TRAFFIC IMPACT STUDY

Owens Road Residential

Greenville County, South Carolina

JUNE 13, 2024

IMPACT DESIGNS, INC.
Prepared by: Allen J. Reid, PE

TRAFFIC IMPACT STUDY

Owens Road Residential

GREENVILLE COUNTY, SOUTH CAROLINA

REPORT PREPARED FOR:
Forestar
750 Executive Center Drive, Suite 101
Greenville, SC 29615

REPORT PREPARED BY
Impact Designs Inc.
172 Williamson Road, Unit 3728
Mooresville, NC 28117
nick@impactdesignsinc.com

Table of Contents

Tables

Figures

Appendices

EXECUTIVE SUMMARY

A traffic impact study was conducted for the proposed Owens Road Residential development in accordance with SCDOT guidelines. The proposed development is located on the north side of Owens Road, west of N. Flat Rock Road, in Greenville County, South Carolina. The development is expected to consist of up to 291 single family homes and is anticipated to be constructed by the end of 2030.

A turn lane analysis was conducted utilizing the Build (2030) volumes. Based on build out volumes, no turn lanes are warranted for movements at the site accesses.

The capacity analysis indicates that operations under Build conditions are generally expected to be similar to No-Build conditions. All approaches at all study intersections are anticipated to operate at LOS B or better in the existing and future scenarios. No mitigation is recommended.

Recommendations:

- None

1. INTRODUCTION

The purpose of this report is to summarize the traffic impact study that was completed for Owens Road Residential site in Greenville County, South Carolina. The study was developed in accordance with SCDOT guidelines. This report summarizes the procedures and findings of the traffic impact study.

1.1. Project Summary

The proposed development is located on north side of Owens Road, west of N. Flat Rock Road, in Greenville County, South Carolina. The development is expected to consist of up to 291 single family homes and is anticipated to be constructed by the end of 2030. This traffic impact study analyzes the effects of the additional traffic associated with the proposed development during the weekday AM (7 AM - 9 AM) and the weekday PM (4 PM - 6 PM) peak periods. The study area for the purpose of the analysis includes:

- W. Georgia Road and Owens Road/Waycross Church Road
- Owens Road and N. Flat Rock Road
- N. Flat Rock Road and Woodmont School Road
- Owens Road and Access A
- Owens Road and Access B
- N. Flat Rock Road and Access C

The proposed development is expected to be built out by the end of 2030. Therefore, 2030 was considered as the future year for the purpose of this analysis. Refer to Figures 1 and 2 for the site location and the conceptual site plan.

1.2. Existing Roadway Conditions

The primary roadways within the study area include W. Georgia Road, Owens Road, N. Flat Rock Road, and Woodmont School Road. A summary of their existing characteristics is shown in Table 1.

Table 1 – Study Area Summary

Facility Name	Route #	Typical Cross Section	Posted Speed Limit	Maintained By	2023 AADT
W. Georgia Road	S-541	2-lane undivided	40 MPH	SCDOT	1,150
Owens Road	N/A	2-lane undivided	30 MPH	Local	No Data
N. Flat Rock Road	N/A	2-lane undivided	30 MPH	Local	No Data
Woodmont School Road	S-659	2-lane undivided	30 MPH	SCDOT	No Data

Refer to Figure 3 for an illustration of the existing geometry and traffic control at the study intersections.

1.3. Driveway Locations

Direct access to the Owens Road Residential development is proposed to be provided via two full movement accesses on Owens Road and a full movement access on N. Flat Rock Road.

NORTH

LEGEND

Proposed Site Location

Study Intersections

IMPACT
Designs, Inc.

Owens Road Residential
Greenville County, SC

Site Location Map

Scale: Not to Scale	Figure	1

SITE DATA

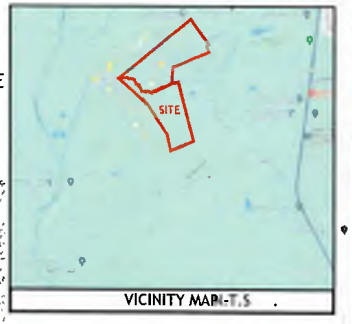
TAX MAP NO :	0602020100500, 0602020100900
SITE AREA:	±121.40 AC
ZONING	UNZONED
SETBACKS:	
OWENS ROAD:	30'
N FLAT ROCK ROAD:	30'
BUFFERS:	
PERIMETER:	50'
RIPARIAN:	50'
PROPOSED ROADWAY:	±11,110 LF (46' PUBLIC ROW)
PROPOSED LOTS:	123 LOTS (52' X 125' TYP.) 168 LOTS (52' X 135' TYP.) 291 TOTAL LOTS (MINIMUM 6,000 SF)
PROPOSED DENSITY:	±2.40 LOTS/AC
OPEN SPACE REQUIRED:	±30.35 AC (25%)
OPEN SPACE PROVIDED:	±47.28 AC (39%)
COMMON SPACE PROVIDED:	±2.51 AC (2%)

*LAYOUT IS SUBJECT TO P.C. APPROVAL.

SITE LEGEND

- COMMON AREA / OPEN SPACE
- 50' PERIMETER & RIPARIAN BUFFER
- PROPERTY LINE/R.O.W.
- PROPOSED BUILDING SETBACK LINE
- FLOODPLAIN
- PROPOSED R/W
- PROPOSED C/L ROAD
- SIGHT DISTANCE LINES
- EXISTING EDGE OF PAVEMENT

N
W E
S



VICINITY MAP-T.S

GRAPHIC SCALE

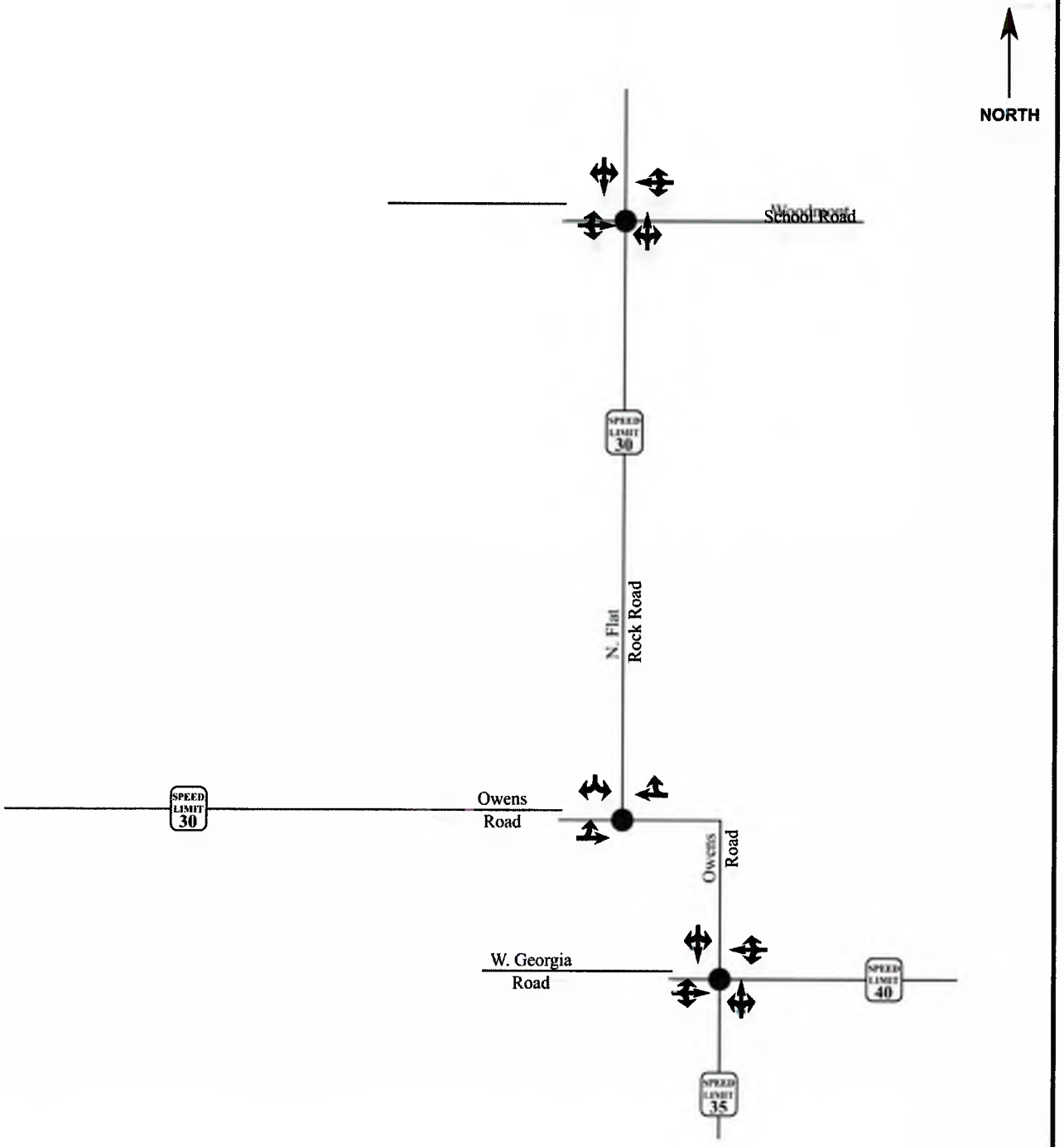
South Carolina 811

bluewATER civil design
bluewater civil design, llc
718 Lowndes Hill Road ♦ Greenville, SC 29607
www.bluewatercivil.com ♦ info@bluewatercivil.com

OWENS ROAD TRACT
(SFR Subdivision - Preliminary)
Owens Road & Mckey Road
Greenville County, SC

Preliminary Site Plan

SP-3



LEGEND

- Signalized Intersection
- Unsignalized Intersection
- Existing Lane
- X' Storage (In Feet)
- SPEED LIMIT XX Posted Speed Limit

IMPACT Designs, Inc.

