

TRAFFIC IMPACT STUDY FOR

SOMERSET AT SARDIS CREEK RESIDENTIAL DEVELOPMENT

DATE:
March 12, 2024

LOCATION:
Hall County, Georgia

PREPARED FOR:
One Alliance Center

PREPARED BY:
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Executive Summary

A new residential development is proposed for construction along Antioch Campground Road in Hall County, Georgia. The proposed development will consist of 115 senior adult (55+) homes and will utilize one (1) full-access driveway and one (1) right-in/right out driveway along Antioch Campground Road. The development has a projected build out date of 2026.

When complete, the development is expected to generate a total of 668 new daily trips, 43 trips during the AM peak hour (14 entering and 29 exiting), and 49 during the PM peak hour (30 entering and 19 exiting).

Traffic operations at the intersection of Antioch Campground Road and Sardis Road are satisfactory in Existing conditions. Traffic volumes are expected to worsen slightly in the No-Build scenario due to the anticipated background growth in the study area, but the intersection will still continue to operate adequately.

The addition of project traffic is expected to increase the delay at the intersection slightly, however it is not expected to operate below a Level of Service (LOS) C. The proposed driveways are also expected to operate at a satisfactory LOS and have little impact on traffic operations along Antioch Campground Road.

Turn lanes are not warranted at either driveway due to the low traffic volume along Antioch Campground Road. Both driveways also meet Hall County's sight distance requirements.

Based on the analysis prepared for the proposed development, improvements at the existing study intersection are not required to mitigate the impact of the proposed development.

TABLE OF CONTENTS

Executive Summary	i
A. Introduction	1
B. Existing Conditions.....	4
B.1. Transportation Facilities	4
B.2. Traffic Counts	4
C. Future Conditions.....	6
C.1. Background Growth	6
C.2. Project Trip Generation.....	6
C.3. Trip Distribution and Assignment.....	6
D. Traffic Impact Analyses.....	11
D.1. 2023 Existing Conditions Analysis.....	11
D.2. 2026 No-Build Conditions Capacity Analysis	11
D.3. 2026 Build Conditions Capacity Analysis.....	12
E. Driveway Evaluations.....	13
E.1. NCHRP Turn Lane Evaluations.....	13
E.2. Sight Distance Evaluation.....	14
F. Conclusions	15

LIST OF TABLES

Table 1: Trip Generation	6
Table 2: 2023 Existing Conditions Capacity Analysis	11
Table 3: 2026 No-Build Capacity Analysis	11
Table 4: 2026 Build Capacity Analysis	12
Table 5: Sight Distance.....	14

LIST OF FIGURES

Figure 1: Vicinity Map	2
Figure 2: Site Location Aerial	3
Figure 3: 2023 Existing Traffic Volumes	5
Figure 4: 2026 No-Build Traffic Volumes	7
Figure 5: Project Trip Distribution	8
Figure 6: Project Development Trips.....	9
Figure 7: 2026 Build Traffic Volumes.....	10
Figure 8: NCHRP Turn Lane Evaluations	13

LIST OF APPENDICES

- Appendix A: Development Concept Plan
- Appendix B: Traffic Counts & Growth Rate Development Worksheet
- Appendix C: Synchro Reports
- Appendix D: Turn Lane Evaluations

A. Introduction

A new residential development is proposed for construction along Antioch Campground Road in Hall County, Georgia. The proposed development will consist of 115 senior adult (55+) homes. The development will utilize one (1) full-access driveway and one (1) right-in/right out driveway along Antioch Campground Road.

The traffic analyses in this report assume a single phase of construction. The purpose of this report is to identify the traffic expected to be generated by new vehicular trips when the development is complete. This study includes analysis of 2023 Existing and 2026 Future conditions, including No-Build and Build scenarios, at the following intersections:

1. Antioch Campground Road at Sardis Road
2. Antioch Campground Road at Site Driveway 1
3. Antioch Campground Road at Site Driveway 2

The report summarizes the analysis of existing, background and projected traffic at the study locations, analysis of traffic impacts including delays and Levels of Service (LOS), and conclusions and recommendations from the analysis.

Figure 1 depicts the study area (vicinity map) in Hall County, Georgia. The study intersections listed above are depicted in Figure 2. A copy of the development concept plan is included in Appendix A.

Figure 1: Vicinity Map

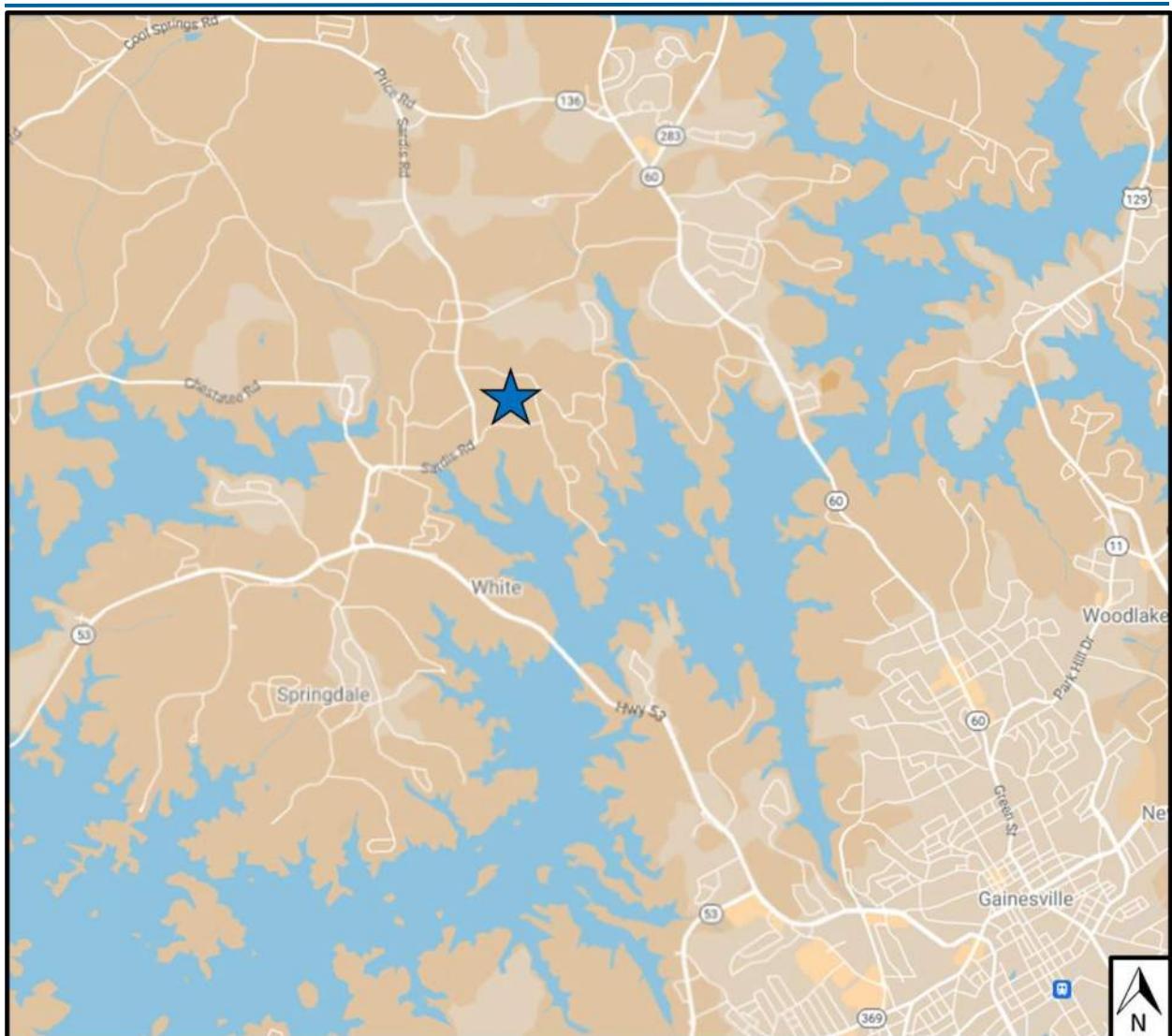
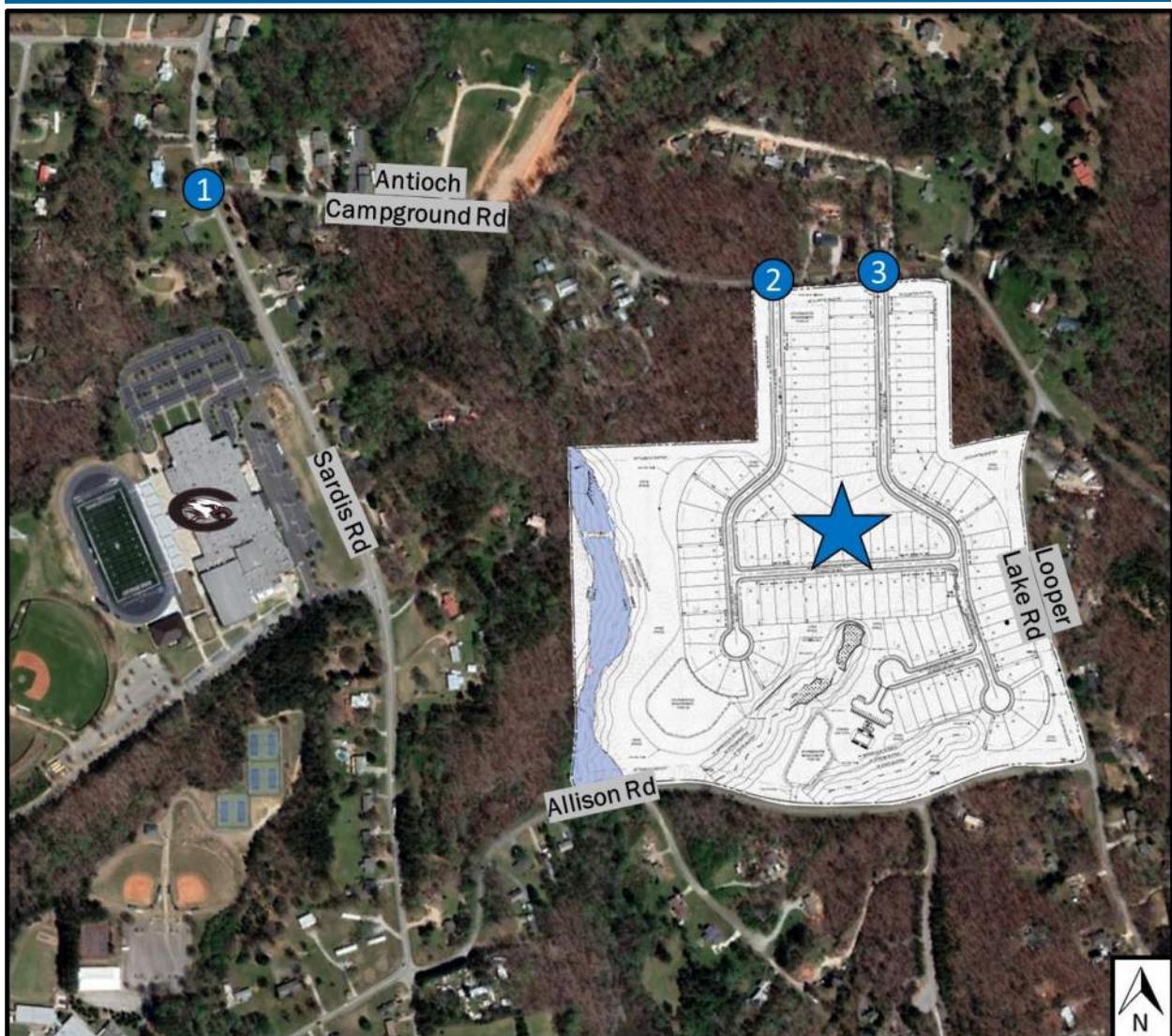


Figure 2: Site Location Aerial



1. Antioch Campground Road at Sardis Road
2. Antioch Campground Road at Site Driveway 1
3. Antioch Campground Road at Site Driveway 2

B. Existing Conditions

B.1. Transportation Facilities

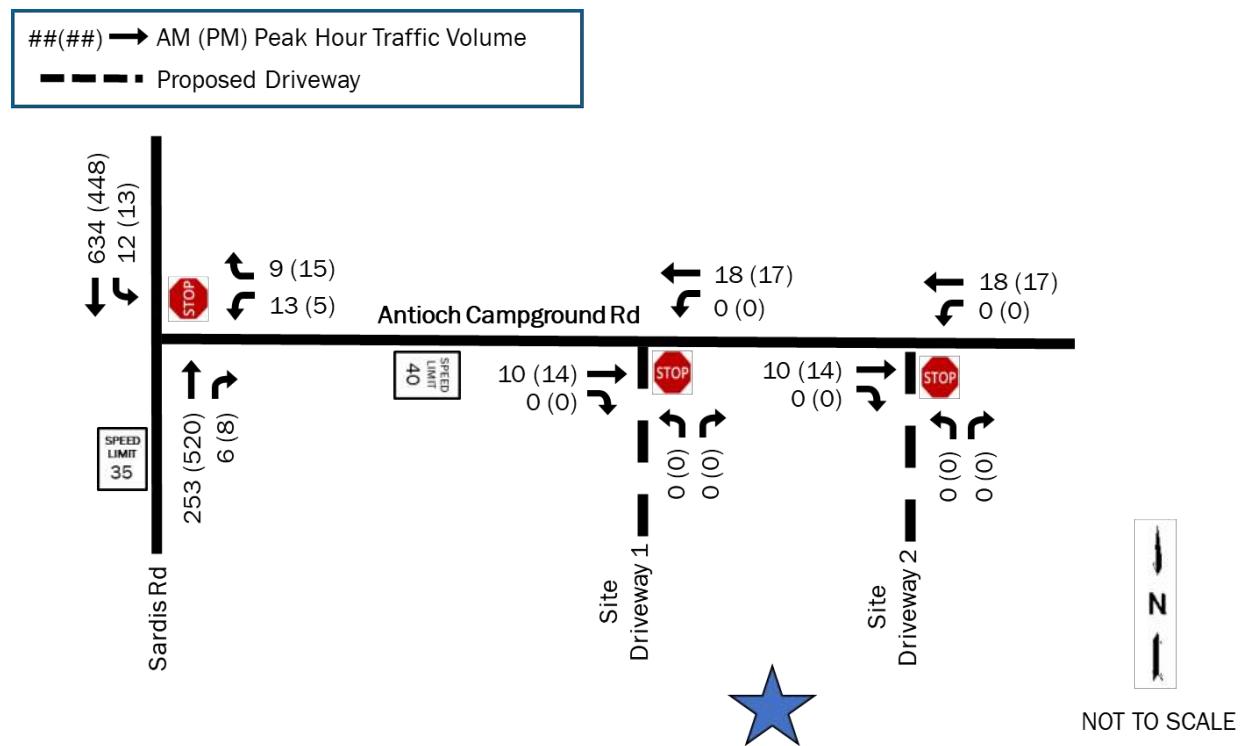
Sardis Road is a two-lane undivided roadway with a north/south orientation that runs south towards SR 53/Dawsonville Highway and north towards SR 136/Price Road. Sardis Road has a posted speed limit of 35 miles per hour (MPH) near the project site. A school zone lowers the speed limit to 30 MPH approximately 230 feet south of its intersection with Antioch Campground Road. The school zone extends approximately 1,700 feet south. Land uses along Sardis Road in the study area are primarily residential, recreational, and institutional in the area.

