517	0	1256	735	1262	1069
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	0.0	0.0	42.0	0.0	0.0	10.0	0.0	5.7	6.8	6.6	5.1
Incr Delay (d2), s/veh	7.7	0.0	0.0	6.5	0.0	0.0	0.5	0.0	0.5	0.0	1.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.2	0.0	0.0	0.7	0.0	1.9	0.0	3.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.4	0.0	0.0	48.5	0.0	0.0	10.5	0.0	6.2	6.9	7.6	5.3
LnGrp LOS	D			D			B		A		A	A
Approach Vol, veh/h		124			49			374			633	
Approach Delay, s/veh		47.4			48.5			6.9			7.2	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.2		14.0		66.2		9.7				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		30.5		21.5		30.5		21.5				
Max Q Clear Time (g_c+I1), s		13.3		8.4		17.0		4.5				
Green Ext Time (p_c), s		6.1		0.5		3.1		0.2				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh				13.1								
HCM 7th LOS				B								

**Intersection**

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Vol, veh/h	0	14	31	7	0	128
Future Vol, veh/h	0	14	31	7	0	128
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	0	15	34	8	0	139

**Major/Minor**

	Minor1	Major1	Major2		
Conflicting Flow All	-	37	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-
Pot Cap-1 Maneuver	0	1035	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	1035	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

**Approach**

	WB	NB	SB
HCM Ctrl Dly, s/v	8.53	0	0
HCM LOS	A		

**Minor Lane/Major Mvmt**

	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	1035
HCM Lane V/C Ratio	-	-	0.015
HCM Ctrl Dly (s/v)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

**Intersection**

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	6	0	27	114	2
Future Vol, veh/h	0	6	0	27	114	2
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	0	36	152	3

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	153	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	893	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	893	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.07	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	893	-
HCM Lane V/C Ratio	-	0.009	-
HCM Ctrl Dly (s/v)	-	9.1	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0	-

**Intersection**

Int Delay, s/veh 3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	45	12	15	72	4
Future Vol, veh/h	11	45	12	15	72	4
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	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	59	16	20	95	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	149	97	100	0	-	0
Stage 1	97	-	-	-	-	-
Stage 2	51	-	-	-	-	-
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	959	1493	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	834	959	1493	-	-	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.2	3.31	0
HCM LOS	A		

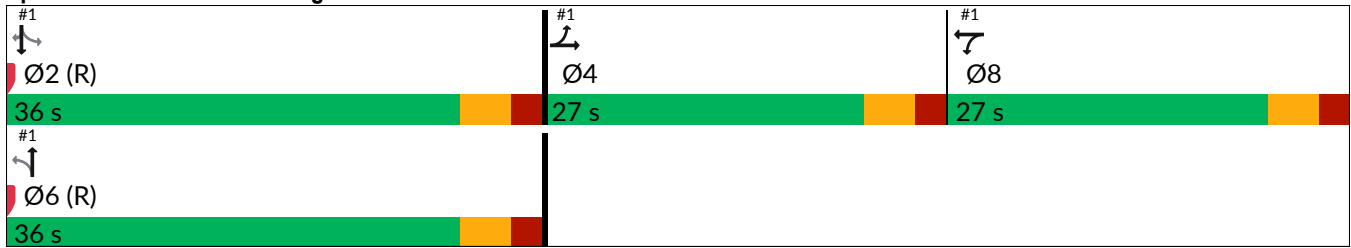
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	800	-	931	-	-
HCM Lane V/C Ratio	0.011	-	0.079	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-






















Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	10	3	63	516	10	413	50
Future Volume (vph)	10	3	63	516	10	413	50
Lane Group Flow (vph)	138	25	66	563	10	430	52
Turn Type	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	8		6		2	
Permitted Phases			6		2		2
Detector Phase	4	8	6	6	2	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	26.5	23.5	23.5	35.5	35.5	35.5
Total Split (s)	27.0	27.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	30.0%	30.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.58	0.18	0.11	0.44	0.02	0.33	0.05
Control Delay (s/veh)	38.6	36.0	8.0	9.5	8.2	8.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.6	36.0	8.0	9.5	8.2	8.3	0.5
Queue Length 50th (ft)	60	11	8	92	1	64	0
Queue Length 95th (ft)	113	35	40	297	10	209	4
Internal Link Dist (ft)	121	357		399		268	
Turn Bay Length (ft)			165		115		75
Base Capacity (vph)	433	422	615	1285	501	1293	1129
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.06	0.11	0.44	0.02	0.33	0.05

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

**Splits and Phases: 1: Young Rd & Biffle Rd/Meadowbrooke Chase**



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	10	46	16	3	5	63	516	24	10	413	50
Future Volume (veh/h)	77	10	46	16	3	5	63	516	24	10	413	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	80	10	48	17	3	5	66	538	25	10	430	52
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	103	13	62	37	6	11	616	1210	56	541	1276	1081
Arrive On Green	0.10	0.10	0.10	0.03	0.03	0.03	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	993	124	596	1189	210	350	913	1773	82	847	1870	1585
Grp Volume(v), veh/h	138	0	0	25	0	0	66	0	563	10	430	52
Grp Sat Flow(s),veh/h/ln	1713	0	0	1748	0	0	913	0	1856	847	1870	1585
Q Serve(g_s), s	7.1	0.0	0.0	1.3	0.0	0.0	2.9	0.0	12.5	0.5	8.5	1.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	1.3	0.0	0.0	11.4	0.0	12.5	12.9	8.5	1.0
Prop In Lane	0.58		0.35	0.68		0.20	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	177	0	0	54	0	0	616	0	1266	541	1276	1081
V/C Ratio(X)	0.78	0.00	0.00	0.46	0.00	0.00	0.11	0.00	0.44	0.02	0.34	0.05
Avail Cap(c_a), veh/h	409	0	0	418	0	0	616	0	1266	541	1276	1081
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	0.0	42.9	0.0	0.0	8.3	0.0	6.5	9.5	5.9	4.7
Incr Delay (d2), s/veh	7.2	0.0	0.0	6.0	0.0	0.0	0.4	0.0	1.1	0.1	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	0.6	0.0	0.0	0.6	0.0	4.1	0.1	2.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.5	0.0	0.0	48.9	0.0	0.0	8.6	0.0	7.7	9.5	6.6	4.8
LnGrp LOS	D			D			A		A	A	A	A
Approach Vol, veh/h		138			25			629			492	
Approach Delay, s/veh		46.5			48.9			7.8			6.5	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.9		14.8		66.9		8.3				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		30.5		21.5		30.5		21.5				
Max Q Clear Time (g_c+I1), s		14.9		9.1		14.5		3.3				
Green Ext Time (p_c), s		4.4		0.6		6.2		0.1				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh				12.2								
HCM 7th LOS				B								

**Intersection**

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↗
Traffic Vol, veh/h	0	10	100	14	0	82
Future Vol, veh/h	0	10	100	14	0	82
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	0	11	109	15	0	89

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	116	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	936	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	936	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.89	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	936
HCM Lane V/C Ratio	-	-	0.012
HCM Ctrl Dly (s/v)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

**Intersection**

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	6	0	109	66	5
Future Vol, veh/h	0	6	0	109	66	5
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	130	79	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	82	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	978	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	978	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.71	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	978	-
HCM Lane V/C Ratio	-	0.007	-
HCM Ctrl Dly (s/v)	-	8.7	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0	-

**Intersection**

Int Delay, s/veh	2.5					
<b>Movement</b>	<b>EBL</b>	<b>EBR</b>	<b>NBL</b>	<b>NBT</b>	<b>SBT</b>	<b>SBR</b>
Lane Configurations						
Traffic Vol, veh/h	9	22	31	78	49	18
Future Vol, veh/h	9	22	31	78	49	18
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	26	37	93	58	21