Owens Road Residential
Greenville County, SC

Existing Lane Configurations and Traffic Control

Scale: Not to Scale	Figure	3

2. TRAFFIC VOLUME DEVELOPMENT

2.1. Existing Traffic Volumes

Existing turning movement counts were conducted at the study intersections in April 2024, during the AM (7 AM to 9 AM) peak period and the PM (4 PM to 6 PM) peak period. The 2024 traffic volumes are illustrated in Figure 4.

2.2. Projected Traffic Volumes

Based on SCDOT Average Annual Daily Traffic (AADT) volumes, daily traffic volumes in the area have increased at an average rate of 1% per year in recent years. To be conservative, a 2% annual growth was applied to the 2024 counts to develop the No-Build (2030) volumes. This growth rate was applied to account for all background growth in the area without any adjacent and/or the proposed developments. The calculations for this factor can be found in Appendix A. Refer to Figure 5 for an illustration of the No-Build (2030) traffic volumes at the study intersections.

2.3. Proposed Development Traffic Volumes

As mentioned previously, the proposed development is expected to consist of up to 291 single family homes. The trip generation potential for the proposed development was estimated utilizing methodology contained within the ITE's *Trip Generation Manual*, 11th Edition. Utilizing ITE data for ITE Code 210, traffic volumes were generated for the weekday daily, the weekday AM peak hour, and the weekday PM peak hour. Refer to Table 2 for a summary of the trip generation potential of the proposed development.

Table 2 – Trip Generation

ITE Land Use (Code)	Density	Independent Variable	Daily Traffic	AM Peak		PM Peak	
				Enter	Exit	Enter	Exit
Single-Family Detached Housing (ITE Code 210)	291	Dwelling Units	2,695	49	148	171	100

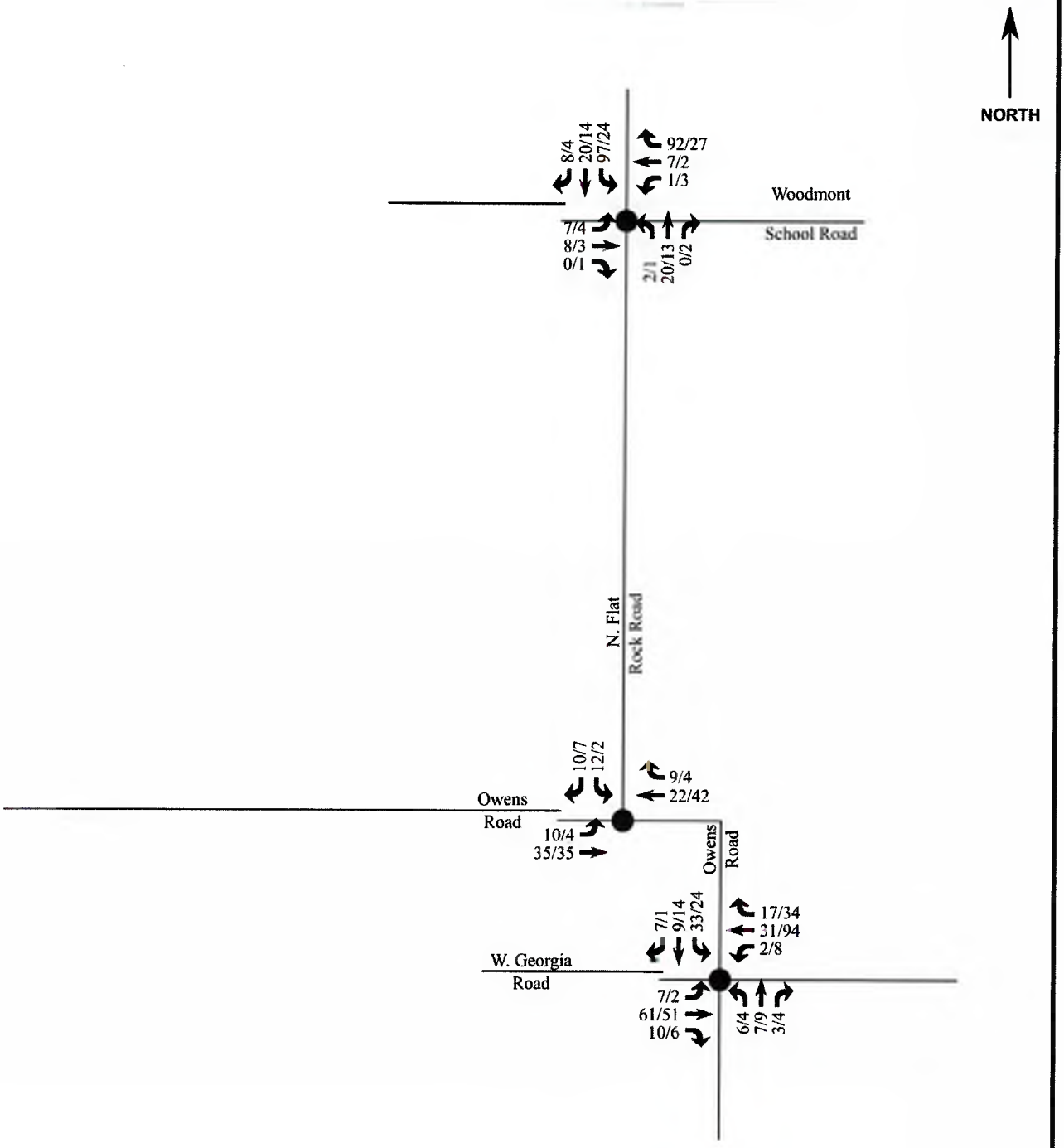
Traffic associated with the proposed development was distributed and assigned to the roadway network based upon existing travel patterns and are summarized below:

- 10% to/from the west via W. Georgia Road
- 25% to/from the east via W. Georgia Road
- 20% to/from the south via Waycross Church Road
- 25% to/from the north via N. Flat Rock Road
- 15% to/from the east via Woodmont School Road

Refer to Figures 6 and 7 for the site trip distributions and assignments.

2.4. Future Build Traffic Volumes

The site generated traffic volumes were added to the No-Build (2030) traffic volumes to determine the Build (2030) volumes. The Build (2030) volumes are illustrated in Figure 8.



LEGEND

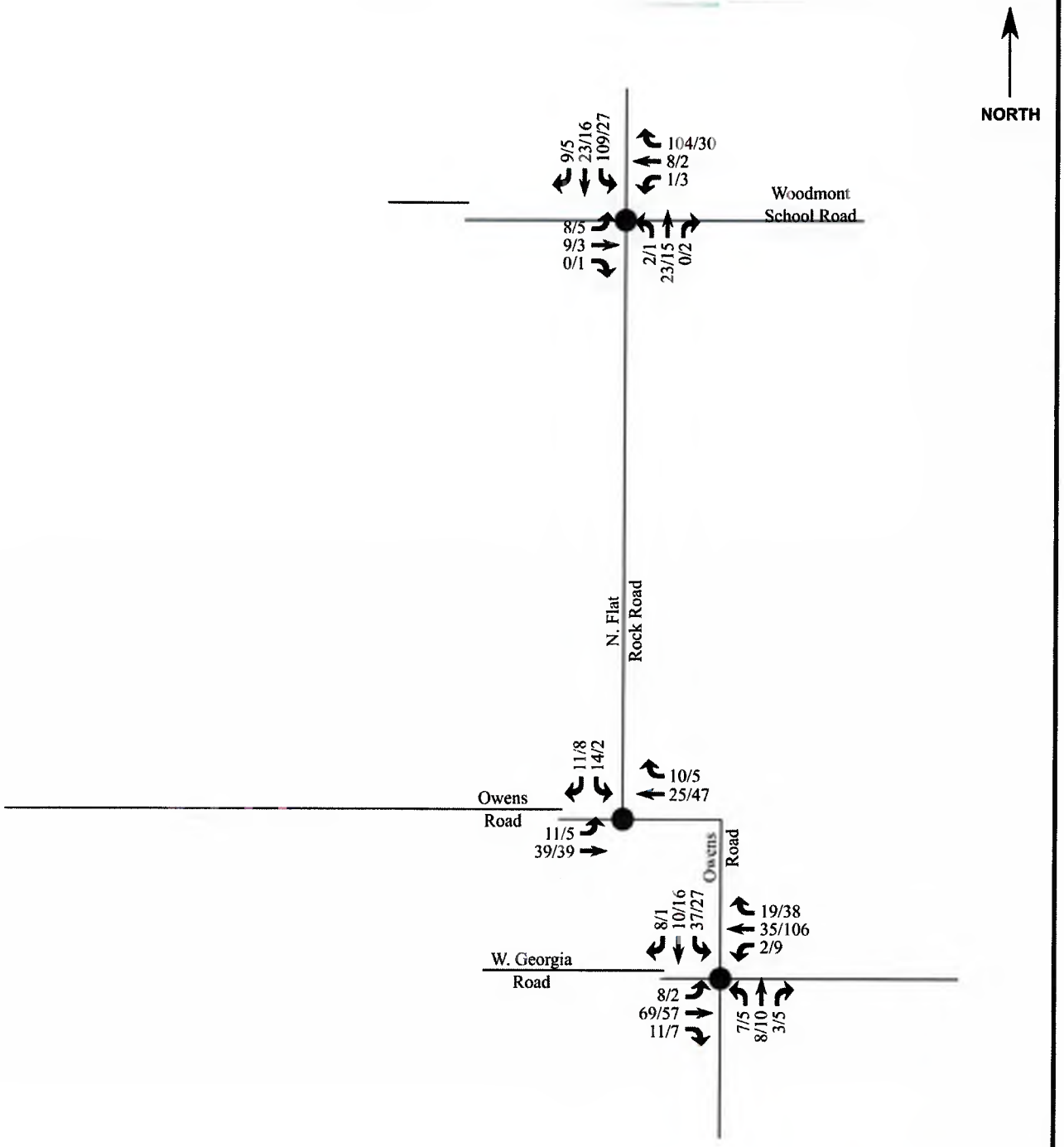
- Signalized Intersection
- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Traffic

IMPACT
Designs, Inc.