Antioch Campground Road is a two-lane undivided roadway that runs east from its intersections with Sardis Road approximately two miles east before its termination. Antioch Campground Road has no posted speed limit, but the Hall County Municipal Code states that the road is zoned for 40 miles per hour between Sardis Road and East Lake Drive. Land uses along its length are primarily residential and recreational.

B.2. Traffic Counts

Weekday AM and PM peak period turning movement counts were collected at the existing study intersection on Tuesday, August 8, 2023. Average daily traffic counts were also taken on Antioch Campground Road near the proposed site driveway. The average daily weekday traffic along Sardis Road is approximately 360 vehicles per day. Counts were collected while schools were in session and are included in Appendix B.

Figure 3: 2023 Existing Traffic Volumes



C. Future Conditions

C.1. Background Growth

The project is expected to be built-out in 2026. An analysis of historical traffic counts collected by the Georgia Department of Transportation (GDOT) within the study area suggests a growth rate of 0.3% while US census data suggests a growth rate of 1.3%. To account for possible future development in the area, a growth rate of 2% was applied to the traffic counts over three years to establish the future (No-Build) volumes. The expected No-Build volumes are depicted in Figure 4. The growth rate development worksheet is included in Appendix B.

C.2. Project Trip Generation

Table 1 summarizes the project trip generation calculated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition, 2021. The new development consists of 115 Senior Adult (55+) homes.

Table 1: Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Senior Adult Housing – Single Family, LUC 251 (115 Dwelling Units)	Daily	668	334	334
	AM Peak Hour	43	14	29
	PM Peak Hour	49	30	19

The development will generate a total of 43 trips (14 entering and 29 exiting) during the AM peak hour, and a total of 49 trips (30 entering and 19 exiting) during the PM peak hour.

C.3. Trip Distribution and Assignment

The assignment and directional distribution of new project trips was based on the existing traffic patterns observed in the overall study area. It is expected that approximately 40% of the expected site traffic will travel to/from the north along Sardis Road, approximately 40% will travel to/from the south along Sardis Road, and the remaining 20% will travel to/from the east along Antioch Campground Road. The trip distribution is shown in Figure 5. The project trips generated from the development utilizing the trip distribution are depicted in Figure 6. The No-Build plus project trips (Build volumes) are depicted in Figure 7.

Figure 4: 2026 No-Build Traffic Volumes

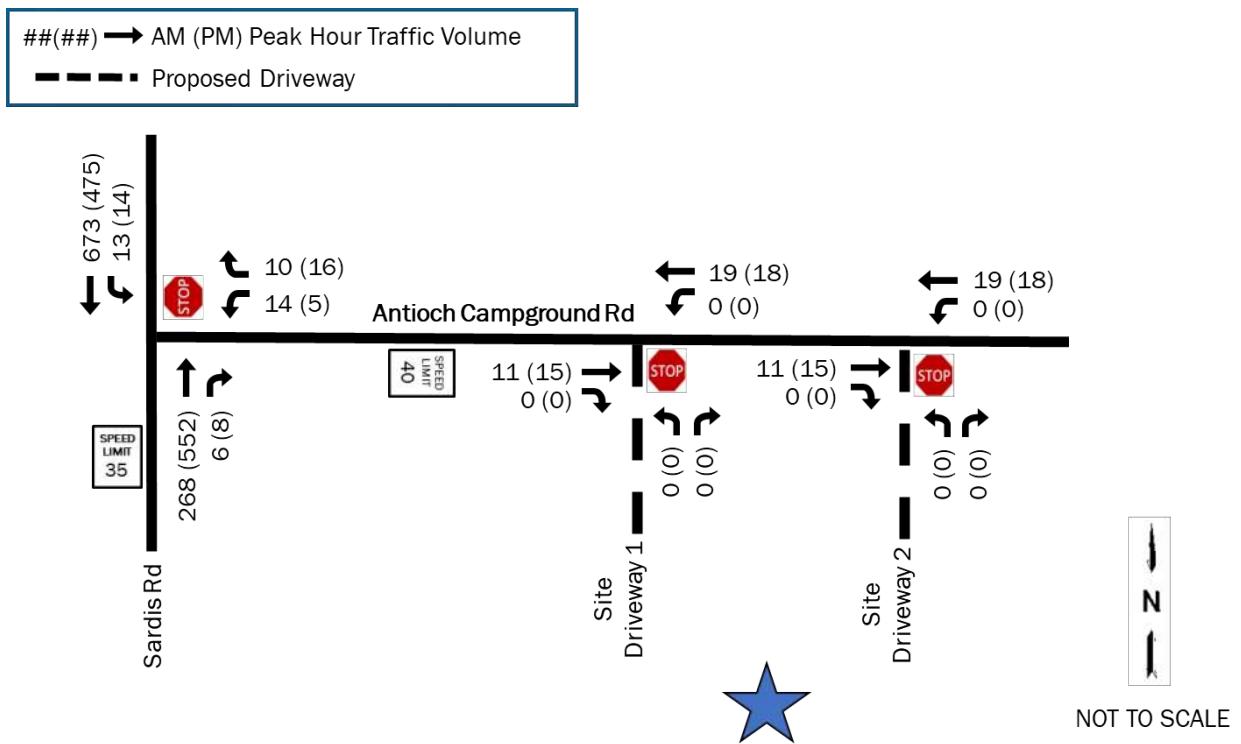


Figure 5: Project Trip Distribution

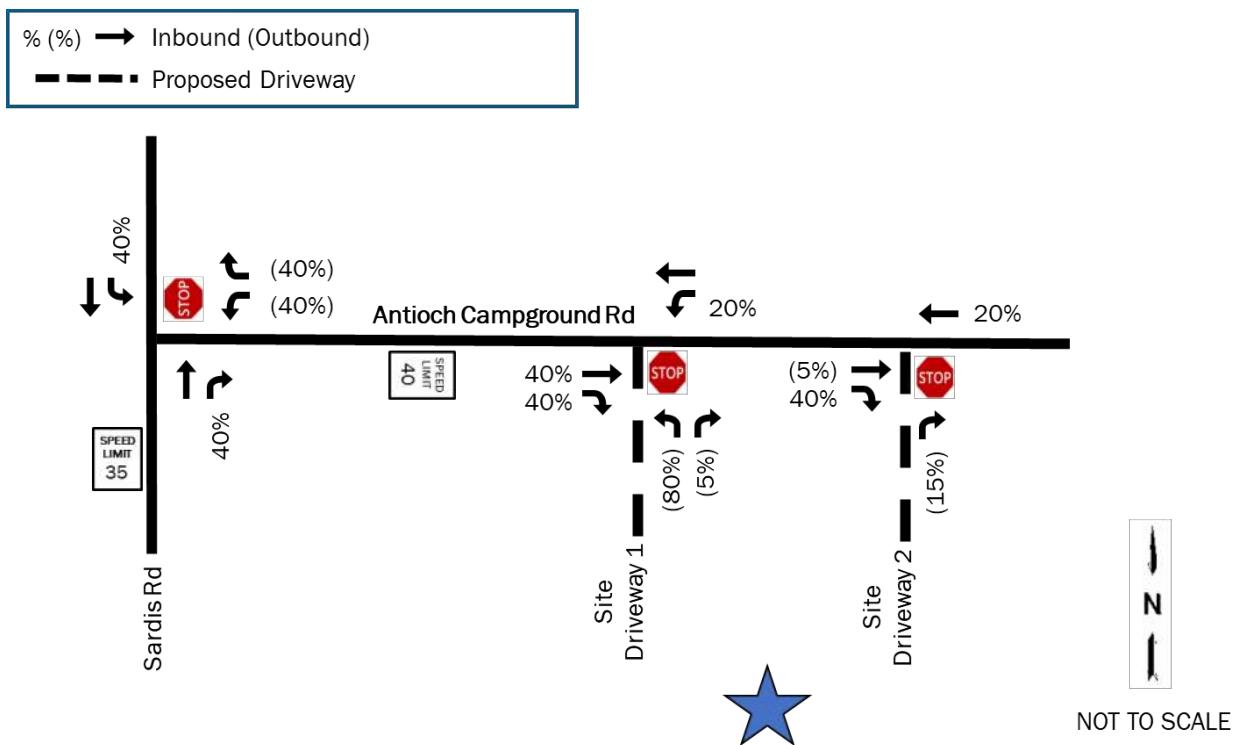


Figure 6: Project Development Trips

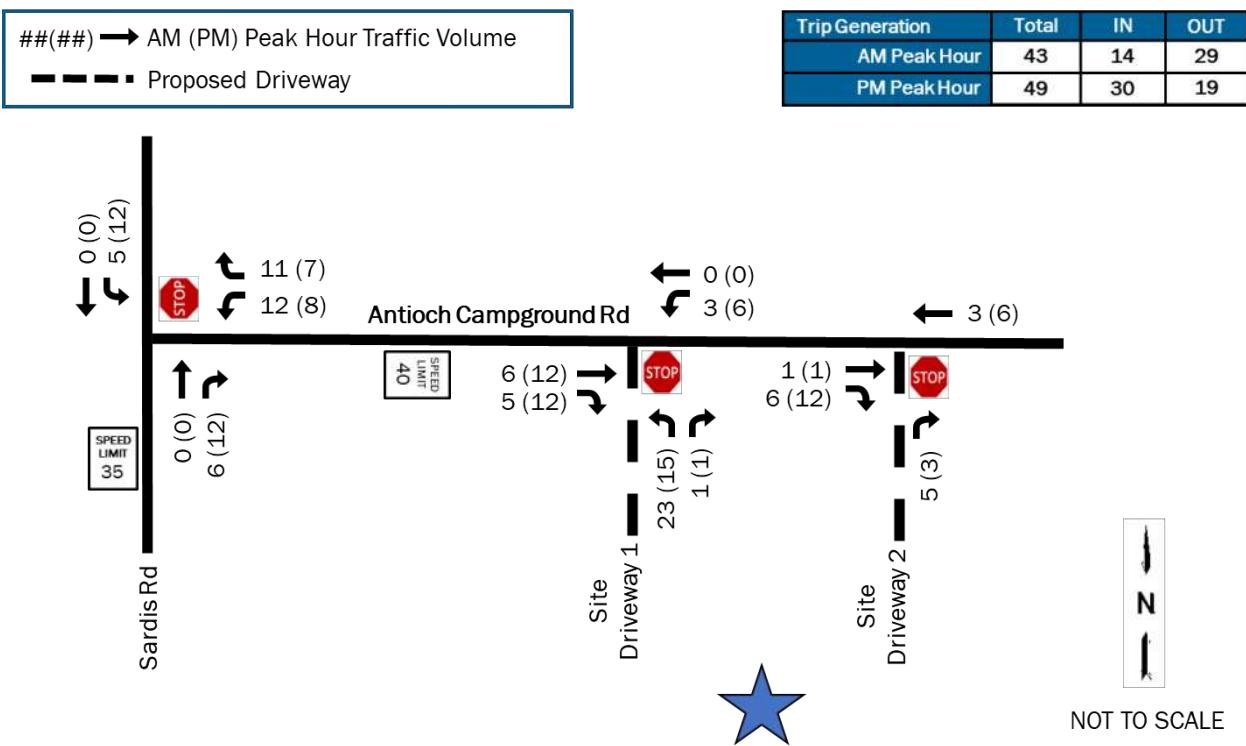
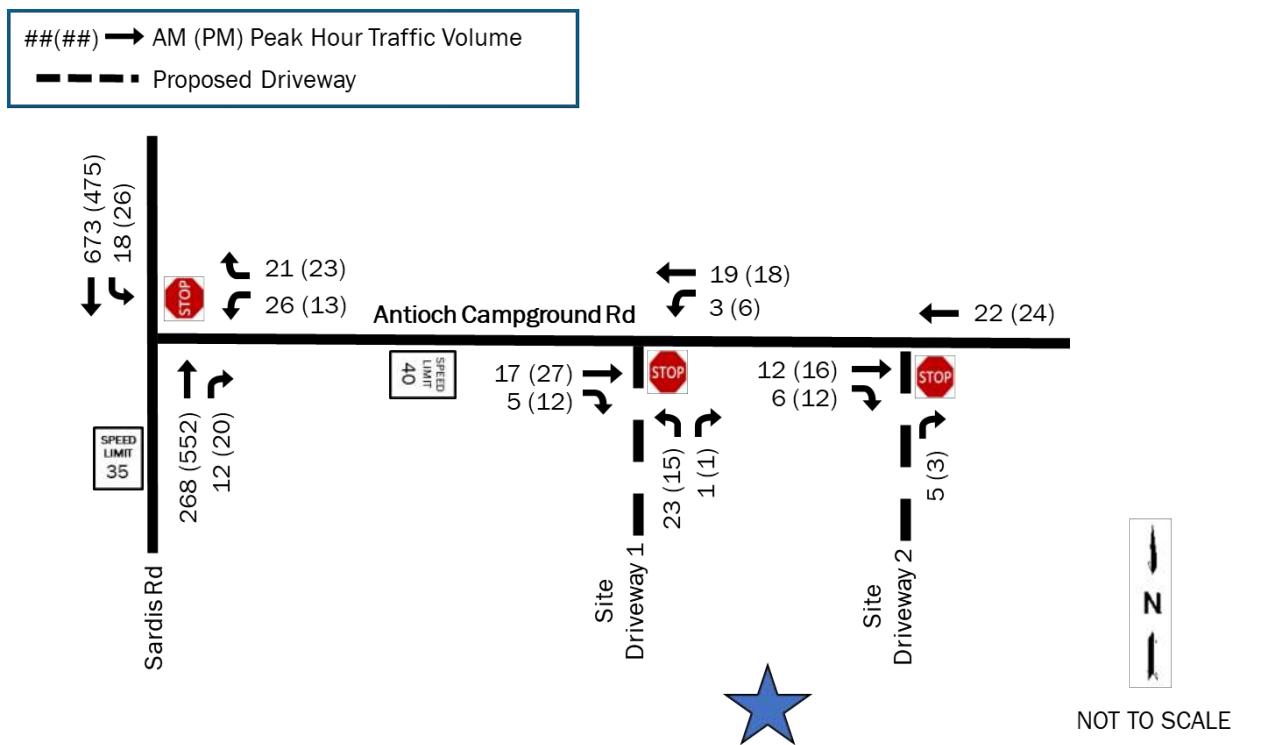


Figure 7: 2026 Build Traffic Volumes



D. Traffic Impact Analyses

The analysis in each of the scenarios for the study was performed using the traffic analysis software Synchro® 12. Average vehicular delays are calculated and reported as Levels of Service (LOS) as defined by the Highway Capacity Manual (HCM 7th Edition). HCM uses a grading system A through F, where A is the best (little to no delay), and F is the worst (very heavy delay). HCM Levels of Service (LOS) standards and Synchro® output reports are included in Appendix C.

D.1. 2023 Existing Conditions Analysis

The results of the 2023 Existing conditions capacity analysis are shown in Table 2 and include analysis of the traffic volumes presented in Figure 3.