<b>Major/Minor</b>	<b>Minor2</b>	<b>Major1</b>		<b>Major2</b>	
Conflicting Flow All	236	69	80	0	-
Stage 1	69	-	-	-	-
Stage 2	167	-	-	-	-
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	753	994	1518	-	-
Stage 1	954	-	-	-	-
Stage 2	863	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	733	994	1518	-	-
Mov Cap-2 Maneuver	733	-	-	-	-
Stage 1	929	-	-	-	-
Stage 2	863	-	-	-	-

<b>Approach</b>	<b>EB</b>	<b>NB</b>	<b>SB</b>
HCM Ctrl Dly, s/v	9.17	2.11	0
HCM LOS	A		

<b>Minor Lane/Major Mvmt</b>	<b>NBL</b>	<b>NBT</b>	<b>EBLn1</b>	<b>SBT</b>	<b>SBR</b>
Capacity (veh/h)	512	-	901	-	-
HCM Lane V/C Ratio	0.024	-	0.041	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

# **FUTURE "BUILD" INTERSECTION ANALYSIS**

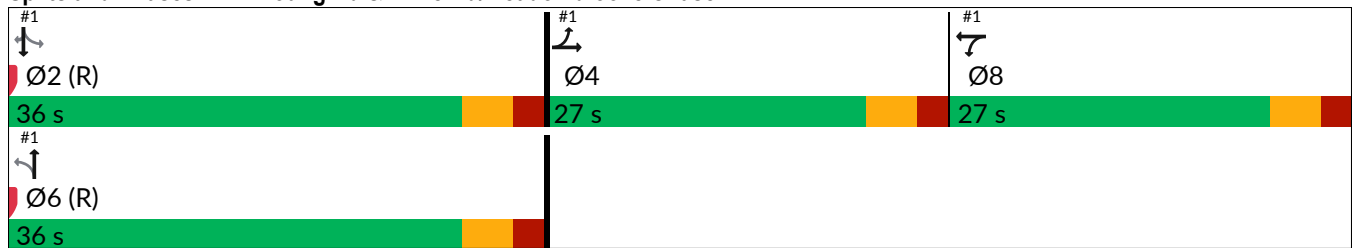





















Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	10	15	72	275	3	479	106
Future Volume (vph)	10	15	72	275	3	479	106
Lane Group Flow (vph)	169	49	78	307	3	521	115
Turn Type	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	8		6		2	
Permitted Phases			6		2		2
Detector Phase	4	8	6	6	2	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	26.5	23.5	23.5	35.5	35.5	35.5
Total Split (s)	27.0	27.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	30.0%	30.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.64	0.31	0.16	0.25	0.00	0.43	0.11
Control Delay (s/veh)	35.6	37.0	10.4	9.3	9.7	11.3	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	35.6	37.0	10.4	9.3	9.7	11.3	3.3
Queue Length 50th (ft)	64	22	18	76	1	151	4
Queue Length 95th (ft)	122	55	51	153	5	288	31
Internal Link Dist (ft)	121	357		399		268	
Turn Bay Length (ft)			165		115		75
Base Capacity (vph)	446	430	492	1214	682	1218	1069
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.11	0.16	0.25	0.00	0.43	0.11