Owens Road Residential
Greenville County, SC

Existing (2024)
Traffic Volumes

Scale: Not to Scale	Figure	4



LEGEND

Signalized Intersection

Unsignalized Intersection

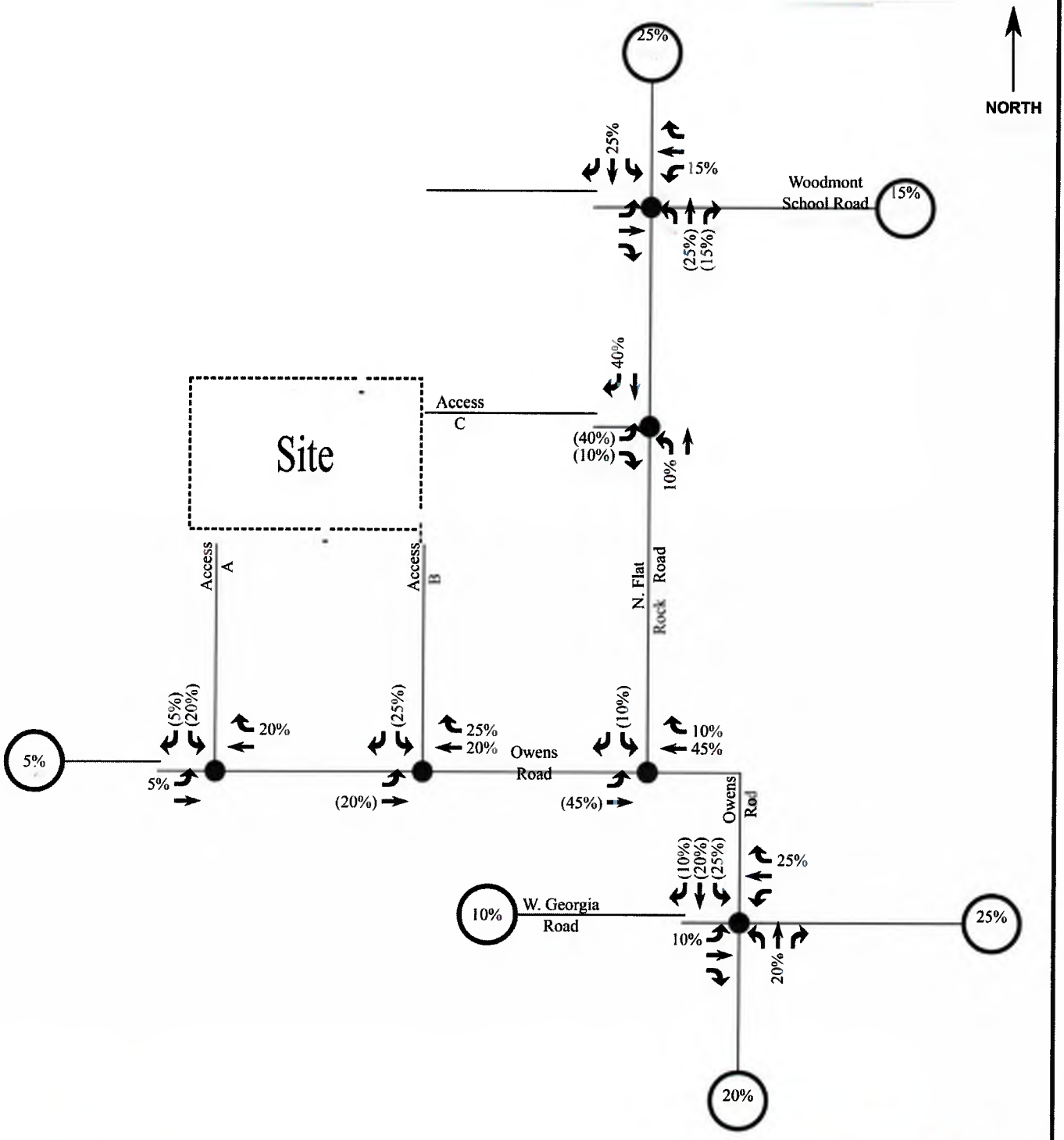
X / Y → AM / PM Peak Hour Traffic

IMPACT
Designs, Inc.

Owens Road Residential
Greenville County, SC

No-Build (2030)
Traffic Volumes

Scale: Not to Scale	Figure	5



LEGEND

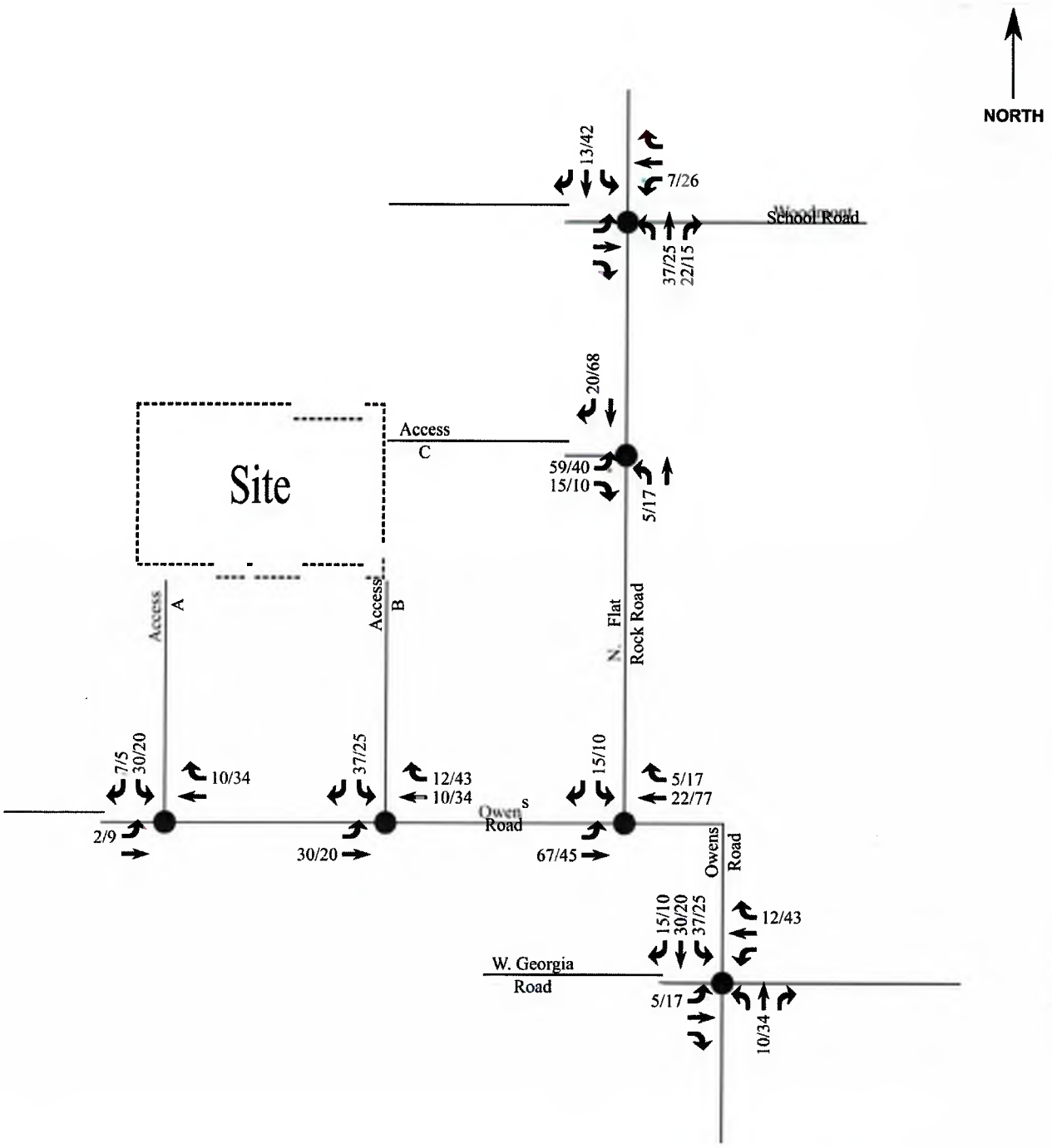
- Signalized Intersection
- Unsignalized Intersection
- X% → Entering Trip Distribution
- (Y%) → Exiting Trip Distribution
- X% Regional Trip Distribution

IMPACT
Designs, Inc.