Table 2: 2023 Existing Conditions Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Antioch Campground Rd & Sardis Rd	Stop-Control	WB	C	15.9	B	14.2
			SBL	A	7.8	A	8.6

As shown in Table 2, the intersection of Antioch Campground Road and Sardis Road operates with acceptable LOS during the AM and PM peak hours.

D.2. 2026 No-Build Conditions Capacity Analysis

The results of the 2026 No-Build conditions capacity analysis are shown in Table 3 for the operation of the intersection of Antioch Campground Road and Sardis Road with the traffic volumes presented in Figure 4.

Table 3: 2026 No-Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Antioch Campground Rd & Sardis Rd	Stop-Control	WB	C	16.8	B	14.8
			SBL	A	7.9	A	8.7

As shown in Table 3, traffic operations at the intersection of Antioch Campground Road and Sardis Road are expected to experience a nominal increase in delay due to the applied growth rate. The delays at the intersection are expected to increase slightly, but the overall LOS remain consistent with the Existing conditions and will continue to operate acceptably.

D.3. 2026 Build Conditions Capacity Analysis

The results of the 2026 Build conditions intersection capacity analysis are shown in Table 4 for No-Build plus project volumes as presented in Figure 7.

Table 4: 2026 Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Antioch Campground Rd & Sardis Rd	Stop-Control	WB	C	17.8	C	17.1
			SBL	A	7.9	A	8.8
2	Antioch Campground Rd & Site Driveway 1	Stop-Control	NB	A	8.8	A	8.9
			WBL	A	7.3	A	7.3
3	Antioch Campground Rd & Site Driveway 2	Stop-Control	NB	A	8.4	A	8.4

As shown in Table 4, the addition of project traffic to the intersection of Antioch Campground Road and Sardis Road is expected to have a minimal impact on the operation of the study intersection. The intersection of Sardis Road at Antioch Campground Road is expected to experience a slight increase in delays due to the added trips; however, the overall LOS remain satisfactory. The addition of two (2) driveways on Antioch Campground Road does not impact the functionality of traffic operations along Antioch Campground Road.

E. Driveway Evaluations

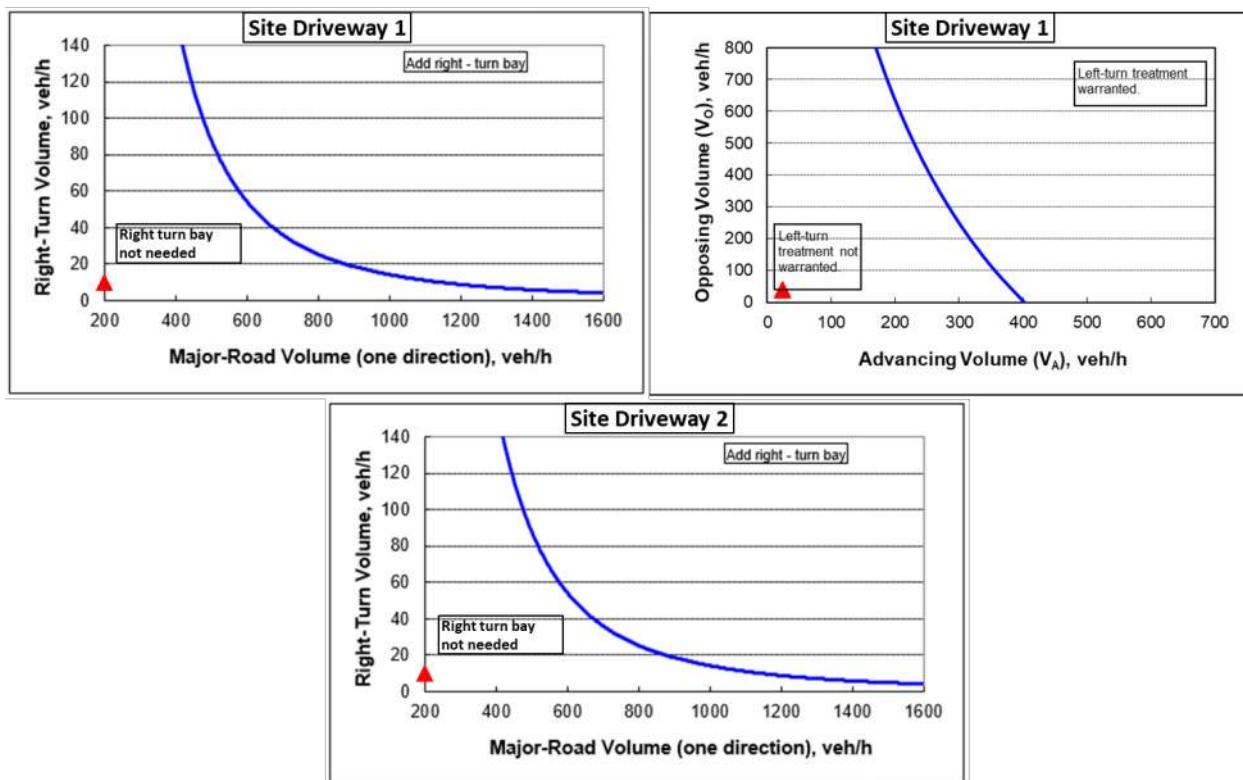
E.1. NCHRP Turn Lane Evaluations

The need for turn lanes was evaluated at the proposed site driveways along Antioch Campground Road using NCHRP Report 457. Figure 2-6 in the report shows that for a 40 MPH roadway, the road would need to exceed 400 vehicles per hour in one direction before a right-turn lane would be warranted. At most, Antioch Campground Road is expected to have 39 hourly trips in one direction. Right-Turn lanes are not warranted at either driveway.

For the full-access driveway, the NCHRP report Figure 2-5 shows that a left-turn lane is warranted if left-turns exceed 40% of the advancing traffic and there is more than 200 advancing vehicles while having several hundred opposing vehicles. While it is expected that 25% of the westbound traffic in the PM peak period is expected to turn left, there are only 24 expected westbound vehicles and 39 expected opposing vehicles at most, far short of what warrants a left-turn lane.

The tables for each driveway turn-lane evaluation are shown in figure 8 and are also included in Appendix D.

Figure 8: NCHRP Turn Lane Evaluations



E.2. Sight Distance Evaluation

According to the Hall County Residential Driveway Requirements, a minimum intersection sight distance is required for a passenger car entering the intersection from a site driveway. Based on the designated speed limit of 40 MPH for Antioch Campground Road, an intersection sight distance of 441 feet is required for the site driveway at Antioch Campground Road. A breakdown of the sight distance at the two driveways is shown in Table 5 below using measurements provided by the site plan.

Table 5: Sight Distance

ID	Intersection	Direction	Distance Required	Distance Measured	Sight Distance Met?
2	Antioch Campground Rd & Site Driveway 1	Looking Left	441	475	YES
		Looking Right		500	YES
3	Antioch Campground Rd & Site Driveway 2	Looking Left		784	YES
		Looking Right		N/A	N/A

As shown in Table 5, both driveways meet Hall County's sight distance requirement for vehicles making turns out of the driveways. Sight distance looking right at site driveway 2 was not evaluated since the driveway is proposed to be a right-in/right-out driveway.

F. Conclusions

A new residential development is proposed for construction along Antioch Campground Road in Hall County, Georgia. The proposed development will consist of 115 senior adult (55+) homes and will utilize one (1) full-access driveway and one (1) right-in/right out driveway along Antioch Campground Road. The development has a projected build out date of 2026.

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The addition of project traffic is expected to increase the delay at the intersection slightly, however it is not expected to operate below a Level of Service (LOS) C. The proposed driveways are also expected to operate at a satisfactory level and have little impact on traffic operations along Antioch Campground Road.

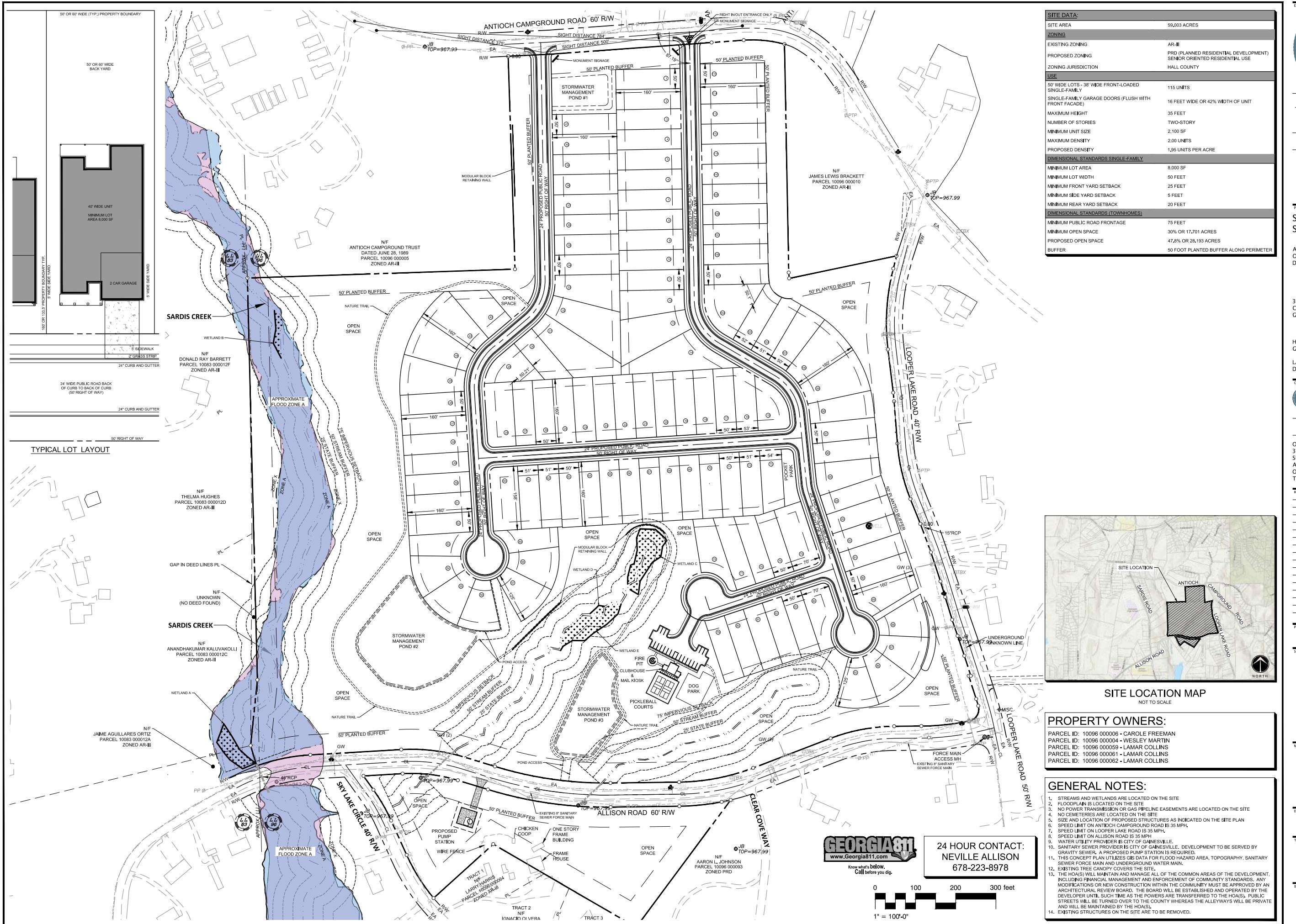
Turn lanes are not warranted at either driveway due to the low traffic volume along Antioch Campground Road. Both driveways also meet Hall County's sight distance requirements.

Based on the analysis prepared for the proposed development, improvements at the existing study intersection are not required to mitigate the impact of the proposed development.

APPENDIX A:

DEVELOPMENT

CONCEPT PLAN



THE REVIVE LAND GROUP
Part of Peachtree Group

SOURCE, ENTITLE, REVIVE.

ONE ALLIANCE CENTER
3500 LENOX ROAD
SUITE 625
ATLANTA, GEORGIA 30326
O: (678) 223-8978
WWW.THEREVIVELANDGROUP.COM

PROJECT: SOMERSET AT SARDIS CREEK

A MASTER PLANNED SENIOR
ORIENTED RESIDENTIAL
DEVELOPMENT

3212 & 3302 ANTIOCH
CAMPGROUND ROAD
GAINESVILLE, GA 30506

HALL COUNTY
GEORGIA

LAND LOT: 83 & 96
DISTRICT: 10TH

CUSTOMER
THE REVIVE LAND GROUP
Part of Peachtree Group

SOURCE, ENTITLE, REVIVE.

ONE ALLIANCE CENTER
3500 LENOX ROAD
SUITE 625
ATLANTA, GEORGIA 30326
O: (678) 223-8978
WWW.THEREVIVELANDGROUP.COM

REVISION
REVISION DATE



SEAL IS ONLY VALID IF SIGNED AND
DATED WITH AN ORIGINAL SIGNATURE



NORTH

DATE

FEBRUARY 29, 2024

TITLE

CONCEPTUAL
SITE PLAN

SHEET

Z-01

APPENDIX B:
TRAFFIC COUNTS
& GROWTH RATE
DEVELOPMENT WORKSHEET



[Click here for Map](#)

Peak Hour Turning Movement Count

Hall County, GA



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All vehicles	Northbound								Southbound								Westbound							
	Sardis Rd (South)				Sardis Rd (North)				Antioch Campground Rd															
	Time	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5		U-Turn 1.6	App Total	Left 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total							
0715 - 0730	-	48	2	-	0	50	4	142	-	-	0	146	-	-	-	-	0	3	-	3	-	0	6	202
0730 - 0745	-	71	0	-	0	71	1	146	-	-	0	147	-	-	-	-	0	3	-	3	-	0	6	224
0745 - 0800	-	57	1	-	0	58	3	192	-	-	0	195	-	-	-	-	0	2	-	1	-	0	3	256
0800 - 0815	-	77	3	-	0	80	4	154	-	-	0	158	-	-	-	-	0	5	-	2	-	0	7	245
Total	0	253	6	0	0	259	12	634	0	0	0	646	0	0	0	0	0	13	0	9	0	0	22	927
Approach %	0.00	97.68	2.32	0.00	0.00	-	1.86	98.14	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	59.09	0.00	40.91	0.00	0.00	-	
PHF	0.00	0.82	0.50	0.00	0.00	0.81	0.75	0.83	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.75	0.00	0.00	0.79	0.91

Passenger Vehicles (1-3)

Time	Northbound				Southbound												Westbound							
	Sardis Rd (South)				Sardis Rd (North)												Antioch Campground Rd							
	Thru 1.1	Right 1.2	U-Turn 1.3	App Total	Left 1.4	Thru 1.5	U-Turn 1.6	App Total							App Total	Left 1.7	Right 1.8	U-Turn 1.9	App Total	Int Total				
0715 - 0730	-	44	1	-	0	45	4	138	-	-	0	142	-	-	-	-	0	3	-	3	-	0	6	193
0730 - 0745	-	69	0	-	0	69	1	144	-	-	0	145	-	-	-	-	0	3	-	3	-	0	6	220
0745 - 0800	-	52	1	-	0	53	3	184	-	-	0	187	-	-	-	-	0	2	-	1	-	0	3	243
0800 - 0815	-	72	3	-	0	75	4	147	-	-	0	151	-	-	-	-	0	5	-	2	-	0	7	233
Total	0	237	5	0	0	242	12	613	0	0	0	625	0	0	0	0	0	13	0	9	0	0	22	889
Approach %	0.00	97.93	2.07	0.00	0.00	-	1.92	98.08	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	59.09	0.00	40.91	0.00	0.00	-	
PHF	0.00	0.82	0.42	0.00	0.00	0.81	0.75	0.83	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.75	0.00	0.00	0.79	0.91