Intersection Summary

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

Splits and Phases: 1: Young Rd & Biffle Rd/Meadowbrooke Chase



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	10	78	21	15	9	72	275	7	3	479	106
Future Volume (veh/h)	67	10	78	21	15	9	72	275	7	3	479	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	73	11	85	23	16	10	78	299	8	3	521	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	14	106	39	27	17	481	1168	31	695	1205	1021
Arrive On Green	0.13	0.13	0.13	0.05	0.05	0.05	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	726	109	846	828	576	360	792	1813	49	1072	1870	1585
Grp Volume(v), veh/h	169	0	0	49	0	0	78	0	307	3	521	115
Grp Sat Flow(s),veh/h/ln	1682	0	0	1764	0	0	792	0	1862	1072	1870	1585
Q Serve(g_s), s	8.8	0.0	0.0	2.5	0.0	0.0	4.9	0.0	6.3	0.1	12.4	2.5
Cycle Q Clear(g_c), s	8.8	0.0	0.0	2.5	0.0	0.0	17.2	0.0	6.3	6.4	12.4	2.5
Prop In Lane	0.43		0.50	0.47		0.20	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	211	0	0	83	0	0	481	0	1199	695	1205	1021
V/C Ratio(X)	0.80	0.00	0.00	0.59	0.00	0.00	0.16	0.00	0.26	0.00	0.43	0.11
Avail Cap(c_a), veh/h	402	0	0	421	0	0	481	0	1199	695	1205	1021
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	0.0	0.0	42.0	0.0	0.0	12.1	0.0	6.8	8.2	7.9	6.1
Incr Delay (d2), s/veh	6.9	0.0	0.0	6.5	0.0	0.0	0.7	0.0	0.5	0.0	1.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	1.2	0.0	0.0	0.9	0.0	2.2	0.0	4.4	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.1	0.0	0.0	48.5	0.0	0.0	12.9	0.0	7.3	8.2	9.0	6.4
LnGrp LOS	D			D			B		A		A	A
Approach Vol, veh/h		169			49			385			639	
Approach Delay, s/veh		45.1			48.5			8.5			8.6	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.5		16.8		63.5		9.7				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		30.5		21.5		30.5		21.5				
Max Q Clear Time (g_c+I1), s		14.4		10.8		19.2		4.5				
Green Ext Time (p_c), s		5.9		0.7		2.9		0.2				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh			15.1									
HCM 7th LOS			B									

**Intersection**

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Vol, veh/h	0	14	53	8	0	183
Future Vol, veh/h	0	14	53	8	0	183
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	0	15	58	9	0	199

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	62	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	1003	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	1003	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.64	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	1003
HCM Lane V/C Ratio	-	-	0.015
HCM Ctrl Dly (s/v)	-	-	8.6
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕	↕		↕	
Traffic Vol, veh/h	0	0	6	44	1	4	1	34	13	3	115	2
Future Vol, veh/h	0	0	6	44	1	4	1	34	13	3	115	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	8	59	1	5	1	45	17	4	153	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	211	228	155	209	212	45	156	0	0	63	0	0
Stage 1	163	163	-	48	48	-	-	-	-	-	-	-
Stage 2	49	65	-	161	164	-	-	-	-	-	-	-
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	746	671	891	748	685	1024	1424	-	-	1540	-	-
Stage 1	839	763	-	965	855	-	-	-	-	-	-	-
Stage 2	965	840	-	841	762	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	738	669	891	738	683	1024	1424	-	-	1540	-	-
Mov Cap-2 Maneuver	738	669	-	738	683	-	-	-	-	-	-	-
Stage 1	837	761	-	964	854	-	-	-	-	-	-	-
Stage 2	957	840	-	831	760	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	9.08		10.17		0.16		0.18	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	51	-	-	891	737	1024	45	-	-
HCM Lane V/C Ratio	0.001	-	-	0.009	0.081	0.005	0.003	-	-
HCM Ctrl Dly (s/v)	7.5	0	-	9.1	10.3	8.5	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	0	-	-

**Intersection**

Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	11	45	13	25	76	4
Future Vol, veh/h	11	45	13	25	76	4
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	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	59	17	33	100	5

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	170	103	105	0	-	0
Stage 1	103	-	-	-	-	-
Stage 2	67	-	-	-	-	-
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	820	952	1486	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	811	952	1486	-	-	-
Mov Cap-2 Maneuver	811	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.25	2.55	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	616	-	921	-	-
HCM Lane V/C Ratio	0.012	-	0.08	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	0	65	2	1	172
Future Vol, veh/h	11	0	65	2	1	172
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	12	0	71	2	1	187