Owens Road Residential
Greenville County, SC

Site Trip Distribution

Scale: Not to Scale	Figure	6



LEGEND

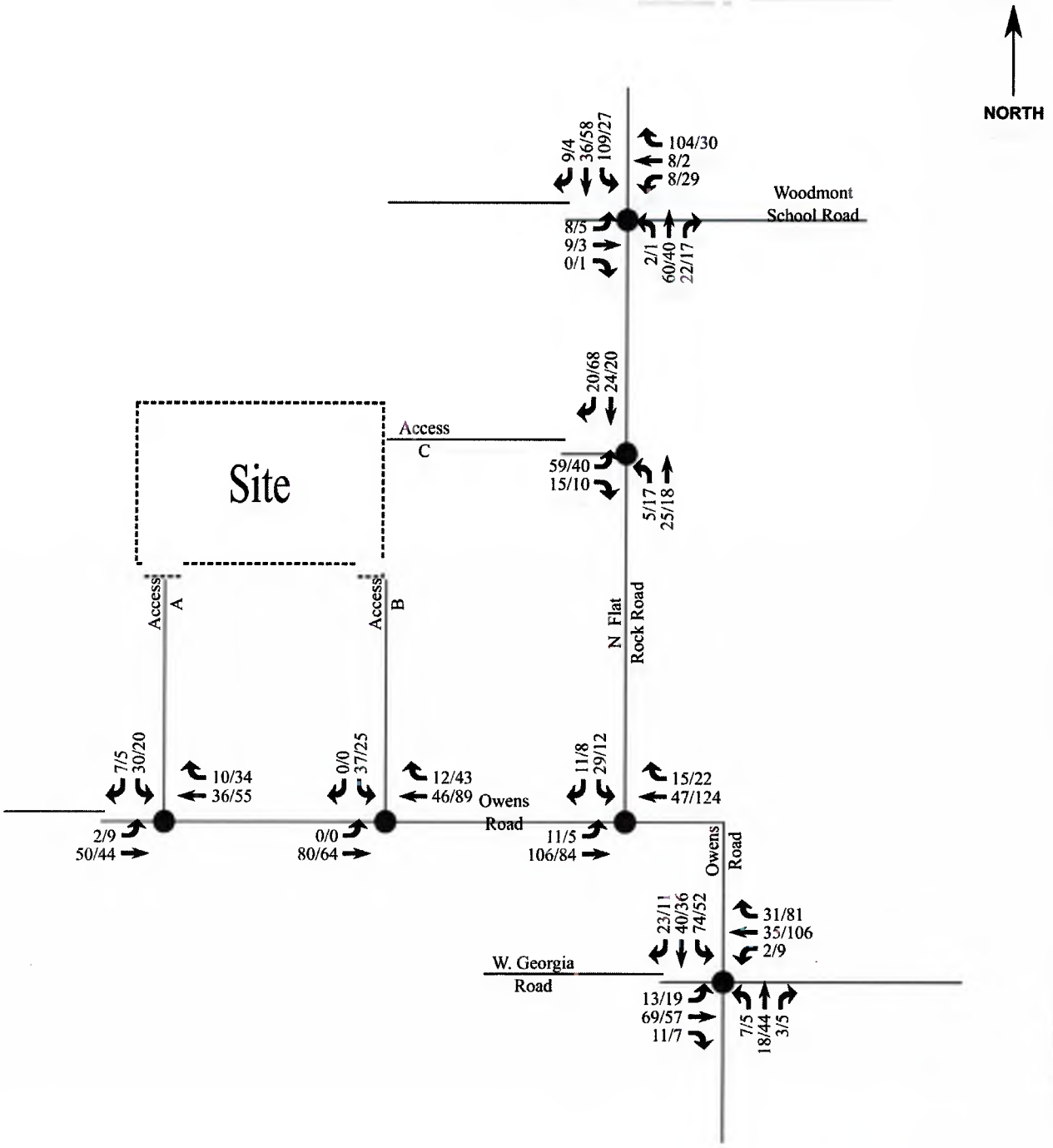
- Signalized Intersection
- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Trips

IMPACT
Designs, Inc.

Owens Road Residential
Greenville County, SC

Trip Assignments

Scale: Not to Scale	Figure	7



LEGEND

- Signalized Intersection
- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Traffic

IMPACT Designs, Inc.

Owens Road Residential
Greenville County, SC

Build (2030)
Traffic Volumes

Scale: Not to Scale	Figure	8

3. TRAFFIC IMPACT ANALYSIS

3.1. Turn Lane Analysis

A turn lane analysis was conducted utilizing the Build (2030) volumes. Based on build out volumes, no turn lanes are warranted for movements at the site accesses.

Refer to Appendix B for the turn lane warrants with volumes graphed.

3.2. Intersection LOS Analysis

Using the existing, no-build, and build traffic volumes, intersection analyses were conducted for the study intersections under Existing (2024) conditions, No-Build (2030) conditions, and Build (2030) conditions. This analysis was conducted using the Transportation Research Board's *Highway Capacity Manual (HCM 6th Edition)* methodologies of the *Synchro*, Version 11 software.

Intersection level of service (LOS) grades range from LOS A to LOS F, which are directly related to the level of control delay at the intersection and characterize the operational conditions of the intersection traffic flow. LOS A operations typically represent ideal, free-flow conditions where vehicles experience little to no delays, and LOS F operations typically represent poor, forced-flow (bumper-to-bumper) conditions with high vehicular delays, and are generally considered undesirable. Table 3 summarizes the *HCM 6th Edition* control delay thresholds associated with each LOS grade for signalized and unsignalized intersections.

Table 3 – *HCM 6th Edition* LOS Criteria for Signalized & Unsignalized Intersections

Signalized Intersections		Unsignalized Intersections	
LOS	**Control Delay per Vehicle (seconds)**	**LOS**	**Control Delay per Vehicle (seconds)**
A	≤ 10	A	≤ 10
B	> 10 and ≤ 20	B	> 10 and ≤ 15
C	> 20 and ≤ 35	C	> 15 and ≤ 25
D	> 35 and ≤ 55	D	> 25 and ≤ 35
E	> 55 and ≤ 80	E	> 35 and ≤ 50
F	> 85	F	> 50

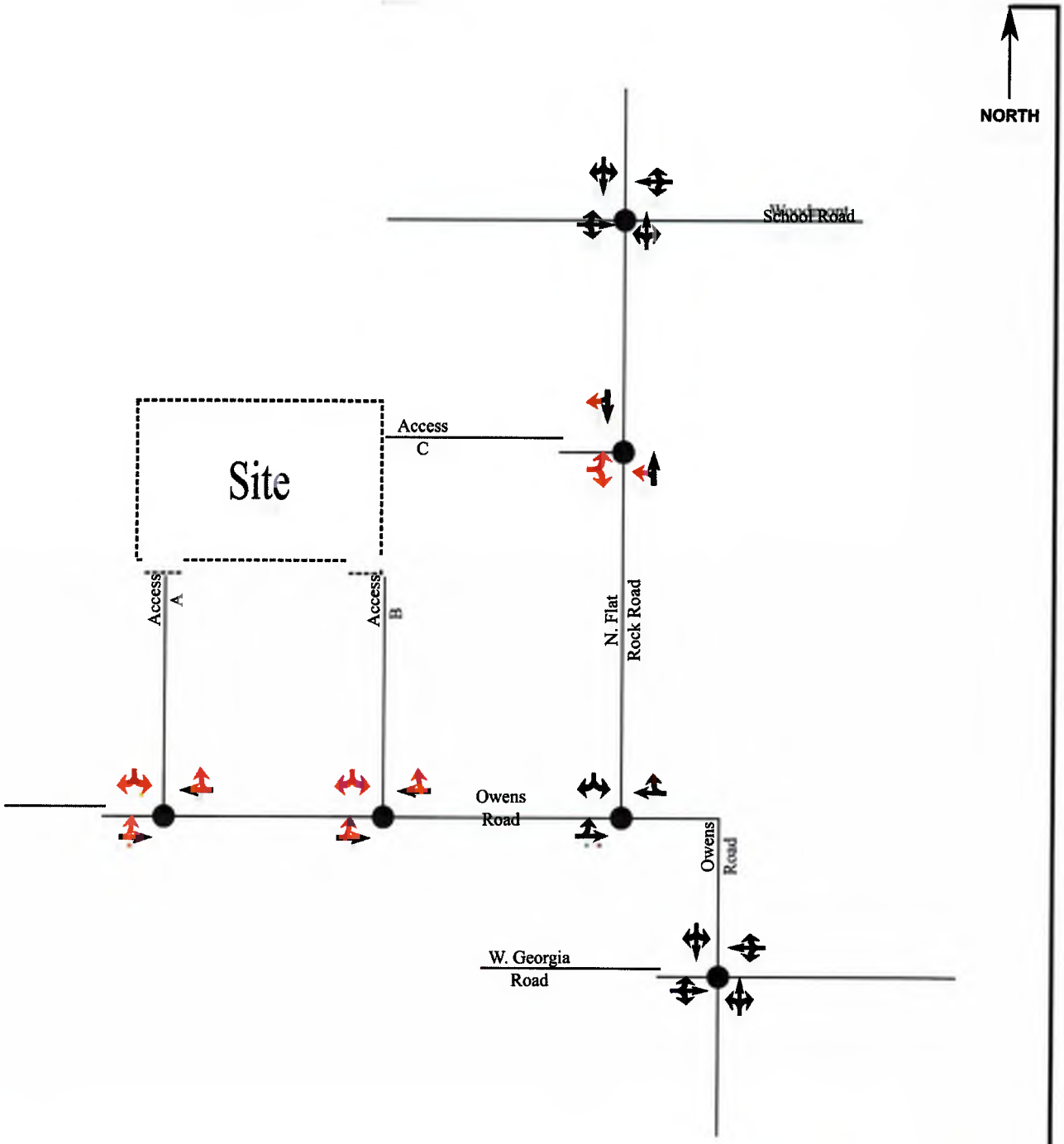
The results of the capacity analysis for the study intersections under existing traffic control are summarized in Table 4. Refer to Appendix C for the detailed capacity analysis reports and Appendix D for the queuing analysis results.

Table 4 – Capacity Analysis Results

Intersections	Approach	LOS (Delay in seconds per vehicle)					
		Existing (2024)		No-Build (2030)		Build (2030)	
		AM	PM	AM	PM	AM	PM
W. Georgia Road & Owens Road/Waycross Church Road	EB	A (7.3)	A (7.5)	A (7.3)	A (7.5)	A (7.4)	A (7.7)
	WB	A (7.4)	A (7.4)	A (7.4)	A (7.4)	A (7.4)	A (7.4)
	NB	A (9.6)	B (10.0)	A (9.7)	B (10.1)	B (10.2)	B (11.7)
	SB	A (9.7)	B (10.4)	A (9.9)	B (10.6)	B (10.8)	B (12.2)
Owens Road & N. Flat Rock Road	EB	A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.4)	A (7.6)
	WB	-	-	-	-	-	-
	SB	A (8.8)	A (8.7)	A (8.9)	A (8.7)	A (9.6)	A (9.7)
Owens Road & N. Flat Rock Road	EB	B (11.6)	A (9.3)	B (12.1)	A (9.4)	B (13.0)	B (10.0)
	WB	A (9.1)	A (8.6)	A (9.2)	A (8.7)	A (9.8)	A (9.5)
	NB	A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.4)
	SB	A (7.4)	A (7.3)	A (7.5)	A (7.3)	A (7.6)	A (7.4)
Owens Road & Access A	EB	*Analyzed under Build conditions only.*				A (7.3)	A (7.4)
	WB					-	-
	SB					A (9.1)	A (9.3)
Owens Road & Access B	EB	*Analyzed under Build conditions only.*				A (0.0)	A (0.0)
	WB					-	-
	SB					A (9.5)	A (9.7)
N. Flat Rock Road & Access C	EB	*Analyzed under Build conditions only.*				A (9.2)	A (9.3)
	NB					A (7.3)	A (7.4)
	SB					-	-

The capacity analysis indicates that operations under Build conditions are generally expected to be similar to No-Build conditions. All approaches at all study intersections are anticipated to operate at LOS B or better in the existing and future scenarios. No mitigation is recommended.