Single Unit Trucks (4-7)

Time	Northbound					Southbound					Westbound						
	Sardis Rd (South)					Sardis Rd (North)					Antioch Campground Rd						
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5		U-Turn 1.6	App Total	Left 1.7		Right 1.8		U-Turn 1.9	App Total	Int Total
0715 - 0730	-	4	1	-	0	5	0	4	-	-	0	4	-	-	-	0	9
0730 - 0745	-	2	0	-	0	2	0	2	-	-	0	2	-	-	-	0	4
0745 - 0800	-	4	0	-	0	4	0	8	-	-	0	8	-	-	-	0	12
0800 - 0815	-	5	0	-	0	5	0	7	-	-	0	7	-	-	-	0	12
Total	0	15	1	0	0	16	0	21	0	0	0	21	0	0	0	0	37
Approach %	0.00	93.75	6.25	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-
PHF	0.00	0.75	0.25	0.00	0.00	0.80	0.00	0.66	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.77

Combination Trucks (8-13)

Bikes



[Click here for Map](#)

Peak Hour Turning Movement Count

Hall County, GA

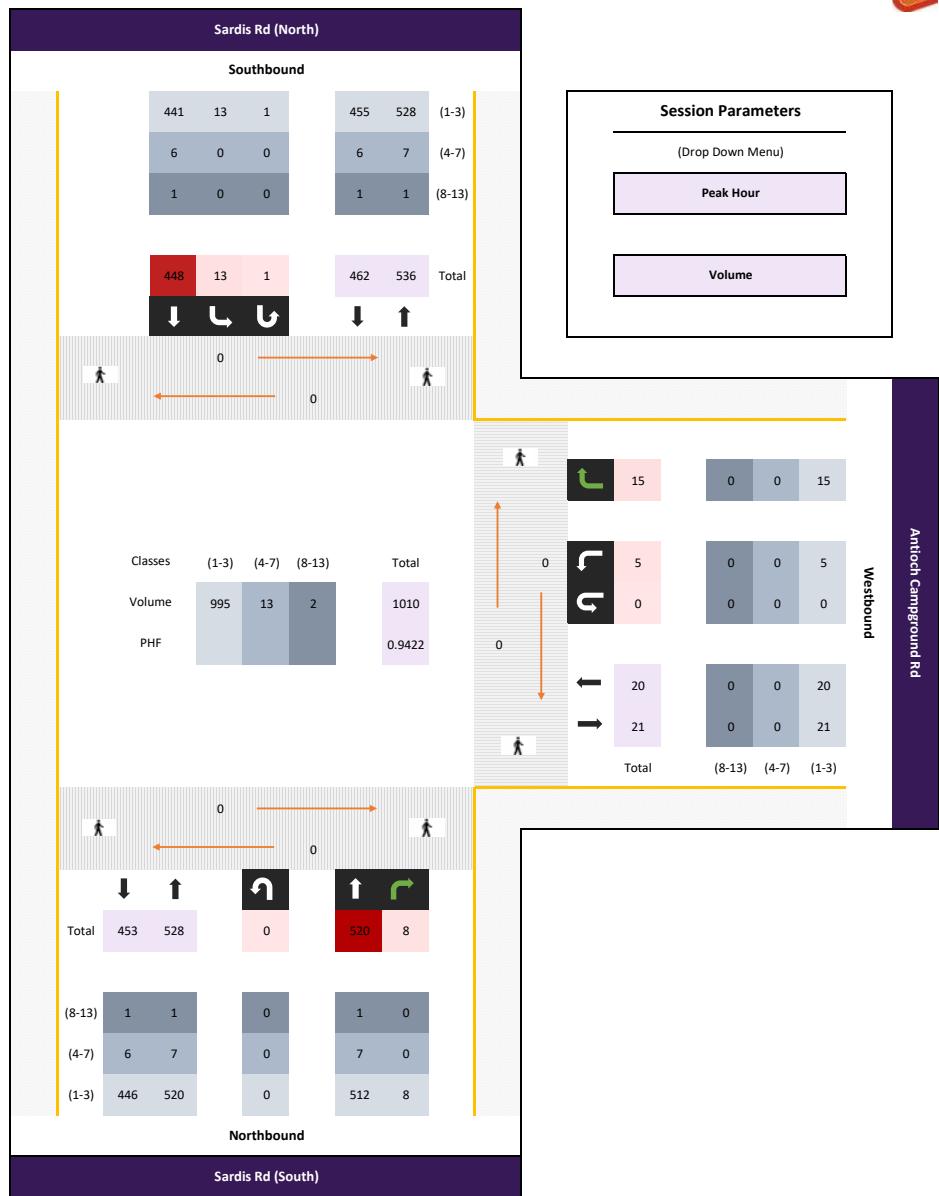


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Tuesday, August 8, 2023	
Period	1600 - 1800
Peak Hour	1700 - 1800

* the Peak Hour Diagram does not include Bikes



All vehicles	Northbound								Southbound								Westbound							
	Sardis Rd (South)				Sardis Rd (North)				Antioch Campground Rd															
	Time	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5		U-Turn 1.6	App Total	Left 1.7	Right 1.8		U-Turn 1.9	App Total	Int Total							
1700 - 1715	-	128	0	-	0	128	4	104	-	-	0	108	-	-	-	-	0	240						
1715 - 1730	-	151	6	-	0	157	1	102	-	-	1	104	-	-	-	-	0	268						
1730 - 1745	-	113	0	-	0	113	1	126	-	-	0	127	-	-	-	-	0	243						
1745 - 1800	-	128	2	-	0	130	7	116	-	-	0	123	-	-	-	-	0	259						
Total	0	520	8	0	0	528	13	448	0	0	1	462	0	0	0	0	0	20	1010					
Approach %	0.00	98.48	1.52	0.00	0.00	-	2.81	96.97	0.00	0.00	0.22	-	0.00	0.00	0.00	0.00	-	25.00	0.00	75.00	0.00	0.00	-	
PHF	0.00	0.86	0.33	0.00	0.00	0.84	0.46	0.89	0.00	0.00	0.25	0.91	0.00	0.00	0.00	0.00	0.00	0.71	0.94					

Passenger Vehicles (1-3)

Time	Northbound					Southbound										Westbound								
	Sardis Rd (South)					Sardis Rd (North)										Antioch Campground Rd								
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5		U-Turn 1.6	App Total					App Total	Left 1.7		Right 1.8	U-Turn 1.9	App Total	Int Total			
1700 - 1715	-	124	0	-	0	124	4	101	-	-	0	105	-	-	-	-	0	1	-	3	-	0	4	233
1715 - 1730	-	151	6	-	0	157	1	100	-	-	1	102	-	-	-	-	0	1	-	6	-	0	7	266
1730 - 1745	-	109	0	-	0	109	1	126	-	-	0	127	-	-	-	-	0	2	-	1	-	0	3	239
1745 - 1800	-	128	2	-	0	130	7	114	-	-	0	121	-	-	-	-	0	1	-	5	-	0	6	257
Total	0	512	8	0	0	520	13	441	0	0	1	455	0	0	0	0	0	5	0	15	0	0	20	995
Approach %	0.00	98.46	1.54	0.00	0.00	-	2.86	96.92	0.00	0.00	0.22	-	0.00	0.00	0.00	0.00	0.00	25.00	0.00	75.00	0.00	0.00	-	
PHF	0.00	0.85	0.33	0.00	0.00	0.83	0.46	0.88	0.00	0.00	0.25	0.90	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.63	0.00	0.00	0.71	0.94

Single Unit Trucks (4-7)

Combination Trucks (8-13)

Bikes

Classified Turn Movement Count || All vehicles



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Hall County, GA

Site 1

Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date

Tuesday, August 8, 2023

Weather

Mostly Cloudy
77°F

Lat/Long

34.351469°, -83.893407°

0700 - 0900 (Weekday 2h Session) (08-08-2023)

All vehicles

Northbound		Southbound						Westbound					
Sardis Rd (South)		Sardis Rd (North)						Antioch Campground Rd					
TIME	Thru	Right	U-Turn	App Total	Left	Thru	U-Turn	App Total	Left	Right	U-Turn	App Total	Int Total
0700 - 0715	1.1	1.2	0	40	0	118	0	118	1.7	1.8	1.9	2	160
0715 - 0730	40	0	0	40	0	142	0	146	1	1	-	-	
0730 - 0745	48	2	0	50	4	142	0	147	3	3	3	6	202
0745 - 0800	71	0	0	71	1	146	0	195	3	3	1	6	224
Hourly Total	57	1	0	58	3	192	0	606	2	1	1	3	256
0800 - 0815	216	3	0	219	8	598	0	158	9	8	17	842	
0815 - 0830	77	3	0	80	4	154	0	85	5	2	7	245	
0830 - 0845	77	0	0	77	0	85	0	62	0	2	0	2	164
0845 - 0900	56	2	0	58	1	61	0	67	1	3	4	124	
Hourly Total	56	0	0	56	1	66	0	372	2	2	6	4	127
	266	5	0	271	6	366			8	9	17	660	
Grand Total	482	8	0	490	14	964	0	978	17	17	34	1502	
Approach %	98.37	1.63	0.00	-	1.43	98.57	0.00	-	50.00	50.00	0.00	-	
Intersection %	32.09	0.53	0.00	32.62	0.93	64.18	0.00	65.11	1.13	1.13	0.00	2.26	
Heavy Vehicle %	6	13	-	6	0	3	-	3	6	6	-	6	4
PHF	0.82	0.50	0.00	0.81	0.75	0.83	0.00	0.83	0.65	0.75	0.00	0.79	0.91

1600 - 1800 (Weekday 2h Session) (08-08-2023)

All vehicles

Northbound		Southbound						Westbound					
Sardis Rd (South)		Sardis Rd (North)						Antioch Campground Rd					
TIME	Thru	Right	U-Turn	App Total	Left	Thru	U-Turn	App Total	Left	Right	U-Turn	App Total	Int Total
1600 - 1615	1.1	1.2	0	124	4	93	0	97	1.7	1.8	1.9	3	224
1615 - 1630	121	3	0	114	2	84	0	86	0	4	-	5	205
1630 - 1645	112	2	0	132	3	86	0	89	1	5	4	6	227
1645 - 1700	131	1	0	130	3	82	0	85	1	16	5	5	220
Hourly Total	493	7	0	500	12	345	0	357	1	3	19	19	876
1700 - 1715	129	1	0	128	4	104	0	108	1	6	4	4	240
1715 - 1730	128	0	0	157	1	102	1	104	2	1	7	3	268
1730 - 1745	151	6	0	113	1	126	0	127	1	5	3	3	243
1745 - 1800	113	0	0	130	7	116	0	123	1	6	6	6	259
Hourly Total	520	8	0	528	13	448	1	462	5	15	20	20	1010
Grand Total	1013	15	0	1028	25	793	1	819	8	31	39	39	1886
Approach %	98.54	1.46	0.00	-	3.05	96.83	0.12	-	20.51	79.49	0.00	-	
Intersection %	53.71	0.80	0.00	54.51	1.33	42.05	0.05	43.43	0.42	1.64	0.00	2.07	
Heavy Vehicle %	2	7	-	2	0	2	0	2	0	0	-	0	2
PHF	0.86	0.33	0.00	0.84	0.46	0.89	0.25	0.91	0.63	0.63	0.00	0.71	0.94

Classified Turn Movement Count || Passenger Vehicles (1-3)

Hall County, GA



www.marrtraffic.com

Site 1

Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date

Tuesday, August 8, 2023

Weather

Mostly Cloudy
77°F

Lat/Long

34.351469°, -83.893407°

0700 - 0900 (Weekday 2h Session) (08-08-2023)

Passenger Vehicles (1-3)

Northbound		Southbound						Westbound					
Sardis Rd (South)		Sardis Rd (North)						Antioch Campground Rd					
TIME	Thru	Right	U-Turn	App	Left	Thru	U-Turn	App	Left	Right	U-Turn	App	Int.
0700 - 0715	1.1	1.2	0	38	0	116	0	116	1.7	1.8	1.9	1.9	156
0715 - 0730	38	0	0	45	4	138	0	142	1	1	0	2	193
0730 - 0745	44	1	0	69	1	144	0	145	3	3	3	6	220
0745 - 0800	69	0	0	53	3	184	0	187	3	3	1	3	243
Hourly Total	52	1	0	205	8	582	0	590	2	1	0	3	233
0800 - 0815	203	2	0	75	4	147	0	151	9	8	0	7	160
0815 - 0830	72	3	0	75	0	83	0	83	5	2	0	2	118
0830 - 0845	75	0	0	55	1	59	0	60	0	2	0	3	114
0845 - 0900	53	2	0	50	1	60	0	61	1	2	0	3	625
Hourly Total	50	0	0	255	6	349	0	355	7	8	16	16	32
Grand Total	250	5	453	7	0	460	14	931	50.00	50.00	0.00	-	1437
Approach %			98.48	1.52	0.00	-	1.48	98.52	1.11	1.11	0.00	2.23	
Intersection %			31.52	0.49	0.00	32.01	0.97	64.79					

1600 - 1800 (Weekday 2h Session) (08-08-2023)

Passenger Vehicles (1-3)

Northbound		Southbound						Westbound					
Sardis Rd (South)		Sardis Rd (North)						Antioch Campground Rd					
TIME	Thru	Right	U-Turn	App	Left	Thru	U-Turn	App	Left	Right	U-Turn	App	Int.
1600 - 1615	1.1	1.2	0	113	4	92	0	96	1.7	1.8	1.9	1.9	212
1615 - 1630	111	2	0	111	2	83	0	85	0	3	0	5	201
1630 - 1645	109	2	0	129	3	83	0	86	1	4	1	6	221
1645 - 1700	128	1	0	130	3	79	0	82	1	5	1	4	217
Hourly Total	129	1	0	483	12	337	0	349	3	16	0	19	851
1700 - 1715	477	6	0	124	4	101	0	105	1	3	0	4	233
1715 - 1730	124	0	0	157	1	100	1	102	1	6	0	7	266
1730 - 1745	151	6	0	109	1	126	0	127	2	1	0	3	239
1745 - 1800	109	0	0	130	7	114	0	121	1	5	0	6	257
Hourly Total	128	2	0	520	13	441	1	455	5	15	0	20	995
Grand Total	512	8	989	14	0	1003	25	778	8	31	0	39	1846
Approach %			98.60	1.40	0.00	-	3.11	96.77	20.51	79.49	0.00	-	
Intersection %			53.58	0.76	0.00	54.33	1.35	42.15	0.43	1.68	0.00	2.11	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Hall County, GA



www.marrtraffic.com

Site 1

Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date

Tuesday, August 8, 2023

Weather

Mostly Cloudy
77°F

Lat/Long

34.351469°, -83.893407°

0700 - 0900 (Weekday 2h Session) (08-08-2023)