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	261	72	0	0	73
Stage 1	72	-	-	-	-
Stage 2	189	-	-	-	-
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	728	991	-	-	1527
Stage 1	951	-	-	-	-
Stage 2	843	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	727	991	-	-	1527
Mov Cap-2 Maneuver	727	-	-	-	-
Stage 1	950	-	-	-	-
Stage 2	843	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.03	0	0.04
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	727	10
HCM Lane V/C Ratio	-	-	0.016	0.001
HCM Ctrl Dly (s/v)	-	-	10	7.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

**Intersection**

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↑		↗
Traffic Vol, veh/h	30	7	0	80	0	6
Future Vol, veh/h	30	7	0	80	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	8	0	87	0	7

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

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.48
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1041	-	-
HCM Lane V/C Ratio	0.006	-	-
HCM Ctrl Dly (s/v)	8.5	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

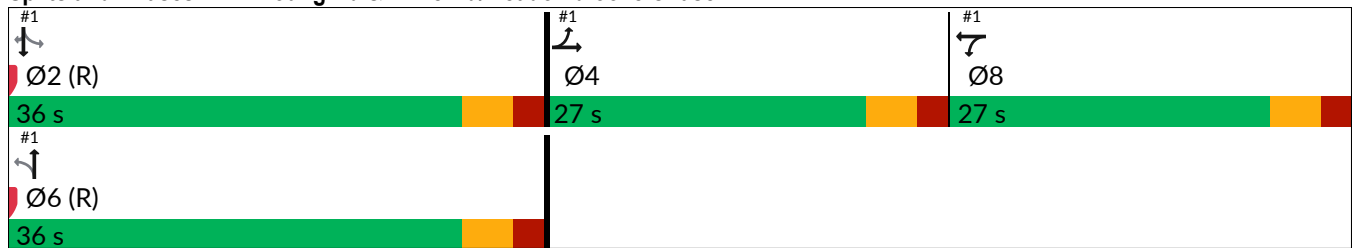





















Lane Group	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	10	4	90	516	10	413	65
Future Volume (vph)	10	4	90	516	10	413	65
Lane Group Flow (vph)	168	26	94	563	10	430	68
Turn Type	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	8		6		2	
Permitted Phases			6		2		2
Detector Phase	4	8	6	6	2	2	2
Switch Phase							
Minimum Initial (s)	6.0	6.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	25.5	26.5	23.5	23.5	35.5	35.5	35.5
Total Split (s)	27.0	27.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	30.0%	30.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.63	0.19	0.16	0.45	0.02	0.34	0.06
Control Delay (s/veh)	38.8	36.3	8.9	10.3	9.0	9.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.8	36.3	8.9	10.3	9.0	9.1	1.3
Queue Length 50th (ft)	73	12	13	99	1	69	0
Queue Length 95th (ft)	130	37	57	312	11	220	11
Internal Link Dist (ft)	121	357		399		268	
Turn Bay Length (ft)			165		115		75
Base Capacity (vph)	436	423	598	1259	484	1267	1108
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.06	0.16	0.45	0.02	0.34	0.06