Figure 9 shows the proposed lane configurations and traffic control for the Build (2030) conditions.



LEGEND

- Signalized Intersection
- Unsignalized Intersection
- Existing Lane
- Recommended Improvement
- X' Storage (In Feet)

IMPACT
Designs, inc.

Owens Road Residential
Greenville County, SC

Proposed Lane Configurations and Traffic Control

Scale: Not to Scale	Figure	9

4. SUMMARY OF FINDINGS

A traffic impact study was conducted for the proposed Owens Road Residential development in accordance with SCDOT guidelines. The proposed development is located on the north side of Owens Road, west of N. Flat Rock Road, in Greenville County, South Carolina. The development is expected to consist of up to 291 single family homes and is anticipated to be constructed by the end of 2030.

A turn lane analysis was conducted utilizing the Build (2030) volumes. Based on build out volumes, no turn lanes are warranted for movements at the site accesses.

The capacity analysis indicates that operations under Build conditions are generally expected to be similar to No-Build conditions. All approaches at all study intersections are anticipated to operate at LOS B or better in the existing and future scenarios. No mitigation is recommended.

Recommendations:

- None

TECHNICAL APPENDIX

APPENDIX A

TRAFFIC COUNT DATA

TRAFFIC DATA COLLECTION

File Name : Piedmont(N Flat Rock Road and S-23-659)
Site Code :
Start Date : 4/25/2024
Page No : 1

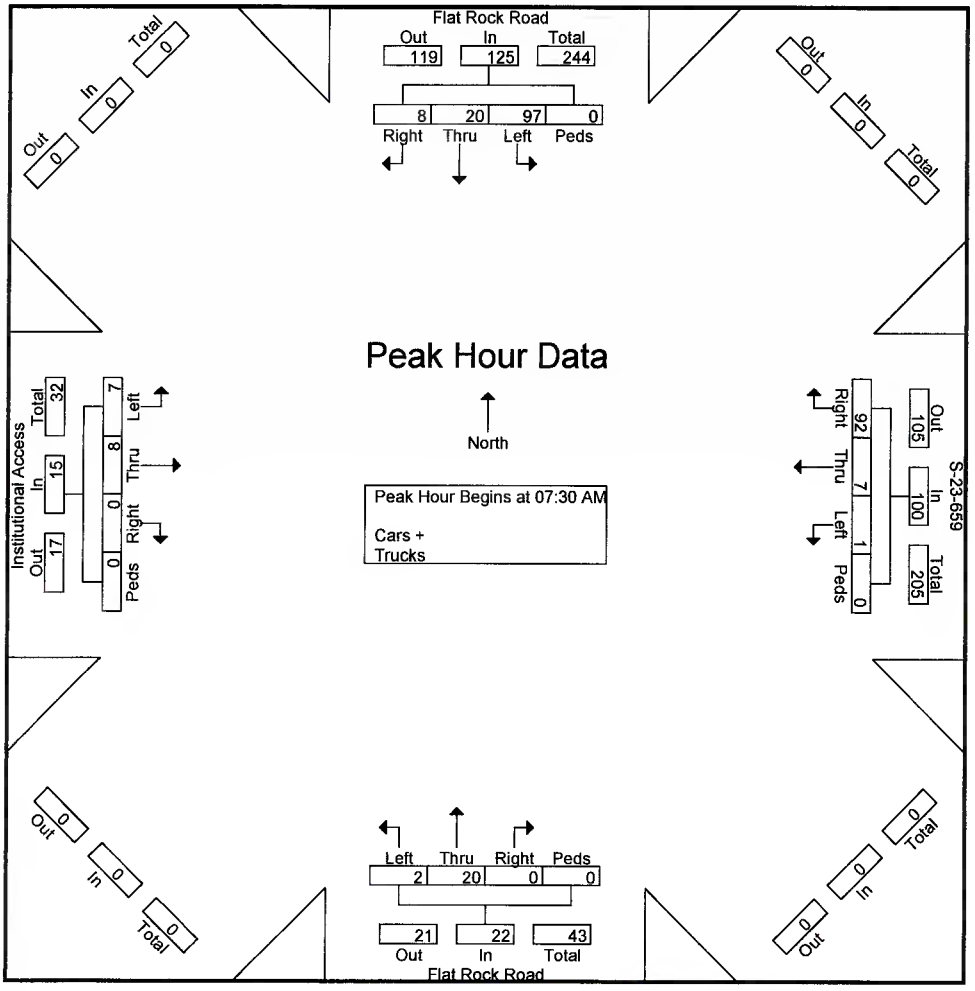
Groups Printed- Cars + - Trucks

	Flat Rock Road Southbound					S-23-659 Westbound					Flat Rock Road Northbound					Institutional Access Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	3	1	0	5	7	0	0	0	7	0	2	0	0	2	0	0	0	0	0	14
07:15 AM	0	2	5	0	7	20	1	0	0	21	0	7	1	0	8	0	0	0	0	0	36
07:30 AM	2	10	25	0	37	26	3	1	0	30	0	9	0	0	9	0	2	1	0	3	79
07:45 AM	5	3	16	0	24	24	2	0	0	26	0	4	0	0	4	0	3	3	0	6	60
Total	8	18	47	0	73	77	6	1	0	84	0	22	1	0	23	0	5	4	0	9	189
08:00 AM	1	4	19	0	24	19	1	0	0	20	0	3	0	0	3	0	1	3	0	4	51
08:15 AM	0	3	37	0	40	23	1	0	0	24	0	4	2	0	6	0	2	0	0	2	72
08:30 AM	0	3	10	0	13	8	0	0	0	8	1	2	0	0	3	0	1	1	0	2	26
08:45 AM	0	0	4	0	4	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	9
Total	1	10	70	0	81	55	2	0	0	57	1	9	2	0	12	0	4	4	0	8	158
Grand Total	9	28	117	0	154	132	8	1	0	141	1	31	3	0	35	0	9	8	0	17	347
Apprch %	5.8	18.2	76	0		93.6	5.7	0.7	0		2.9	88.6	8.6	0		0	52.9	47.1	0		
Total %	2.6	8.1	33.7	0	44.4	38	2.3	0.3	0	40.6	0.3	8.9	0.9	0	10.1	0	2.6	2.3	0	4.9	
Cars +	2	27	117	0	146	131	1	1	0	133	1	31	1	0	33	0	0	1	0	1	313
% Cars +	22.2	96.4	100	0	94.8	99.2	12.5	100	0	94.3	100	100	33.3	0	94.3	0	0	12.5	0	5.9	90.2
Trucks	7	1	0	0	8	1	7	0	0	8	0	0	2	0	2	0	9	7	0	16	34
% Trucks	77.8	3.6	0	0	5.2	0.8	87.5	0	0	5.7	0	0	66.7	0	5.7	0	100	87.5	0	94.1	9.8

BSI
TRAFFIC DATA COLLECTION

File Name : Piedmont(N Flat Rock Road and S-23-659)
Site Code :
Start Date : 4/25/2024
Page No : 2

	Flat Rock Road Southbound					S-23-659 Westbound					Flat Rock Road Northbound					Institutional Access Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	**10**	25	0	37	**26**	**3**	**1**	0	**30**	0	**9**	0	0	**9**	0	2	1	0	3	**79**
07:45 AM	**5**	3	16	0	24	24	2	0	0	26	0	4	0	0	4	0	**3**	**3**	0	**6**	60
08:00 AM	1	4	19	0	24	19	1	0	0	20	0	3	0	0	3	0	1	3	0	4	51
08:15 AM	0	3	**37**	0	**40**	23	1	0	0	24	0	4	**2**	0	6	0	2	0	0	2	72
Total Volume	8	20	97	0	125	92	7	1	0	100	0	20	2	0	22	0	8	7	0	15	262
% App. Total	6.4	16	77.6	0		92	7	1	0		0	90.9	9.1	0		0	53.3	46.7	0		
PHF	.400	.500	.655	.000	.781	.885	.583	.250	.000	.833	.000	.556	.250	.000	.611	.000	.667	.583	.000	625	.829



TRAFFIC DATA COLLECTION

File Name : Piedmont(N Flat Rock Road and S-23-659)
Site Code :
Start Date : 4/25/2024
Page No : 1