Single Unit Trucks (4-7)

		Northbound				Southbound				Westbound						
		Sardis Rd (South)		U-Turn		App Total		Sardis Rd (North)		U-Turn		App Total		Antioch Campground Rd		
TIME		Thru	Right	1.3	Total	Left	Thru	1.4	1.5	1.6	Total	Left	Right	1.9	App Total	Int Total
0700 - 0715		1.1	1.2	0	2	0	1			0	1	0	0	0	0	3
0715 - 0730		2	0	0	0	0	4			0	4	0	0	0	0	9
0730 - 0745		4	1	0	5	0	4			0	2	0	0	0	0	4
0745 - 0800		2	0	0	2	0	2			0	8	0	0	0	0	12
Hourly Total		4	0	0	4	0	8			0	15	0	0	0	0	28
0800 - 0815		12	1	0	13	0	15			0	7	0	0	0	0	12
0815 - 0830		5	0	0	5	0	7			0	2	0	0	0	0	4
0830 - 0845		2	0	0	2	0	2			0	2	0	1	0	1	6
0845 - 0900		3	0	0	3	0	2			0	5	0	0	0	1	12
Hourly Total		6	0	0	6	0	5			0	16	0	0	0	2	34
Grand Total		16	0	0	16	0	16					1	1	0	2	62
Approach %		28	1	0	29	0	31			0	31	50.00	50.00	0.00	-	
Intersection %		96.55	3.45	0.00	-	0.00	100.00			0.00	-	1.61	1.61	0.00	3.23	
		45.16	1.61	0.00	46.77	0.00	50.00			0.00	50.00					

1600 - 1800 (Weekday 2h Session) (08-08-2023)

Single Unit Trucks (4-7)

		Northbound				Southbound				Westbound						
		Sardis Rd (South)		U-Turn		App Total		Sardis Rd (North)		U-Turn		App Total		Antioch Campground Rd		
TIME		Thru	Right	1.3	Total	Left	Thru	1.4	1.5	1.6	Total	Left	Right	1.9	App Total	Int Total
1600 - 1615		1.1	1.2	0	11	0	1			0	1	0	0	0	0	12
1615 - 1630		10	1	0	3	0	0			0	0	0	0	0	0	3
1630 - 1645		3	0	0	3	0	3			0	3	0	0	0	0	6
1645 - 1700		3	0	0	0	0	0			0	3	0	0	0	0	3
Hourly Total		16	1	0	17	0	7			0	7	0	0	0	0	24
1700 - 1715		4	0	0	4	0	2			0	2	0	0	0	0	6
1715 - 1730		0	0	0	0	0	0			0	0	0	0	0	0	2
1730 - 1745		3	0	0	3	0	0			0	0	0	0	0	0	3
1745 - 1800		0	0	0	0	0	0			0	2	0	0	0	0	2
Hourly Total		7	0	0	7	0	6			0	6	0	0	0	0	13
Grand Total		23	1	0	24	0	13			0	13	0.00	0.00	0.00	0.00	37
Approach %		95.83	4.17	0.00	-	0.00	100.00			0.00	-	0.00	0.00	0.00	0.00	
Intersection %		62.16	2.70	0.00	64.86	0.00	35.14			0.00	35.14					

Classified Turn Movement Count || Combination Trucks (8-13)

Hall County, GA



www.marrtraffic.com

Site 1

Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date

Tuesday, August 8, 2023

Weather

Mostly Cloudy
77°F

Lat/Long

34.351469°, -83.893407°

0700 - 0900 (Weekday 2h Session) (08-08-2023)

Combination Trucks (8-13)

		Northbound				Southbound				Westbound								
		Sardis Rd (South)		U-Turn		App Total		Sardis Rd (North)		U-Turn		App Total		Antioch Campground Rd				
TIME		Thru	Right	1.1	1.2	1.3	Total	Left	Thru	1.4	1.5	1.6	Total	Left	Right	U-Turn	App Total	Int Total
0700 - 0715		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
0715 - 0730		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total		1	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	2
0800 - 0815		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Hourly Total		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total		1	0	0	0	1	0	0	2	0	2	0	2	0	0	0	0	3
Approach %		100.00	0.00	0.00	-	0.00	100.00	0.00	-	0.00	-	0.00	-	0.00	0.00	0.00	-	
Intersection %		33.33	0.00	0.00	33.33	0.00	66.67	0.00	-	0.00	66.67	0.00	-	0.00	0.00	0.00	0.00	

1600 - 1800 (Weekday 2h Session) (08-08-2023)

Combination Trucks (8-13)

		Northbound				Southbound				Westbound								
		Sardis Rd (South)		U-Turn		App Total		Sardis Rd (North)		U-Turn		App Total		Antioch Campground Rd				
TIME		Thru	Right	1.1	1.2	1.3	Total	Left	Thru	1.4	1.5	1.6	Total	Left	Right	U-Turn	App Total	Int Total
1600 - 1615		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
1630 - 1645		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
1700 - 1715		0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
1715 - 1730		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1745 - 1800		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total		1	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
Grand Total		1	0	0	0	1	0	0	2	0	2	0	2	0	0	0	0	3
Approach %		100.00	0.00	0.00	-	0.00	100.00	0.00	-	0.00	-	0.00	-	0.00	0.00	0.00	-	
Intersection %		33.33	0.00	0.00	33.33	0.00	66.67	0.00	-	0.00	66.67	0.00	-	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Bikes

Hall County, GA



Site 1
Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date
Tuesday, August 8, 2023

Lat/Long
34.351469°, -83.893407°

Weather
Mostly Cloudy
77°F

0700 - 0900 (Weekday 2h Session) (08-08-2023)

Bikes

		Northbound				Southbound	
		Sardis Rd (South)				Sardis Rd (North)	
TIME		Thru	Right	U-Turn	App Total	Left	Thru
		1.1	1.2	1.3	Total	1.4	1.5
0700 - 0715		0	0	0	0	0	0
0715 - 0730		0	0	0	0	0	0
0730 - 0745		0	0	0	0	0	0
0745 - 0800		0	0	0	0	0	0
Hourly Total		0	0	0	0	0	0
0800 - 0815		0	0	0	0	0	0
0815 - 0830		0	0	0	0	0	0
0830 - 0845		0	0	0	0	0	0
0845 - 0900		0	0	0	0	0	0
Hourly Total		0	0	0	0	0	0
Grand Total		0	0	0	0	0	0
Approach %		0.00	0.00	0.00	-	0.00	0.00
Intersection %		0.00	0.00	0.00	0.00	0.00	0.00

Westbound				
Antioch Campground Rd				
Left	Right	U-Turn 1.9	App Total	Int Total
1.7	1.8			
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0.00	0	0.00	-	
0.00	0.00	0.00		
0.00	0.00	0.00	0.00	

1600 - 1800 (Weekday 2h Session) (08-08-2023)

1000
Bikes

		Northbound				Southbound	
		Sardis Rd (South)				Sardis Rd (North)	
TIME		Thru	Right	U-Turn	App Total	Left	Thru
		1.1	1.2	1.3	Total	1.4	1.5
1600 - 1615		0	0	0	0	0	0
1615 - 1630		0	0	0	0	0	0
1630 - 1645		0	0	0	0	0	0
1645 - 1700		0	0	0	0	0	0
Hourly Total		0	0	0	0	0	0
1700 - 1715		0	0	0	0	0	0
1715 - 1730		0	0	0	0	0	0
1730 - 1745		0	0	0	0	0	0
1745 - 1800		0	0	0	0	0	0
Hourly Total		0	0	0	0	0	0
Grand Total		0	0	0	0	0	0
Approach %		0.00	0.00	0.00	-	0.00	0.00
Intersection %		0.00	0.00	0.00	0.00	0.00	0.00

Westbound				
Antioch Campground Rd		U-Turn	App Total	Int Total
Left	Right	1.9		
1.7	1.8			
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0.00	0.00	0.00	-	
0.00	0.00	0.00	0.00	0.00

Classified Turn Movement Count || All Trucks (4-13)

Hall County, GA



www.marrtraffic.com

Site 1

Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date

Tuesday, August 8, 2023

Weather

Mostly Cloudy
77°F

Lat/Long

34.351469°, -83.893407°

0700 - 0900 (Weekday 2h Session) (08-08-2023)

All Trucks (4-13)

TIME	Northbound				Southbound				Westbound				
	Sardis Rd (South)		U-Turn		Sardis Rd (North)		U-Turn		Antioch Campground Rd		U-Turn		Int Total
	Thru	Right	1.3	App Total	Left	Thru	1.4	1.5	1.6	App Total	1.9	App Total	
0700 - 0715	1.1	1.2	0	2	0	2			0	2	0	0	4
0715 - 0730	2	0	0	2	0	4			0	4	0	0	9
0730 - 0745	4	1	0	5	0	2			0	2	0	0	4
0745 - 0800	2	0	0	2	0	2			0	8	0	0	13
Hourly Total	5	0	0	5	0	8			0	16	0	0	30
0800 - 0815	13	1	0	14	0	16			0	7	0	0	12
0815 - 0830	5	0	0	5	0	7			0	2	0	0	4
0830 - 0845	2	0	0	2	0	2			0	2	0	1	6
0845 - 0900	3	0	0	3	0	2			0	6	0	1	13
Hourly Total	6	0	0	6	0	6			0	17	1	1	35
Grand Total	16	0	0	16	0	17					1	2	65
Approach %	29	1	0	30	0	33			0	33	50.00	50.00	
Intersection %	96.67	3.33	0.00	-	0.00	100.00			0.00	-	1.54	1.54	0.00
	44.62	1.54	0.00	46.15	0.00	50.77			0.00	50.77			3.08

1600 - 1800 (Weekday 2h Session) (08-08-2023)

All Trucks (4-13)

TIME	Northbound				Southbound				Westbound				
	Sardis Rd (South)		U-Turn		Sardis Rd (North)		U-Turn		Antioch Campground Rd		U-Turn		Int Total
	Thru	Right	1.3	App Total	Left	Thru	1.4	1.5	1.6	App Total	1.9	App Total	
1600 - 1615	1.1	1.2	0	11	0	1			0	1	0	0	12
1615 - 1630	10	1	0	3	0	1			0	1	0	0	4
1630 - 1645	3	0	0	3	0	3			0	3	0	0	6
1645 - 1700	3	0	0	0	0	3			0	3	0	0	3
Hourly Total	16	1	0	17	0	8			0	8	0	0	25
1700 - 1715	4	0	0	4	0	3			0	3	0	0	7
1715 - 1730	0	0	0	0	0	2			0	2	0	0	2
1730 - 1745	4	0	0	4	0	0			0	0	0	0	4
1745 - 1800	0	0	0	0	0	2			0	2	0	0	2
Hourly Total	8	0	0	8	0	7			0	7	0	0	15
Grand Total	24	1	0	25	0	15			0	15	0.00	0.00	40
Approach %	96.00	4.00	0.00	-	0.00	100.00			0.00	-	0.00	0.00	
Intersection %	60.00	2.50	0.00	62.50	0.00	37.50			0.00	37.50			

Crosswalk Counts || Pedestrians

Hall County, GA



Site 1
Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date
Tuesday, August 8, 2023

Lat/Long
34.351469°, -83.893407°

Weather
Mostly Cloudy
77°F

0700 - 0900 (Weekday 2h Session) (08-08-2023)

Pedestrians

TIME	Northbound			Southbound			App Total	
	EB 1a	WB 1b	Sardis Rd (South)	App Total	EB 1c	WB 1d	Sardis Rd (North)	App Total
0700 - 0715	0	0		0	0	0		0
0715 - 0730	0	0		0	0	0		0
0730 - 0745	0	0		0	0	0		0
0745 - 0800	0	0		0	0	0		0
Hourly Total	0	0		0	0	0		0
0800 - 0815	0	0		0	0	0		0
0815 - 0830	0	0		0	0	0		0
0830 - 0845	0	0		0	0	0		0
0845 - 0900	0	0		0	0	0		0
Hourly Total	0	0		0	0	0		0
Grand Total	0	0		0	0	0		0
Approach %	0.00	0.00		-	0.00	0.00		-
Intersection %	0.00	0.00		0.00	0.00	0.00		0.00

Westbound			
Antioch Campground Rd		App Total	Int Total
NB 1g	SB 1h		
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0.00	0.00	-	
0.00	0.00	0.00	

1600 - 1800 (Weekday 2h Session) (08-08-2023)

Pedestrians

TIME	Northbound			Southbound			App Total
	EB 1a	WB 1b	Sardis Rd (South)	EB 1c	WB 1d	Sardis Rd (North)	
1600 - 1615	0	0		0	0	0	0
1615 - 1630	0	0		0	0	0	0
1630 - 1645	0	0		0	0	0	0
1645 - 1700	0	0		0	0	0	0
Hourly Total	0	0		0	0	0	0
1700 - 1715	0	0		0	0	0	0
1715 - 1730	0	0		0	0	0	0
1730 - 1745	0	0		0	0	0	0
1745 - 1800	0	0		0	0	0	0
Hourly Total	0	0		0	0	0	0
Grand Total	0	0		0	0	0	0
Approach %	0.00	0.00		-	0.00	0.00	-
Intersection %	0.00	0.00		0.00	0.00	0.00	0.00

Westbound			
Antioch Campground Rd			
NB	SB	App	Int
1g	1h	Total	Total
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0.00	0.00	-	0.00
0.00	0.00		

Crosswalk Counts || Bikes

Hall County, GA



Site 1
Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date
Tuesday, August 8, 2023

Lat/Long
34.351469°, -83.893407°

Weather
Mostly Cloudy
77°F

0700 - 0900 (Weekday 2h Session) (08-08-2023)

Bikes

TIME	Northbound			Southbound				
	EB 1a	WB 1b	Sardis Rd (South)	App Total	EB 1c	WB 1d	Sardis Rd (North)	App Total
0700 - 0715	0	0		0	0	0		0
0715 - 0730	0	0		0	0	0		0
0730 - 0745	0	0		0	0	0		0
0745 - 0800	0	0		0	0	0		0
Hourly Total	0	0		0	0	0		0
0800 - 0815	0	0		0	0	0		0
0815 - 0830	0	0		0	0	0		0
0830 - 0845	0	0		0	0	0		0
0845 - 0900	0	0		0	0	0		0
Hourly Total	0	0		0	0	0		0
Grand Total	0	0		0	0	0		0
Approach %	0.00	0.00		-	0.00	0.00		-
Intersection %	0.00	0.00		0.00	0.00	0.00		0.00

Westbound			
Antioch Campground Rd			
NB	SB	App	Int
1g	1h	Total	Total
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0.00	0.00	-	
0.00	0.00	0.00	

1600 - 1800 (Weekday 2h Session) (08-08-2023)