Intersection Summary

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

Splits and Phases: 1: Young Rd & Biffle Rd/Meadowbrooke Chase



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	10	64	16	4	5	90	516	24	10	413	65
Future Volume (veh/h)	87	10	64	16	4	5	90	516	24	10	413	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	91	10	67	17	4	5	94	538	25	10	430	68
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	114	13	84	37	9	11	584	1172	54	515	1237	1048
Arrive On Green	0.12	0.12	0.12	0.03	0.03	0.03	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	922	101	679	1146	270	337	900	1773	82	847	1870	1585
Grp Volume(v), veh/h	168	0	0	26	0	0	94	0	563	10	430	68
Grp Sat Flow(s),veh/h/ln	1702	0	0	1752	0	0	900	0	1856	847	1870	1585
Q Serve(g_s), s	8.6	0.0	0.0	1.3	0.0	0.0	4.6	0.0	13.3	0.5	9.1	1.4
Cycle Q Clear(g_c), s	8.6	0.0	0.0	1.3	0.0	0.0	13.7	0.0	13.3	13.8	9.1	1.4
Prop In Lane	0.54		0.40	0.65		0.19	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	211	0	0	56	0	0	584	0	1227	515	1237	1048
V/C Ratio(X)	0.80	0.00	0.00	0.47	0.00	0.00	0.16	0.00	0.46	0.02	0.35	0.06
Avail Cap(c_a), veh/h	407	0	0	419	0	0	584	0	1227	515	1237	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	0.0	0.0	42.8	0.0	0.0	9.7	0.0	7.4	10.8	6.7	5.4
Incr Delay (d2), s/veh	6.8	0.0	0.0	5.9	0.0	0.0	0.6	0.0	1.2	0.1	0.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	0.7	0.0	0.0	0.9	0.0	4.6	0.1	3.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.1	0.0	0.0	48.7	0.0	0.0	10.3	0.0	8.7	10.8	7.5	5.5
LnGrp LOS	D			D			B		A	B	A	A
Approach Vol, veh/h		168			26			657			508	
Approach Delay, s/veh		45.1			48.7			8.9			7.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.0		16.6		65.0		8.4				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		30.5		21.5		30.5		21.5				
Max Q Clear Time (g_c+I1), s		15.8		10.6		15.7		3.3				
Green Ext Time (p_c), s		4.4		0.7		6.1		0.1				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh			13.5									
HCM 7th LOS			B									

**Intersection**

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Vol, veh/h	0	11	156	14	0	120
Future Vol, veh/h	0	11	156	14	0	120
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	0	12	170	15	0	130

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	177	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	866	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	866	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.22	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	866
HCM Lane V/C Ratio	-	-	0.014
HCM Ctrl Dly (s/v)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗		↕	↗		↕	
Traffic Vol, veh/h	0	1	6	30	0	3	1	126	34	8	68	5
Future Vol, veh/h	0	1	6	30	0	3	1	126	34	8	68	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	50	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	7	36	0	4	1	150	40	10	81	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	255	296	84	253	258	150	87	0	0	190	0	0
Stage 1	103	103	-	152	152	-	-	-	-	-	-	-
Stage 2	152	193	-	101	106	-	-	-	-	-	-	-
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	698	616	975	700	646	896	1509	-	-	1383	-	-
Stage 1	903	810	-	850	771	-	-	-	-	-	-	-
Stage 2	850	741	-	906	808	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	689	611	975	688	641	896	1509	-	-	1383	-	-
Mov Cap-2 Maneuver	689	611	-	688	641	-	-	-	-	-	-	-
Stage 1	896	804	-	849	771	-	-	-	-	-	-	-
Stage 2	846	740	-	891	802	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Ctrl Dly, s/v	9.04		10.38		0.05		0.75			
HCM LOS	A		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	14	-	-	899	688	896	175	-	-
HCM Lane V/C Ratio	0.001	-	-	0.009	0.052	0.004	0.007	-	-
HCM Ctrl Dly (s/v)	7.4	0	-	9	10.5	9	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	0	-	-

**Intersection**

Int Delay, s/veh	2.2					
<b>Movement</b>	<b>EBL</b>	<b>EBR</b>	<b>NBL</b>	<b>NBT</b>	<b>SBT</b>	<b>SBR</b>
Lane Configurations						
Traffic Vol, veh/h	9	22	31	97	58	18
Future Vol, veh/h	9	22	31	97	58	18
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	26	37	115	69	21

<b>Major/Minor</b>	<b>Minor2</b>	<b>Major1</b>		<b>Major2</b>	
Conflicting Flow All	269	80	90	0	-
Stage 1	80	-	-	-	-
Stage 2	189	-	-	-	-
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	720	980	1505	-	-
Stage 1	943	-	-	-	-
Stage 2	843	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	701	980	1505	-	-
Mov Cap-2 Maneuver	701	-	-	-	-
Stage 1	919	-	-	-	-
Stage 2	843	-	-	-	-

<b>Approach</b>	<b>EB</b>	<b>NB</b>	<b>SB</b>
HCM Ctrl Dly, s/v	9.28	1.8	0
HCM LOS	A		