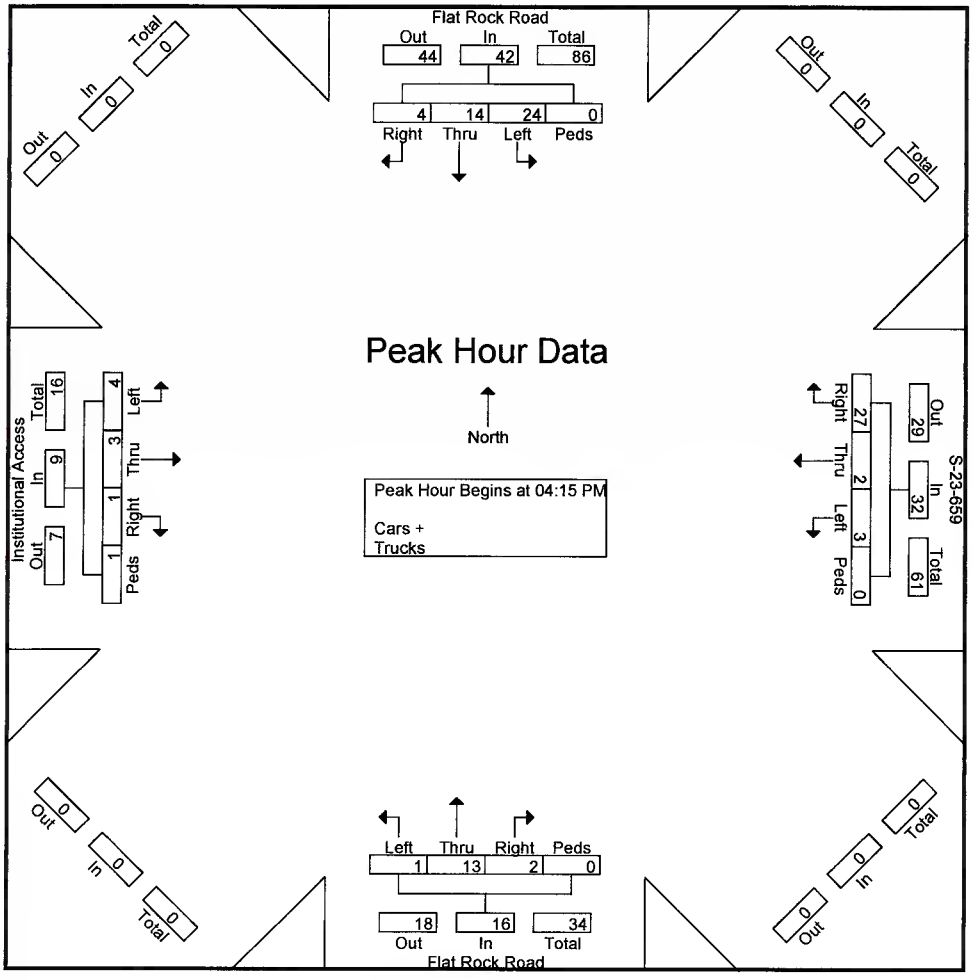
Groups Printed- Cars + - Trucks

	Flat Rock Road Southbound					S-23-659 Westbound					Flat Rock Road Northbound					Institutional Access Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	4	0	0	4	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	8
04:15 PM	1	4	9	0	14	6	0	2	0	8	1	4	0	0	5	0	0	2	0	2	29
04:30 PM	0	1	5	0	6	4	1	1	0	6	0	4	1	0	5	0	1	1	0	2	19
04:45 PM	2	4	2	0	8	7	1	0	0	8	1	1	0	0	2	0	0	1	1	2	20
Total	3	13	16	0	32	20	2	3	0	25	2	10	1	0	13	0	1	4	1	6	76
05:00 PM	1	5	8	0	14	10	0	0	0	10	0	4	0	0	4	1	2	0	0	3	31
05:15 PM	0	5	4	0	9	6	0	0	0	6	0	3	0	0	3	0	0	0	0	0	18
05:30 PM	0	2	5	0	7	8	0	0	0	8	0	6	0	0	6	0	0	0	0	0	21
05:45 PM	0	2	1	0	3	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
Total	1	14	18	0	33	26	0	0	0	26	0	13	0	0	13	1	2	0	0	3	75
Grand Total	4	27	34	0	65	46	2	3	0	51	2	23	1	0	26	1	3	4	1	9	151
Apprch %	6.2	41.5	52.3	0		90.2	3.9	5.9	0		7.7	88.5	3.8	0		11.1	33.3	44.4	11.1		
Total %	2.6	17.9	22.5	0	43	30.5	1.3	2	0	33.8	1.3	15.2	0.7	0	17.2	0.7	2	2.6	0.7	6	
Cars +	2	26	31	0	59	46	1	3	0	50	2	23	1	0	26	0	1	4	1	6	141
% Cars +	50	96.3	91.2	0	90.8	100	50	100	0	98	100	100	100	0	100	0	33.3	100	100	66.7	93.4
Trucks	2	1	3	0	6	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	10
% Trucks	50	3.7	8.8	0	9.2	0	50	0	0	2	0	0	0	0	0	100	66.7	0	0	33.3	6.6

TRAFFIC DATA COLLECTION

File Name : Piedmont(N Flat Rock Road and S-23-659)
Site Code :
Start Date : 4/25/2024
Page No : 2

	Flat Rock Road Southbound					S-23-659 Westbound					Flat Rock Road Northbound					Institutional Access Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	1	4	**9**	0	**14**	6	0	**2**	0	8	**1**	**4**	0	0	**5**	0	0	**2**	0	2	29
04:30 PM	0	1	5	0	6	4	**1**	1	0	6	0	4	**1**	0	5	0	1	1	0	2	19
04:45 PM	**2**	4	2	0	8	7	1	0	0	8	1	1	0	0	2	0	0	1	**1**	2	20
05:00 PM	1	**5**	8	0	14	**10**	0	0	0	**10**	0	4	0	0	4	**1**	**2**	0	0	**3**	**31**
Total Volume	4	14	24	0	42	27	2	3	0	32	2	13	1	0	16	1	3	4	1	9	99
% App. Total	9.5	33.3	57.1	0		84.4	6.2	9.4	0		12.5	81.2	6.2	0		11.1	33.3	44.4	11.1		
PHF	.500	.700	.667	.000	.750	.675	.500	.375	.000	.800	.500	.813	.250	.000	.800	.250	.375	.500	.250	.750	.798



TRAFFIC DATA COLLECTION

File Name : Piedmont(Owens Rd and Flat Rock Rd)
Site Code :
Start Date : 4/25/2024
Page No : 1

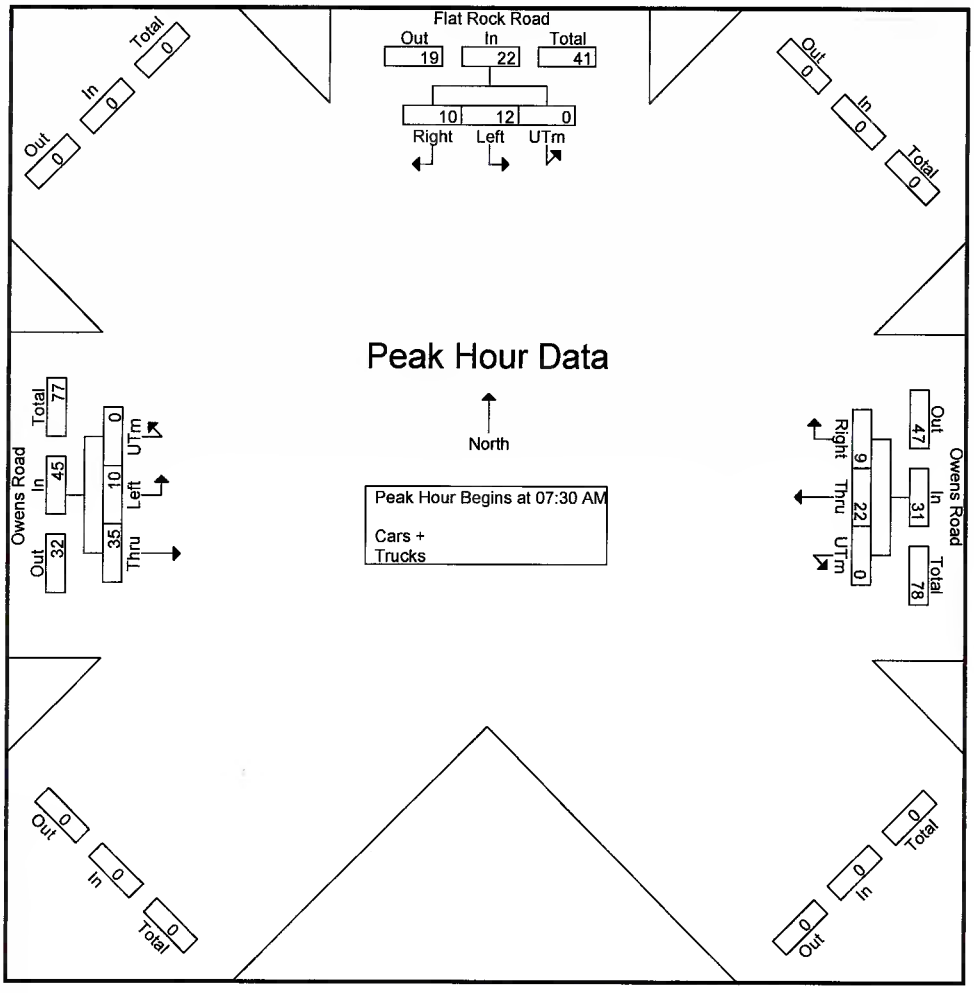
Groups Printed- Cars + - Trucks

	Flat Rock Road Southbound				Owens Road Westbound				Owens Road Eastbound				
Start Time	Right	Left	UTrn	App. Total	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Int. Total
07:00 AM	3	0	0	3	0	2	0	2	8	2	0	10	15
07:15 AM	2	1	0	3	3	6	0	9	8	3	0	11	23
07:30 AM	4	6	0	10	3	4	0	7	6	6	0	12	29
07:45 AM	2	3	0	5	3	6	0	9	6	0	0	6	20
Total	11	10	0	21	9	18	0	27	28	11	0	39	87
08:00 AM	2	2	0	4	1	6	0	7	11	2	0	13	24
08:15 AM	2	1	0	3	2	6	0	8	12	2	0	14	25
08:30 AM	2	1	0	3	0	4	0	4	4	0	0	4	11
08:45 AM	0	0	0	0	0	5	0	5	6	0	0	6	11
Total	6	4	0	10	3	21	0	24	33	4	0	37	71
Grand Total	17	14	0	31	12	39	0	51	61	15	0	76	158
Apprch %	54.8	45.2	0		23.5	76.5	0		80.3	19.7	0		
Total %	10.8	8.9	0	19.6	7.6	24.7	0	32.3	38.6	9.5	0	48.1	
Cars +	16	14	0	30	12	37	0	49	60	15	0	75	154
% Cars +	94.1	100	0	96.8	100	94.9	0	96.1	98.4	100	0	98.7	97.5
Trucks	1	0	0	1	0	2	0	2	1	0	0	1	4
% Trucks	5.9	0	0	3.2	0	5.1	0	3.9	1.6	0	0	1.3	2.5