1000
Bikes

TIME	Northbound		Southbound		App Total
	EB 1a	WB 1b	Sardis Rd (South)	Sardis Rd (North)	
1600 - 1615	0	0	0	0	0
1615 - 1630	0	0	0	0	0
1630 - 1645	0	0	0	0	0
1645 - 1700	0	0	0	0	0
Hourly Total	0	0	0	0	0
1700 - 1715	0	0	0	0	0
1715 - 1730	0	0	0	0	0
1730 - 1745	0	0	0	0	0
1745 - 1800	0	0	0	0	0
Hourly Total	0	0	0	0	0
Grand Total	0	0	0	0	0
Approach %	0.00	0.00	-	0.00	-
Intersection %	0.00	0.00	0.00	0.00	0.00

Westbound			
Antioch Campground Rd			
NB	SB	App Total	Int Total
1g	1h		
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0.00	0.00	-	
0.00	0.00	0.00	

Crosswalk Counts || Motorized Vehicles

Hall County, GA



Site 1
Sardis Rd (South)
Sardis Rd (North)

Antioch Campground Rd

Date
Tuesday, August 8, 2023

Lat/Long
34.351469°, -83.893407°

Weather
Mostly Cloudy
77°F

0700 - 0900 (Weekday 2h Session) (08-08-2023)

Motorized Vehicles

TIME	Northbound				Southbound			
	Sardis Rd (South)		Sardis Rd (North)		App Total		App Total	
	EB 1a	WB 1b			EB 1c	WB 1d		
0700 - 0715	0	0			0	0		0
0715 - 0730	0	0			0	0		0
0730 - 0745	0	0			0	0		0
0745 - 0800	0	0			0	0		0
Hourly Total	0	0			0	0		0
0800 - 0815	0	0			0	0		0
0815 - 0830	0	0			0	0		0
0830 - 0845	0	0			0	0		0
0845 - 0900	0	0			0	0		0
Hourly Total	0	0			0	0		0
Grand Total	0	0			0	0		0
Approach %	0.00	0.00			-	0.00	0.00	-
Intersection %	0.00	0.00			0.00	0.00	0.00	0.00

Westbound			
		Antioch Campground Rd	
NB 1g	SB 1h		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0	0		
0.00	0.00		
0.00	0.00		
		App Total	Int Total
		0	0
		0	0
		0	0
		0	0
		0	0
		0	0
		0	0
		0	0
		-	
		0.00	

1600 - 1800 (Weekday 2h Session) (08-08-2023)

Motorized Vehicles

TIME	Northbound		Southbound		App Total
	EB 1a	WB 1b	Sardis Rd (South)	Sardis Rd (North)	
1600 - 1615	0	0			0
1615 - 1630	0	0			0
1630 - 1645	0	0			0
1645 - 1700	0	0			0
Hourly Total	0	0			0
1700 - 1715	0	0			0
1715 - 1730	0	0			0
1730 - 1745	0	0			0
1745 - 1800	0	0			0
Hourly Total	0	0			0
Grand Total	0	0			0
Approach %	0.00	0.00			-
Intersection %	0.00	0.00			0.00

Westbound			
Antioch Campground Rd			
NB	SB		App Total
1g	1h		Int Total
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0	0		0
0.00	0.00		-
0.00	0.00		0.00

Bi-Directional Class Count || NB EB 15min



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Hall County, GA

Site 1 Antioch Campground Rd, east of Sardis Rd	Date Tuesday, August 8, 2023	Weather Mostly Cloudy 77°F
	Lat/Long 34.350509°, -83.887030°	

[Click here for Map](#)

0000 - 2400 (Weekday 24h Session) (08-08-2023)

NB EB 15min

Session Total	2	129	48	4	3	1	0	1	0	0	0	0	0	188
Session Average	0.02	1.34	0.50	0.04	0.03	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1.96
Session Percentage	1.06	68.62	25.53	2.13	1.60	0.53	0.00	0.53	0.00	0.00	0.00	0.00	0.00	

AM Peak Hour	-	0930 - 1030	0830 - 0930	0630 - 0730	-	0945 - 1045	-	-	-	-	-	-	-	0715 - 0815
AM Peak Volume	0	9	3	2	0	1	0	0	0	0	0	0	0	10

Noon Peak Hour	1115 - 1215	1445 - 1545	1200 - 1300	1400 - 1500	1045 - 1145	1000 - 1100	-	1345 - 1445	-	-	-	-	-	1200 - 1300
Noon Peak Volume	1	12	12	1	1	1	0	1	0	0	0	0	0	23

Bi-Directional Class Count || SB WB 15min



www.marrtraffic.com

Hall County, GA

Site 1	Date	Weather
Antioch Campground Rd, east of Sardis Rd	Tuesday, August 8, 2023	Mostly Cloudy 77°F
	Lat/Long	34.350509°, -83.887030°

[Click here for Map](#)

0000 - 2400 (Weekday 24h Session) (08-08-2023)

SB WB 15m

Noon Peak Hour	1145 - 1245	1230 - 1330	1415 - 1515	-	1015 - 1115	1030 - 1130	-	-	-	-	-	-	-	1230 - 1330
Noon Peak Volume	1	14	5	0	2	1	0	0	0	0	0	0	0	18

Bi-Directional Class Count || Bi-Directional 15min

Hall County, GA



Site 1
Antioch Campground Rd,
east of Sardis Rd

Date
Tuesday, August 8, 2023
Lat/Long
34.350509°, -83.887030°

Weather
Mostly Cloudy
77°F

0000 - 2400 (Weekday 24h Session) (08-08-2023)

Bi-Directional 15min

Time	Bi-Directional 15min													15min Total	60min Total
	1	2	3	4	5	6	7	8	9	10	11	12	13		
0000 - 0015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0015 - 0030	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
0030 - 0045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0045 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0100 - 0115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0115 - 0130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0130 - 0145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0145 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0215 - 0230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0230 - 0245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0245 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0315 - 0330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0330 - 0345	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
0345 - 0400	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
0400 - 0415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0415 - 0430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0430 - 0445	0	1	1	0	0	0	0	0	0	0	0	0	0	2	2
0445 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0515 - 0530	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
0530 - 0545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0545 - 0600	0	2	0	0	0	0	0	0	0	0	0	0	0	2	3
0600 - 0615	0	5	0	0	0	0	0	0	0	0	0	0	0	5	
0615 - 0630	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0630 - 0645	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0645 - 0700	0	2	1	1	0	0	0	0	0	0	0	0	0	4	12
0700 - 0715	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
0715 - 0730	0	5	1	0	0	0	0	0	0	0	0	0	0	7	
0730 - 0745	0	6	1	0	0	0	0	0	0	0	0	0	0	7	
0745 - 0800	0	4	0	0	0	0	0	0	0	0	0	0	0	4	19
0800 - 0815	0	8	2	0	0	0	0	0	0	0	0	0	0	10	
0815 - 0830	0	2	2	0	0	0	0	0	0	0	0	0	0	4	
0830 - 0845	0	3	0	0	1	0	0	0	0	0	0	0	0	4	
0845 - 0900	0	2	1	0	1	0	0	0	0	0	0	0	0	4	22
0900 - 0915	0	2	1	0	0	0	0	0	0	0	0	0	0	3	
0915 - 0930	0	3	4	0	0	0	0	0	0	0	0	0	0	3	
0930 - 0945	0	2	1	0	0	0	0	0	0	0	0	0	0	3	
0945 - 1000	0	3	2	0	0	0	0	0	0	0	0	0	0	5	18
1000 - 1015	0	6	0	0	0	0	0	0	0	0	0	0	0	6	
1015 - 1030	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
1030 - 1045	0	1	1	0	0	1	0	0	0	0	0	0	0	3	
1045 - 1100	0	3	2	0	0	0	0	0	0	0	0	0	0	5	18
1100 - 1115	0	1	0	0	2	0	0	0	0	0	0	0	0	3	
1115 - 1130	0	3	0	0	0	1	0	0	0	0	0	0	0	4	
1130 - 1145	0	3	0	0	1	0	0	0	0	0	0	0	0	4	
1145 - 1200	0	2	3	0	0	0	0	0	0	0	0	0	0	5	16
1200 - 1215	1	3	5	0	0	0	0	0	0	0	0	0	0	9	
1215 - 1230	0	1	2	0	0	0	0	0	0	0	0	0	0	3	
1230 - 1245	1	5	3	0	0	0	0	0	0	0	0	0	0	14	35
1245 - 1300	0	9	5	0	0	0	0	0	0	0	0	0	0	0	
1300 - 1315	0	5	1	0	0	0	0	0	0	0	0	0	0	6	
1315 - 1330	0	4	1	0	0	0	0	0	0	0	0	0	0	5	
1330 - 1345	0	3	1	0	0	0	0	0	0	0	0	0	0	4	
1345 - 1400	0	2	2	0	0	0	0	0	0	0	0	0	0	4	19
1400 - 1415	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
1415 - 1430	0	5	1	0	0	0	0	0	0	0	0	0	0	6	
1430 - 1445	0	2	1	0	0	0	0	0	1	0	0	0	0	4	
1445 - 1500	0	7	3	1	0	0	0	0	0	0	0	0	0	11	23
1500 - 1515	0	4	3	0	0	0	0	0	0	0	0	0	0	7	
1515 - 1530	0	6	1	0	0	0	0	0	0	0	0	0	0	3	
1530 - 1545	0	2	1	0	0	0	0	0	0	0	0	0	0	3	
1545 - 1600	0	9	6	0	0	0	0	0	0	0	0	0	0	15	32
1600 - 1615	0	2	5	1	0	0	0	0	0	0	0	0	0	8	
1615 - 1630	0	3	3	0	0	0	0	0	0	0	0	0	0	6	
1630 - 1645	0	3	5	0	0	0	0	0	0	0	0	0	0	8	
1645 - 1700	0	9	1	0	0	0	0	0	0	0	0	0	0	10	32
1700 - 1715	0	4	1	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	8	1	0	0	0	0	0	0	0	0	0	0	9	
1730 - 1745	0	6	0	0	0	0	0	0	0	0	0	0	0	6	
1745 - 1800	0	9	2	0	0	0	0	0	0	0	0	0	0	11	31
1800 - 1815	0	6	2	0	0	0	0	0	0	0	0	0	0	8	
1815 - 1830	0	3	5	0	1	0	0	0	0	0	0	0	0	9	
1830 - 1845	0	5	2	0	1	0	0	0	0	0	0	0	0	8	
1845 - 1900	0	2	1	0	0	0	0	0	0	0	0	0	0	3	
1900 - 1915	0	3	0	0	0	0	0	0	0	0	0	0	0	2	
1915 - 1930	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
1930 - 1945	0	0	3	0	0	0	0	0	0	0	0	0	0	3	
1945 - 2000	0	5	3	0	0	0	0	0	0	0	0	0	0	8	16
2000 - 2015	0	4	1	0	0	0	0	0	0	0	0	0	0	5	
2015 - 2030	0	2	1	0	0	0	0	0	0	0	0	0	0	3	
2030 - 2045	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
2045 - 2100	0	1	0	0	0	0	0	0	0	0	0	0	0	1	11
2100 - 2115	0	1	2	0	0	0	0	0	0	0	0	0	0	3	
2115 - 2130	0	5	2	0	0	0	0	0	0	0	0	0	0	7	
2130 - 2145	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
2145 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
2200 - 2215	0	1	2	0	0	0	0	0	0	0	0	0	0	3	
2215 - 2230	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2230 - 2245	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2245 - 2300	0	1	0	0	0	0	0	0	0	0	0	0	0	1	6
2300 - 2315	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
2315 - 2330	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2330 - 2345	1	1	0	0	0	0	0	0	0	0	0	0	0	2	
2345 - 0000	0	1	0												

Bi-Directional Class Count || Volume Summary 15min

Hall County, GA



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Site 1

Antioch Campground Rd,
east of Sardis Rd

Date

Tuesday, August 8, 2023

Weather

Mostly Cloudy
77°F

Lat/Long

34.350509°, -83.887030°

0000 - 2400 (Weekday 24h Session) (08-08-2023)

Volume Summary 15min

TIME	Volume Summary 15min		15min Total	60min Total
	EB	WB		
0000 - 0015	0	0	0	
0015 - 0030	1	0	1	
0030 - 0045	0	0	0	
0045 - 0100	0	0	0	1
0100 - 0115	0	0	0	
0115 - 0130	0	0	0	
0130 - 0145	0	0	0	
0145 - 0200	0	0	0	0
0200 - 0215	0	0	0	
0215 - 0230	0	0	0	
0230 - 0245	0	0	0	
0245 - 0300	0	0	0	0
0300 - 0315	0	0	0	
0315 - 0330	0	0	0	
0330 - 0345	0	1	1	
0345 - 0400	0	1	1	2
0400 - 0415	0	0	0	
0415 - 0430	0	0	0	
0430 - 0445	0	2	2	
0445 - 0500	0	0	0	2
0500 - 0515	0	0	0	
0515 - 0530	0	1	1	
0530 - 0545	0	0	0	
0545 - 0600	1	1	2	3
0600 - 0615	1	4	5	
0615 - 0630	1	1	2	
0630 - 0645	0	1	1	
0645 - 0700	1	3	4	12
0700 - 0715	0	1	1	
0715 - 0730	3	4	7	
0730 - 0745	1	6	7	
0745 - 0800	2	2	4	19
0800 - 0815	4	6	10	
0815 - 0830	2	2	4	
0830 - 0845	2	2	4	
0845 - 0900	1	3	4	22
0900 - 0915	2	1	3	
0915 - 0930	4	3	7	
0930 - 0945	1	2	3	
0945 - 1000	2	3	5	18
1000 - 1015	3	3	6	
1015 - 1030	3	1	4	
1030 - 1045	2	1	3	
1045 - 1100	5	0	5	18
1100 - 1115	0	3	3	
1115 - 1130	1	3	4	
1130 - 1145	4	0	4	
1145 - 1200	3	2	5	16

Time	Volume Summary 15min		15min Total	60min Total
	EB	WB		
1200 - 1215	8	1	9	
1215 - 1230	2	1	3	
1230 - 1245	4	5	9	
1245 - 1300	9	5	14	35
1300 - 1315	2	4	6	
1315 - 1330	1	4	5	
1330 - 1345	2	2	4	
1345 - 1400	4	0	4	19
1400 - 1415	1	1	2	
1415 - 1430	2	4	6	
1430 - 1445	2	2	4	
1445 - 1500	9	2	11	23
1500 - 1515	3	4	7	
1515 - 1530	2	5	7	
1530 - 1545	2	1	3	
1545 - 1600	9	6	15	32
1600 - 1615	5	3	8	
1615 - 1630	2	4	6	
1630 - 1645	3	5	8	
1645 - 1700	4	6	10	32
1700 - 1715	3	2	5	
1715 - 1730	4	5	9	
1730 - 1745	2	4	6	
1745 - 1800	5	6	11	31
1800 - 1815	5	3	8	
1815 - 1830	6	3	9	
1830 - 1845	7	1	8	
1845 - 1900	1	2	3	28
1900 - 1915	1	2	3	
1915 - 1930	2	0	2	
1930 - 1945	3	0	3	
1945 - 2000	3	5	8	16
2000 - 2015	2	3	5	
2015 - 2030	2	1	3	
2030 - 2045	1	1	2	
2045 - 2100	1	0	1	11
2100 - 2115	2	1	3	
2115 - 2130	4	3	7	
2130 - 2145	0	2	2	
2145 - 2200	0	0	0	12
2200 - 2215	2	1	3	
2215 - 2230	0	1	1	
2230 - 2245	1	0	1	
2245 - 2300	1	0	1	6
2300 - 2315	1	1	2	
2315 - 2330	0	1	1	
2330 - 2345	2	0	2	
2345 - 0000	1	0	1	6