<b>Minor Lane/Major Mvmt</b>	<b>NBL</b>	<b>NBT</b>	<b>EBLn1</b>	<b>SBT</b>	<b>SBR</b>
Capacity (veh/h)	436	-	879	-	-
HCM Lane V/C Ratio	0.025	-	0.042	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	FF		FF			FF
Traffic Vol, veh/h	8	0	161	6	2	112
Future Vol, veh/h	8	0	161	6	2	112
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	9	0	175	7	2	122

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	304	178	0	0	182	0
Stage 1	178	-	-	-	-	-
Stage 2	126	-	-	-	-	-
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	688	865	-	-	1394	-
Stage 1	853	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	686	865	-	-	1394	-
Mov Cap-2 Maneuver	686	-	-	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	900	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.31	0	0.13
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	686	32
HCM Lane V/C Ratio	-	-	0.013	0.002
HCM Ctrl Dly (s/v)	-	-	10.3	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

**Intersection**

Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↑		↗
Traffic Vol, veh/h	90	17	0	76	0	4
Future Vol, veh/h	90	17	0	76	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	18	0	83	0	4

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

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	8.77
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	958	-	-
HCM Lane V/C Ratio	0.005	-	-
HCM Ctrl Dly (s/v)	8.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

# **TRAFFIC VOLUME WORKSHEETS**

**26-086 Proposed Residential Development at 5083 Biffle Road, Stone Mountain, GA**  
**Traffic Volumes**

A&R Engineering  
 May 2026

**1. Young Road @ Biffle Dr**

**A.M. Peak Hour**

Condition	Young Road Northbound				Young Road Southbound				Biffle Drive Eastbound				Meadowbrooke Chase Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	60	264	7	331	3	461	96	560	50	9	50	109	20	14	9	43
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	62	275	7	344	3	479	100	582	52	9	52	113	21	15	9	45
Total New Trips:	10	0	0	10	0	0	6	6	15	1	26	42	0	0	0	0
Future 2028 Traffic Volumes:	72	275	7	354	3	479	106	588	67	10	78	155	21	15	9	45

**P.M. Peak Hour**

Condition	Young Road Northbound				Young Road Southbound				Biffle Drive Eastbound				Meadowbrooke Chase Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	61	496	23	580	10	397	48	455	74	10	44	128	15	3	5	23
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	63	516	24	603	10	413	50	473	77	10	46	133	16	3	5	24
Total New Trips:	27	0	0	27	0	0	15	15	10	0	18	28	0	1	0	1
Future 2028 Traffic Volumes:	90	516	24	630	10	413	65	488	87	10	64	161	16	4	5	25



**26-086 Proposed Residential Development at 5083 Biffle Road, Stone Mountain, GA**  
**Traffic Volumes**

A&R Engineering  
 May 2026

**3. Biffle Rd @ Clubgreen Summit**

**A.M. Peak Hour**

Condition	Biffle Road Northbound				Biffle Road Southbound				Clubgreen Summit Eastbound				Site Driveway 2 Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	0	26	0	26	0	110	2	112	0	0	6	6	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	0	27	0	27	0	114	2	116	0	0	6	6	0	0	0	0
Total New Trips:	0	7	13	20	3	1	0	4	0	0	0	0	44	1	4	49
Future 2028 Traffic Volumes:	0	34	13	47	3	115	2	120	0	0	6	6	44	1	4	49

**P.M. Peak Hour**

Condition	Biffle Road Northbound				Biffle Road Southbound				Clubgreen Summit Eastbound				Site Driveway 2 Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	0	105	0	105	0	63	5	68	0	0	6	6	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	0	109	0	109	0	66	5	71	0	0	6	6	0	0	0	0
Total New Trips:	0	17	34	51	8	2	0	10	0	1	0	1	30	0	3	33
Future 2028 Traffic Volumes:	0	126	34	160	8	68	5	81	0	1	6	7	30	0	3	33