TRAFFIC DATA COLLECTION

File Name : Piedmont(Owens Rd and Flat Rock Rd)
Site Code :
Start Date : 4/25/2024
Page No : 2

	Flat Rock Road Southbound				Owens Road Westbound				Owens Road Eastbound				
Start Time	Right	Left	UTrn	App. Total	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	**4**	**6**	0	**10**	**3**	4	0	7	6	**6**	0	12	**29**
07:45 AM	2	3	0	5	3	**6**	0	**9**	6	0	0	6	20
08:00 AM	2	2	0	4	1	6	0	7	11	2	0	13	24
08:15 AM	2	1	0	3	2	6	0	8	**12**	2	0	**14**	25
Total Volume	10	12	0	22	9	22	0	31	35	10	0	45	98
% App. Total	45.5	54.5	0		29	71	0		77.8	22.2	0		
PHF	.625	.500	.000	.550	.750	.917	.000	.861	.729	.417	.000	.804	.845



TRAFFIC DATA COLLECTION

File Name : Piedmont(Owens Rd and Flat Rock Rd)
Site Code :
Start Date : 4/25/2024
Page No : 1

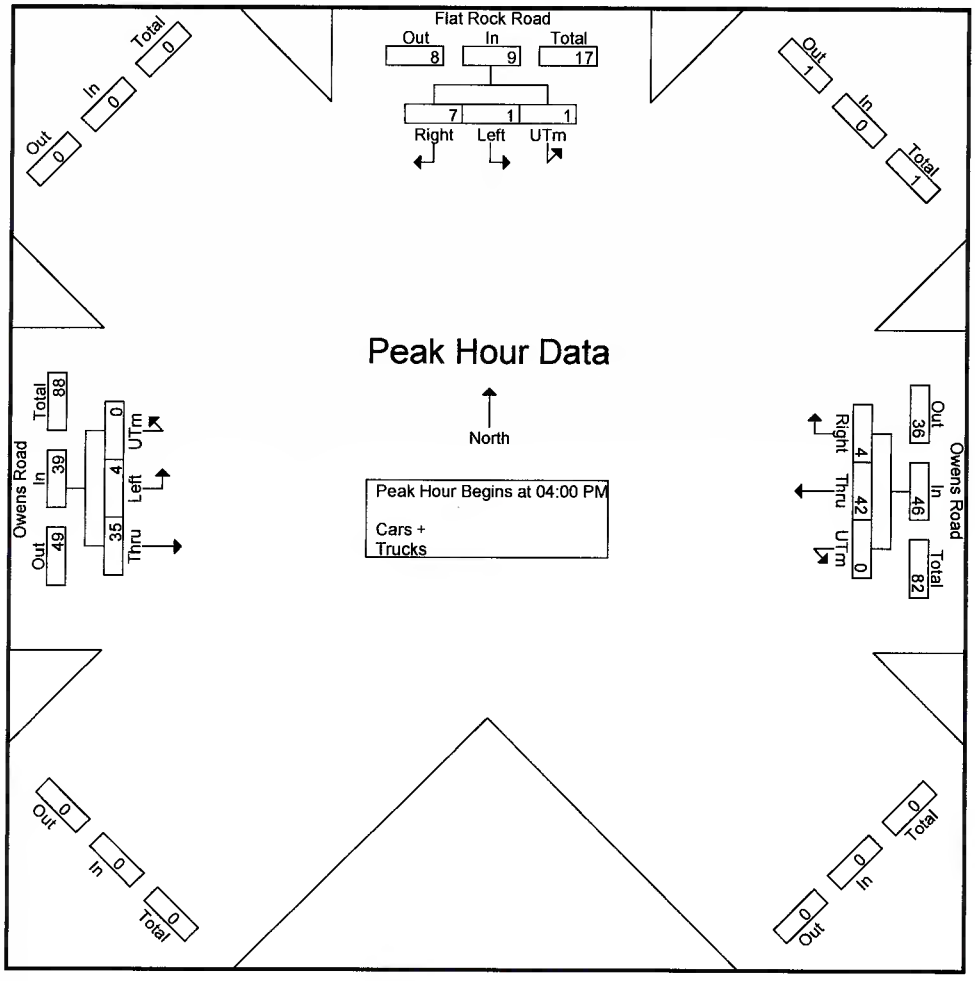
Groups Printed- Cars + - Trucks

	Flat Rock Road Southbound				Owens Road Westbound				Owens Road Eastbound				
Start Time	Right	Left	UTrn	App. Total	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Int. Total
04:00 PM	2	0	0	2	2	11	0	13	10	0	0	10	25
04:15 PM	3	1	0	4	1	14	0	15	6	2	0	8	27
04:30 PM	1	0	1	2	1	7	0	8	7	1	0	8	18
04:45 PM	1	0	0	1	0	10	0	10	12	1	0	13	24
Total	7	1	1	9	4	42	0	46	35	4	0	39	94
05:00 PM	4	1	0	5	2	7	0	9	5	1	1	7	21
05:15 PM	0	1	0	1	1	6	0	7	12	1	0	13	21
05:30 PM	1	0	0	1	1	14	0	15	3	4	0	7	23
05:45 PM	0	0	0	0	1	10	0	11	11	0	0	11	22
Total	5	2	0	7	5	37	0	42	31	6	1	38	87
Grand Total	12	3	1	16	9	79	0	88	66	10	1	77	181
Apprch %	75	18.8	6.2		10.2	89.8	0		85.7	13	1.3		
Total %	6.6	1.7	0.6	8.8	5	43.6	0	48.6	36.5	5.5	0.6	42.5	
Cars +	10	3	1	14	9	79	0	88	66	10	1	77	179
% Cars +	83.3	100	100	87.5	100	100	0	100	100	100	100	100	98.9
Trucks	2	0	0	2	0	0	0	0	0	0	0	0	2
% Trucks	16.7	0	0	12.5	0	0	0	0	0	0	0	0	1.1

TRAFFIC DATA COLLECTION

File Name : Piedmont(Owens Rd and Flat Rock Rd)
Site Code :
Start Date : 4/25/2024
Page No : 2

	Flat Rock Road Southbound				Owens Road Westbound				Owens Road Eastbound				
Start Time	Right	Left	UTrn	App. Total	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	2	0	0	2	**2**	11	0	13	10	0	0	10	25
04:15 PM	**3**	**1**	0	**4**	1	**14**	0	**15**	6	**2**	0	8	**27**
04:30 PM	1	0	**1**	2	1	7	0	8	7	1	0	8	18
04:45 PM	1	0	0	1	0	10	0	10	**12**	1	0	**13**	24
Total Volume	7	1	1	9	4	42	0	46	35	4	0	39	94
% App. Total	77.8	11.1	11.1		8.7	91.3	0		89.7	10.3	0		
PHF	.583	.250	.250	.563	.500	.750	.000	.767	.729	.500	.000	.750	.870



TRAFFIC DATA COLLECTION

File Name : Piedmont(Owens Road and W Georgia Road)
Site Code :
Start Date : 4/25/2024
Page No : 1