Session Total	188	176	364
Session Average	1.96	1.83	3.79
Session Percentage	51.65	48.35	

Bi-Directional Class Count || NB EB 60min

Hall County, GA



Site 1 <hr/> <p>Antioch Campground Rd, east of Sardis Rd</p>	Date <hr/> <p>Tuesday, August 8, 2023</p>	Weather <hr/> <p>Mostly Cloudy 77°F</p>
	Lat/Long <hr/> <p>34.350509°, -83.887030°</p>	

0000 - 2400 (Weekday 24h Session) (08-08-2023)

NB EB 60min

Session Total	2	129	48	4	3	1	0	1	0	0	0	0	0	0	188
Session Average	0.08	5.38	2.00	0.17	0.13	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	7.83
Session Percentage	1.06	68.62	25.53	2.13	1.60	0.53	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	

Noon Peak Hour	1200 - 1300	1000 - 1100	1200 - 1300	1400 - 1500	1100 - 1200	1000 - 1100	-	1400 - 1500	-	-	-	-	-	1200 - 1300
Noon Peak Volume	1	10	12	1	1	1	0	1	0	0	0	0	0	23

Bi-Directional Class Count || SB WB 60min

Hall County, GA



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Site 1 Antioch Campground Rd, east of Sardis Rd	Date Tuesday, August 8, 2023	Weather Mostly Cloudy 77°F
	Lat/Long 34.350509°, -83.887030°	

0000 - 2400 (Weekday 24h Session) (08-08-2023)

SB WB 60min

Noon Peak Hour	1200 - 1300	1200 - 1300	1200 - 1300	-	1100 - 1200	1100 - 1200	-	-	-	-	-	-	-	1200 - 1300
Noon Peak Volume	1	8	3	0	2	1	0	0	0	0	0	0	0	12

Bi-Directional Class Count | Bi-Directional 60min

Hall County, GA



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Site 1 Antioch Campground Rd, east of Sardis Rd	Date Tuesday, August 8, 2023	Weather Mostly Cloudy 77°F
	Lat/Long 34.350509°, -83.887030°	

0000 - 2400 (Weekday 24h Session) (08-08-2023)

Bi-Directional 60min

Session Total	3	245	102	4	7	2	0	1	0	0	0	0	0	364
Session Average	0.13	10.21	4.25	0.17	0.29	0.08	0.00	0.04	0.00	0.00	0.00	0.00	0.00	15.17
Session Percentage	0.82	67.31	28.02	1.10	1.92	0.55	0.00	0.27	0.00	0.00	0.00	0.00	0.00	100.00

Noon Peak Hour	1200 - 1300	1200 - 1300	1200 - 1300	1400 - 1500	1100 - 1200	1000 - 1100	-	1400 - 1500	-	-	-	-	-	1200 - 1300
Noon Peak Volume	2	18	15	1	3	1	0	1	0	0	0	0	0	35

Bi-Directional Class Count || Volume Summary 60min

Hall County, GA



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Site 1
Antioch Campground Rd,
east of Sardis Rd

Date
Tuesday, August 8, 2023

Weather
Mostly Cloudy
77°F

Lat/Long
34.350509°, -83.887030°

0000 - 2400 (Weekday 24h Session) (08-08-2023)

Volume Summary 60min

TIME	Volume Summary 60min		
	EB	WB	Total
0000 - 0100	1	0	1
0100 - 0200	0	0	0
0200 - 0300	0	0	0
0300 - 0400	0	2	2
0400 - 0500	0	2	2
0500 - 0600	1	2	3
0600 - 0700	3	9	12
0700 - 0800	6	13	19
0800 - 0900	9	13	22
0900 - 1000	9	9	18
1000 - 1100	13	5	18
1100 - 1200	8	8	16
Session Total	188	176	364
Session Average	7.83	7.33	15.17
Session Percentage	51.65	48.35	

Time	Volume Summary 60min		
	EB	WB	Total
1200 - 1300	23	12	35
1300 - 1400	9	10	19
1400 - 1500	14	9	23
1500 - 1600	16	16	32
1600 - 1700	14	18	32
1700 - 1800	14	17	31
1800 - 1900	19	9	28
1900 - 2000	9	7	16
2000 - 2100	6	5	11
2100 - 2200	6	6	12
2200 - 2300	4	2	6
2300 - 2400	4	2	6

Bi-Directional Class Count | Graphical Analysis NB EB

Hall County, GA

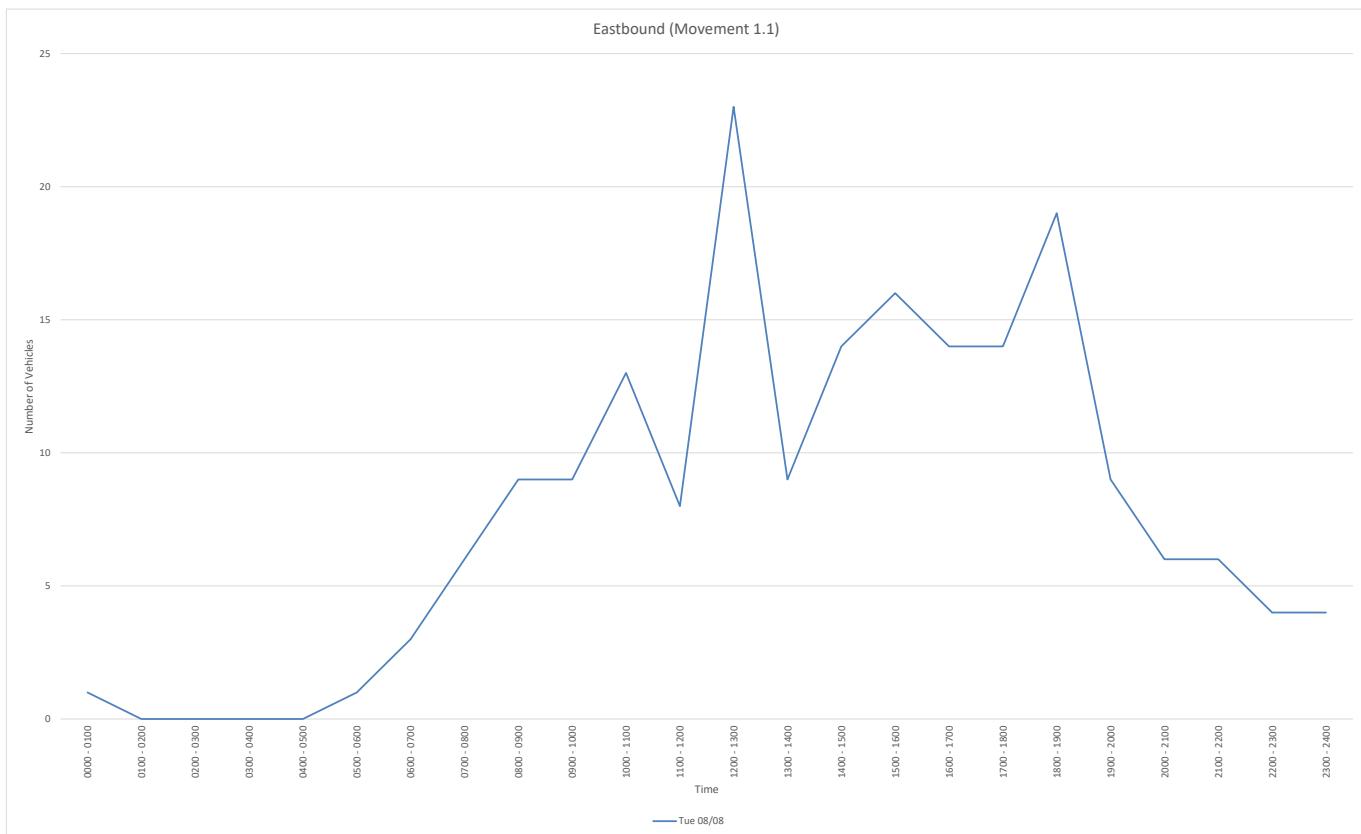
Site 1
Antioch Campground Rd,
east of Sardis Rd

Lat/Long

34.350509°, -83.887030°

0000 - 2400 (Weekday 24h Session)

Graphical Analysis NB EB



Bi-Directional Class Count | Graphical Analysis SB WB

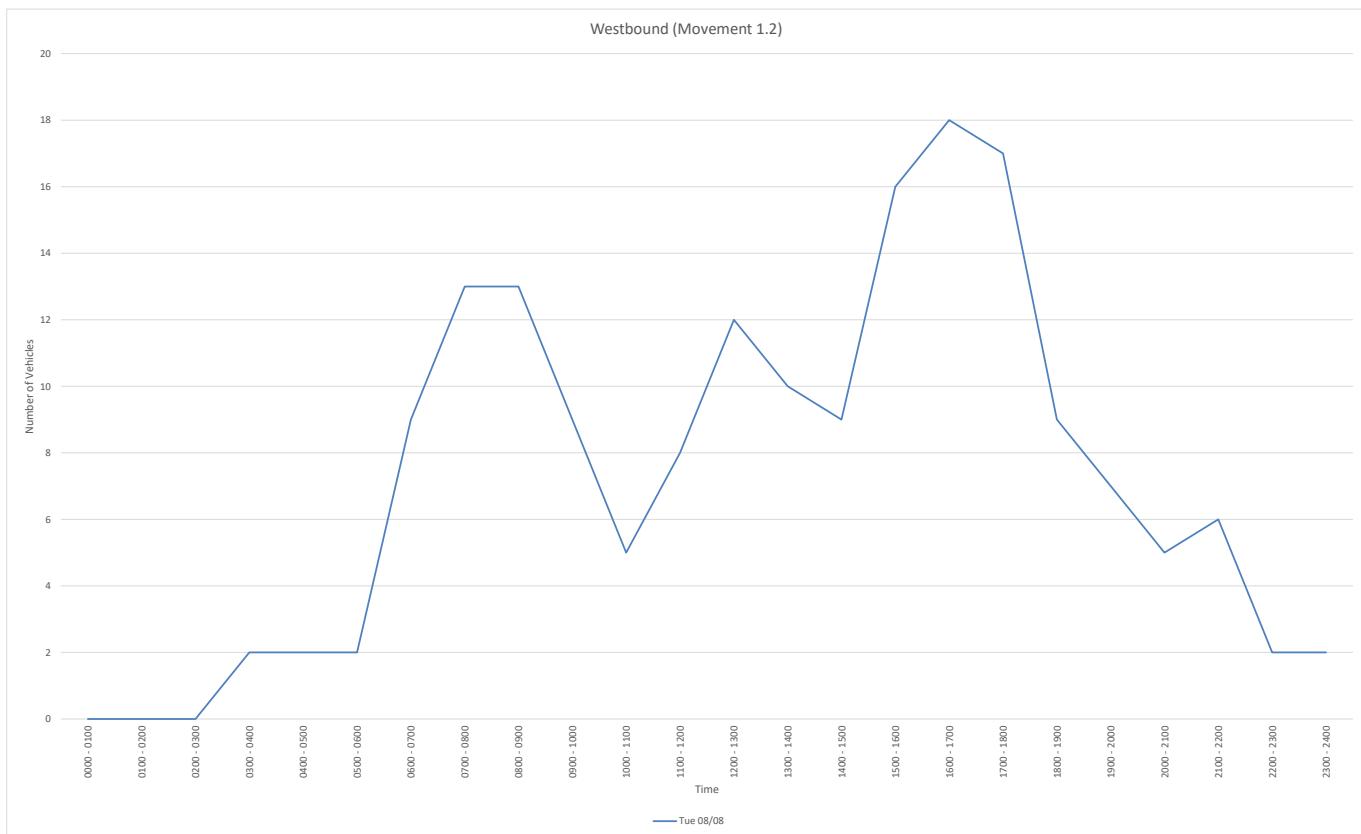
Hall County, GA

Site 1
Antioch Campground Rd,
east of Sardis Rd

Lat/Long
34.350509°, -83.887030°

0000 - 2400 (Weekday 24h Session)

Graphical Analysis SB WB



Bi-Directional Class Count | Graphical Analysis BiDir

Hall County, GA

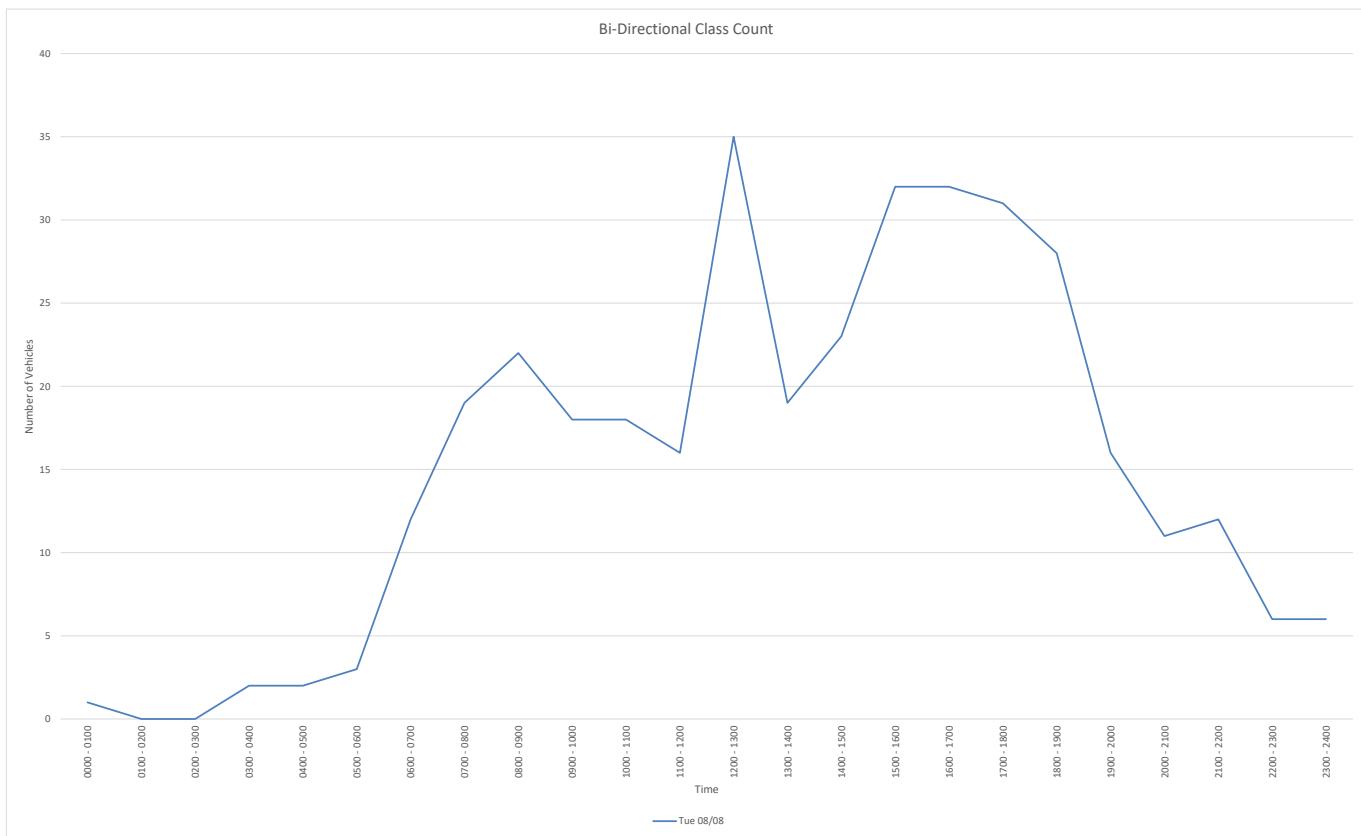
Site 1
Antioch Campground Rd,
east of Sardis Rd

Lat/Long

34.350509°, -83.887030°

0000 - 2400 (Weekday 24h Session)

Graphical Analysis BiDir



EB

File Name:
Start Date: 8/8/2023
Start Time: 0

Start Time

Site Code:

Station ID: 1
Location 1: Antioch Campground Rd., east of Sardis Rd.