**26-086 Proposed Residential Development at 5083 Biffle Road, Stone Mountain, GA**  
**Traffic Volumes**

A&R Engineering  
 May 2026

**4. Biffle Rd @ Terrace Green Tr**

**A.M. Peak Hour**

Condition	Biffle Road Northbound				Biffle Road Southbound				Terrace Green Trace Eastbound				- Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	12	14	0	26	0	69	4	73	11	0	43	54	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	12	15	0	27	0	72	4	76	11	0	45	56	0	0	0	0
Total New Trips:	1	10	0	11	0	4	0	4	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	13	25	0	38	0	76	4	80	11	0	45	56	0	0	0	0

**P.M. Peak Hour**

Condition	Biffle Road Northbound				Biffle Road Southbound				Terrace Green Trace Eastbound				- Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	30	75	0	105	0	47	17	64	9	0	21	30	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	31	78	0	109	0	49	18	67	9	0	22	31	0	0	0	0
Total New Trips:	0	19	0	19	0	9	0	9	0	0	0	0	0	0	0	0
Future 2028 Traffic Volumes:	31	97	0	128	0	58	18	76	9	0	22	31	0	0	0	0

**26-086 Proposed Residential Development at 5083 Biffle Road, Stone Mountain, GA**  
**Traffic Volumes**

A&R Engineering  
 May 2026

**5. Biffle Rd @ Site Drwy 1**

**A.M. Peak Hour**

Condition	Biffle Road Northbound				Biffle Road Southbound				- Eastbound				Site Driveway 1 Westbound				
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
Existing 2026 Traffic Counts:	0	43	0	43	0	123	0	123	0	0	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2		
No-Build 2028 Volumes:	0	45	0	45	0	128	0	128	0	0	0	0	0	0	0	0	0
Total New Trips:	0	20	2	22	1	44	0	45	0	0	0	0	11	0	0	11	
Future 2028 Traffic Volumes:	0	65	2	67	1	172	0	173	0	0	0	0	11	0	0	11	

**P.M. Peak Hour**

Condition	Biffle Road Northbound				Biffle Road Southbound				- Eastbound				Site Driveway 1 Westbound				
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
Existing 2026 Traffic Counts:	0	106	0	106	0	79	0	79	0	0	0	0	0	0	0	0	0
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2		
No-Build 2028 Volumes:	0	110	0	110	0	82	0	82	0	0	0	0	0	0	0	0	0
Total New Trips:	0	51	6	57	2	30	0	32	0	0	0	0	8	0	0	8	
Future 2028 Traffic Volumes:	0	161	6	167	2	112	0	114	0	0	0	0	8	0	0	8	

**26-086 Proposed Residential Development at 5083 Biffle Road, Stone Mountain, GA**  
**Traffic Volumes**

A&R Engineering  
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**6. Biffle Rd @ RIRO Drwy 3**

**A.M. Peak Hour**

Condition	Site Driveway 3 (Right-In/ Right-Out) Northbound				-				Biffle Road Eastbound				Biffle Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	0	0	0	0	0	0	0	0	0	25	0	25	0	73	0	73
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	26	0	26	0	76	0	76
Total New Trips:	0	0	6	6	0	0	0	0	0	4	7	11	0	4	0	4
Future 2028 Traffic Volumes:	0	0	6	6	0	0	0	0	0	30	7	37	0	80	0	80

**P.M. Peak Hour**

Condition	Site Driveway 3 (Right-In/ Right-Out) Northbound				-				Biffle Road Eastbound				Biffle Road Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2026 Traffic Counts:	0	0	0	0	0	0	0	0	0	84	0	84	0	64	0	64
Growth Factor (%):	2	2	2		2	2	2		2	2	2		2	2	2	
No-Build 2028 Volumes:	0	0	0	0	0	0	0	0	0	87	0	87	0	67	0	67
Total New Trips:	0	0	4	4	0	0	0	0	0	3	17	20	0	9	0	9
Future 2028 Traffic Volumes:	0	0	4	4	0	0	0	0	0	90	17	107	0	76	0	76