Location 1:
Location 2:

WB

File Name:
Start Date: 8/8/2023
Start Time: 0

Start Time

Site Code:

Station ID: 1

Location 1: Antioch Campground Rd, east of Sardis Rd
Location 2:

Location 2:

EB

File Name:

Start Date: 8/8/2023

Start Time: 0

Site Code: 1

Station ID: 1
Location 1: Antioch Campground Rd., east of Sardis Rd.

Location 1: A
Location 2:

WB

File Name:
Start Date: 8/8/2023
Start Time: 0

Start Time: 0
Site Code: 1

Site Code: 1
Station ID: 2

Station ID: 1
Location: 1

Location 1: Antioch Campground Rd, east of Sardis Rd
Location 2:

Location 2:

Somerset at Sardis Creek Residential - Growth Rate Calculation Worksheet

Percentage Growth - Traffic Data										
Roadway	County	Traffic Count Station	2018 Traffic Volumes	2019 Traffic Volumes	2020 Traffic Volumes	2021 Traffic Volumes	2022 Traffic Volumes	2023 Traffic Volumes by Linear Regress.	2027 Traffic Volumes by Linear Regress.	Annual Growth 2023 to 2025
Sardis Road	Hall	139-0509	8,350	8,140	7,350	8,010	8,190	7,873	7,693	-0.6%
Ledan Road	Hall	139-0113	5,840	5,840	5,800	6,100	6,170	6,226	6,594	1.5%
Weighted Average			14,190	13,980	13,150	14,110	14,360	14,099	14,287	0.3%

Percentage Growth - US Census Data								
Census Area	2018 Population	2019 Population	2020 Population	2021 Population	2022 Population	2023 Population by Linear Regress.	2026 Population by Linear Regress.	Annual Growth 2023 to 2025
City of Gainesville	41,336	43,233	42,565	43,398	45,282	45,580	47,997	1.8%
Hall County	201,396	204,310	203,735	207,393	212,692	213,608	221,310	1.2%
Weighted Average	242,732	247,543	246,300	250,791	257,974	259,188	269,307	1.3%

APPENDIX C:

SYNCHRO REPORTS

Intersection

Int Delay, s/veh 0.5

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations						
Traffic Vol, veh/h	13	9	253	6	12	634
Future Vol, veh/h	13	9	253	6	12	634
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	6	13	0	3
Mvmt Flow	14	10	278	7	13	697

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	1004	281	0	0	285	0
Stage 1	281	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.1	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.2	-
Pot Cap-1 Maneuver	263	748	-	-	1289	-
Stage 1	757	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	259	748	-	-	1289	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	465	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s/v 15.93 0 0.15

HCM LOS C

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	353	33	-
HCM Lane V/C Ratio	-	-	0.068	0.01	-
HCM Control Delay (s/veh)	-	-	15.9	7.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection

Int Delay, s/veh 0.4

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations   

Traffic Vol, veh/h 5 15 520 8 13 448

Future Vol, veh/h 5 15 520 8 13 448

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length - - - - - -

Veh in Median Storage, # 0 - 0 - - 0

Grade, % 0 - 0 - - 0

Peak Hour Factor 94 94 94 94 94 94

Heavy Vehicles, % 0 0 2 7 0 2

Mvmt Flow 5 16 553 9 14 477

Major/Minor Minor1 Major1 Major2

Conflicting Flow All 1062 557 0 0 562 0

Stage 1 557 - - - - -

Stage 2 504 - - - - -

Critical Hdwy 6.4 6.2 - - 4.1 -

Critical Hdwy Stg 1 5.4 - - - - -

Critical Hdwy Stg 2 5.4 - - - - -

Follow-up Hdwy 3.5 3.3 - - 2.2 -

Pot Cap-1 Maneuver 250 533 - - 1020 -

Stage 1 577 - - - - -

Stage 2 611 - - - - -

Platoon blocked, % - - - - - -

Mov Cap-1 Maneuver 245 533 - - 1020 -

Mov Cap-2 Maneuver 245 - - - - -

Stage 1 577 - - - - -

Stage 2 599 - - - - -

Approach WB NB SB

HCM Control Delay, s/v 14.21 0 0.24

HCM LOS B

Minor Lane/Major Mvmt NBT NBR WBL N1 SBL SBT

Capacity (veh/h) - - 412 51 -

HCM Lane V/C Ratio - - 0.052 0.014 -

HCM Control Delay (s/veh) - - 14.2 8.6 0

HCM Lane LOS - - B A A

HCM 95th %tile Q(veh) - - 0.2 0 -

Intersection

Int Delay, s/veh 0.5

Movement WBL WBR NBT NBR SBL SBTLane Configurations   

Traffic Vol, veh/h 14 10 268 6 13 673

Future Vol, veh/h 14 10 268 6 13 673

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length - - - - - -

Veh in Median Storage, # 0 - 0 - - 0

Grade, % 0 - 0 - - 0

Peak Hour Factor 91 91 91 91 91 91

Heavy Vehicles, % 6 6 6 13 0 3

Mvmt Flow 15 11 295 7 14 740

Major/Minor Minor1 Major1 Major2

Conflicting Flow All 1066 298 0 0 301 0

Stage 1 298 - - - - -

Stage 2 768 - - - - -

Critical Hdwy 6.46 6.26 - - 4.1 -

Critical Hdwy Stg 1 5.46 - - - - -

Critical Hdwy Stg 2 5.46 - - - - -

Follow-up Hdwy 3.554 3.354 - - 2.2 -

Pot Cap-1 Maneuver 242 732 - - 1271 -

Stage 1 744 - - - - -

Stage 2 451 - - - - -

Platoon blocked, % - - - - - -

Mov Cap-1 Maneuver 237 732 - - 1271 -

Mov Cap-2 Maneuver 237 - - - - -

Stage 1 744 - - - - -

Stage 2 442 - - - - -

Approach WB NB SB

HCM Control Delay, s/v 16.84 0 0.15

HCM LOS C

Minor Lane/Major Mvmt NBT NBR WBL N1 SBL SBT

Capacity (veh/h) - - 330 34 -

HCM Lane V/C Ratio - - 0.08 0.011 -

HCM Control Delay (s/veh) - - 16.8 7.9 0

HCM Lane LOS - - C A A

HCM 95th %tile Q(veh) - - 0.3 0 -

Intersection

Int Delay, s/veh 0.4

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations						
Traffic Vol, veh/h	5	16	552	8	14	475
Future Vol, veh/h	5	16	552	8	14	475
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	7	0	2
Mvmt Flow	5	17	587	9	15	505

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	1127	591	0	0	596	0
Stage 1	591	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	228	510	-	-	991	-
Stage 1	557	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	224	510	-	-	991	-
Mov Cap-2 Maneuver	224	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	579	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s/v 14.76 0 0.25

HCM LOS B

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	391	52	-
HCM Lane V/C Ratio	-	-	0.057	0.015	-
HCM Control Delay (s/veh)	-	-	14.8	8.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection

Int Delay, s/veh 1

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations						
Traffic Vol, veh/h	26	21	268	12	18	673
Future Vol, veh/h	26	21	268	12	18	673
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	6	13	0	3
Mvmt Flow	29	23	295	13	20	740

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	1080	301	0	0	308	0
Stage 1	301	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.1	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.2	-
Pot Cap-1 Maneuver	237	729	-	-	1264	-
Stage 1	742	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	231	729	-	-	1264	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s/v 17.82 0 0.21

HCM LOS C

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	332	47	-
HCM Lane V/C Ratio	-	-	0.155	0.016	-
HCM Control Delay (s/veh)	-	-	17.8	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection						
Int Delay, s/veh	3.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	17	5	3	19	23	1
Future Vol, veh/h	17	5	3	19	23	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
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	18	5	3	21	25	1
Major/Minor						
Major1	Major2		Minor1			
	0	0	24	0	48	21
Conflicting Flow All	-	-	-	-	21	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	27	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1591	-	961	1056
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	995	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1591	-	959	1056
Mov Cap-2 Maneuver	-	-	-	-	959	-
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	993	-
Approach						
EB	WB		NB			
	0	0.99	8.84			
HCM LOS			A			
Minor Lane/Major Mvmt						
NBLn1	EBT	EBR	WBL	WBT		
	963	-	-	245		
Capacity (veh/h)	963	-	-	245		
HCM Lane V/C Ratio	0.027	-	-	0.002		
HCM Control Delay (s/veh)	8.8	-	-	7.3		
HCM Lane LOS	A	-	-	A		
HCM 95th %tile Q(veh)	0.1	-	-	0		

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
----------	-----	-----	-----	-----	-----	-----

Lane Configurations	↑		↑		↑	
Traffic Vol, veh/h	12	6	0	22	0	5
Future Vol, veh/h	12	6	0	22	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Stop
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	7	0	24	0	5

Major/Minor	Major1	Major2	Minor1
-------------	--------	--------	--------

Conflicting Flow All	0	-	-	-	-	13
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	-	0	1067
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-					-
Mov Cap-1 Maneuver	-	-	-	-	-	1067
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
----------	----	----	----

HCM Control Delay, s/v	0	0	8.39
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
-----------------------	-------	-----	-----

Capacity (veh/h)	1067	-	-
HCM Lane V/C Ratio	0.005	-	-
HCM Control Delay (s/veh)	8.4	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection

Int Delay, s/veh 0.8

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations						
Traffic Vol, veh/h	13	23	552	20	26	475
Future Vol, veh/h	13	23	552	20	26	475
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	7	0	2
Mvmt Flow	14	24	587	21	28	505

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	1159	598	0	0	609	0
Stage 1	598	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	219	506	-	-	980	-
Stage 1	553	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	210	506	-	-	980	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s/v 17.11 0 0.46

HCM LOS C

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	335	93	-
HCM Lane V/C Ratio	-	-	0.114	0.028	-
HCM Control Delay (s/veh)	-	-	17.1	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	27	12	6	18	15	1
Future Vol, veh/h	27	12	6	18	15	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	13	7	20	16	1
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	42	0	68	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1567	-	936	1037
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	990	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1567	-	932	1037
Mov Cap-2 Maneuver	-	-	-	-	932	-
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	986	-
Approach	EB	WB	NB			
HCM Control Delay, s/v	0	1.83	8.91			
HCM LOS			A			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	938	-	-	450	-	
HCM Lane V/C Ratio	0.019	-	-	0.004	-	
HCM Control Delay (s/veh)	8.9	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations	↑		↑		↑	
Traffic Vol, veh/h	16	12	0	24	0	3
Future Vol, veh/h	16	12	0	24	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Stop
Storage Length	-	-	-	-	-	-
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	17	13	0	26	0	3

Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	-	-	-	-	17
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	-	0	1061
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-					-
Mov Cap-1 Maneuver	-	-	-	-	-	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
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HCM Control Delay, s/v 0 0 8.4

HCM LOS A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
-----------------------	-------	-----	-----

Capacity (veh/h)	1061	-	-
HCM Lane V/C Ratio	0.003	-	-
HCM Control Delay (s/veh)	8.4	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

APPENDIX D:

TURN LANE EVALUATIONS

Site Driveway 1

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

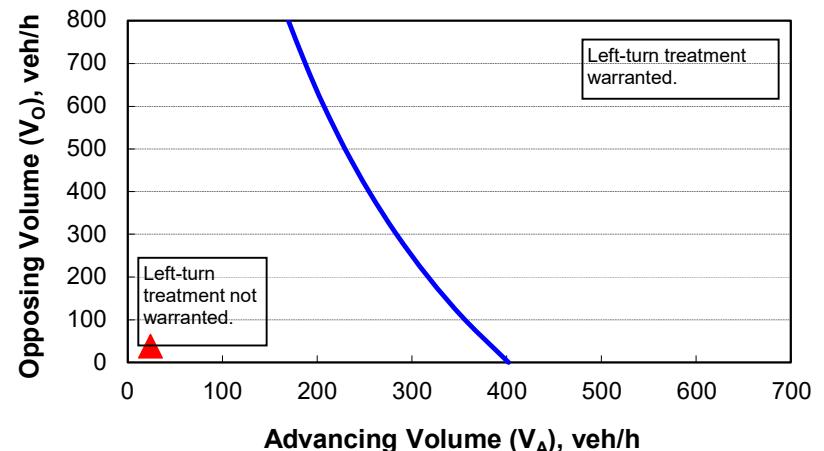
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	25%
Advancing volume (V_A), veh/h:	24
Opposing volume (V_O), veh/h:	39

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	383
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Site Driveway 1

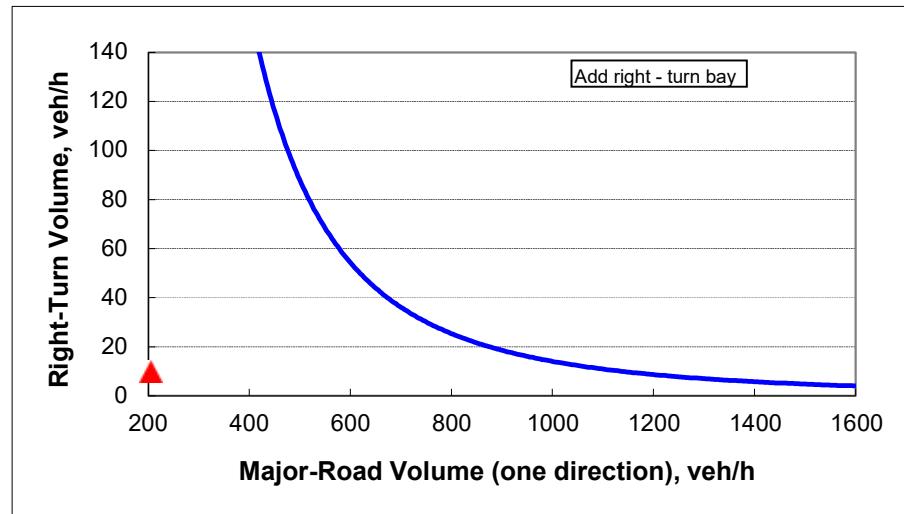
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	39
Right-turn volume, veh/h:	12

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	74086
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Site Driveway 2

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	38
Right-turn volume, veh/h:	12

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	79347
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