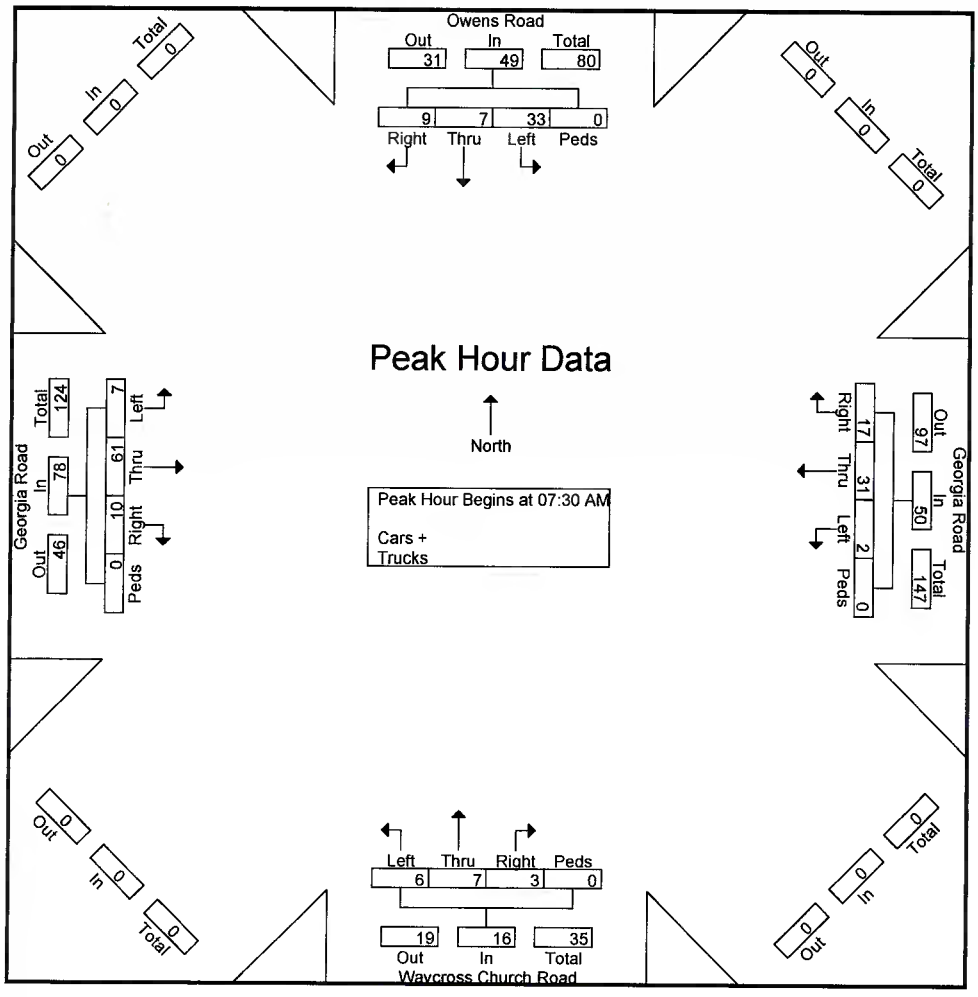
Groups Printed- Cars + - Trucks

	Owens Road Southbound					Georgia Road Westbound					Waycross Church Road Northbound					Georgia Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	3	5	0	9	2	6	0	0	8	1	0	0	0	1	8	18	0	0	26	44
07:15 AM	0	4	4	0	8	5	3	0	0	8	3	2	1	0	6	4	22	2	0	28	50
07:30 AM	3	4	5	0	12	3	6	0	0	9	0	3	1	0	4	6	13	2	0	21	46
07:45 AM	3	0	6	0	9	5	9	1	0	15	1	2	4	0	7	1	12	1	0	14	45
Total	7	11	20	0	38	15	24	1	0	40	5	7	6	0	18	19	65	5	0	89	185
08:00 AM	2	1	12	0	15	5	6	1	0	12	0	2	0	0	2	0	20	1	0	21	50
08:15 AM	1	2	10	0	13	4	10	0	0	14	2	0	1	0	3	3	16	3	0	22	52
08:30 AM	0	1	4	0	5	3	10	0	0	13	0	1	1	0	2	1	10	0	0	11	31
08:45 AM	0	3	3	0	6	5	7	1	0	13	1	1	1	4	7	1	15	0	0	16	42
Total	3	7	29	0	39	17	33	2	0	52	3	4	3	4	14	5	61	4	0	70	175
Grand Total	10	18	49	0	77	32	57	3	0	92	8	11	9	4	32	24	126	9	0	159	360
Apprch %	13	23.4	63.6	0		34.8	62	3.3	0		25	34.4	28.1	12.5		15.1	79.2	5.7	0		
Total %	2.8	5	13.6	0	21.4	8.9	15.8	0.8	0	25.6	2.2	3.1	2.5	1.1	8.9	6.7	35	2.5	0	44.2	
Cars +	10	18	48	0	76	31	56	3	0	90	8	11	9	4	32	23	125	8	0	156	354
% Cars +	100	100	98	0	98.7	96.9	98.2	100	0	97.8	100	100	100	100	100	95.8	99.2	88.9	0	98.1	98.3
Trucks	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	1	1	1	0	3	6
% Trucks	0	0	2	0	1.3	3.1	1.8	0	0	2.2	0	0	0	0	0	4.2	0.8	11.1	0	1.9	1.7

TRAFFIC DATA CO ECTION
LL

File Name : Piedmont(Owens Road and W Georgia Road)
Site Code :
Start Date : 4/25/2024
Page No : 2

	Owens Road Southbound					Georgia Road Westbound					Waycross Church Road Northbound					Georgia Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**3**	**4**	5	0	12	3	6	0	0	9	0	**3**	1	0	4	**6**	13	2	0	21	46
07:45 AM	3	0	6	0	9	**5**	9	**1**	0	**15**	1	2	**4**	0	**7**	1	12	1	0	14	45
08:00 AM	2	1	**12**	0	**15**	5	6	1	0	12	0	2	0	0	2	0	**20**	1	0	21	50
08:15 AM	1	2	10	0	13	4	**10**	0	0	14	**2**	0	1	0	3	3	16	**3**	0	**22**	**52**
Total Volume	9	7	33	0	49	17	31	2	0	50	3	7	6	0	16	10	61	7	0	78	193
% App. Total	18.4	14.3	67.3	0		34	62	4	0		18.8	43.8	37.5	0		12.8	78.2	9	0		
PHF	.750	.438	.688	.000	.817	.850	.775	.500	.000	.833	.375	.583	.375	.000	.571	.417	.763	.583	.000	.886	.928



TRAFFIC DATA COLLECTION

File Name : Piedmont(Owens Road and W Georgia Road)
Site Code :
Start Date : 4/25/2024
Page No : 1

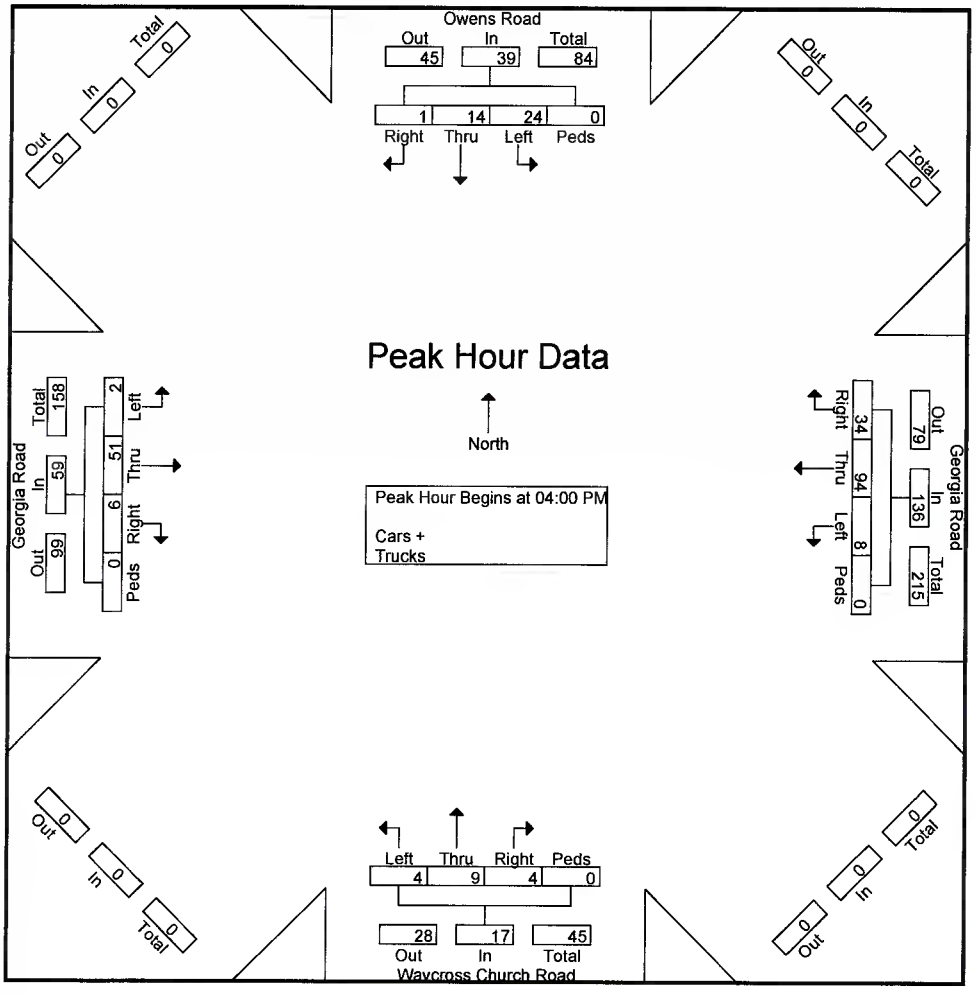
Groups Printed- Cars + - Trucks

	Owens Road Southbound					Georgia Road Westbound					Waycross Church Road Northbound					Georgia Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	5	6	0	11	10	29	2	0	41	0	3	0	0	3	2	13	0	0	15	70
04:15 PM	0	1	8	0	9	13	24	3	0	40	1	1	2	0	4	0	12	1	0	13	66
04:30 PM	1	1	4	0	6	4	22	2	0	28	1	3	1	0	5	3	10	1	0	14	53
04:45 PM	0	7	6	0	13	7	19	1	0	27	2	2	1	0	5	1	16	0	0	17	62
Total	1	14	24	0	39	34	94	8	0	136	4	9	4	0	17	6	51	2	0	59	251
05:00 PM	0	2	4	0	6	7	26	0	0	33	0	2	1	0	3	2	13	1	0	16	58
05:15 PM	1	2	9	0	12	5	27	0	0	32	1	3	0	0	4	0	12	0	0	12	60
05:30 PM	0	1	3	0	4	11	26	2	0	39	0	2	2	0	4	0	11	0	0	11	58
05:45 PM	1	2	7	0	10	8	21	4	0	33	2	1	0	0	3	1	10	0	0	11	57
Total	2	7	23	0	32	31	100	6	0	137	3	8	3	0	14	3	46	1	0	50	233
Grand Total	3	21	47	0	71	65	194	14	0	273	7	17	7	0	31	9	97	3	0	109	484
Apprch %	4.2	29.6	66.2	0		23.8	71.1	5.1	0		22.6	54.8	22.6	0		8.3	89	2.8	0		
Total %	0.6	4.3	9.7	0	14.7	13.4	40.1	2.9	0	56.4	1.4	3.5	1.4	0	6.4	1.9	20	0.6	0	22.5	
Cars +	3	21	47	0	71	65	193	14	0	272	7	17	7	0	31	7	95	3	0	105	479
% Cars +	100	100	100	0	100	100	99.5	100	0	99.6	100	100	100	0	100	77.8	97.9	100	0	96.3	99
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	2	0	0	4	5
% Trucks	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	22.2	2.1	0	0	3.7	1

TRAFFIC DATA COLLECTION

File Name : Piedmont(Owens Road and W Georgia Road)
Site Code :
Start Date : 4/25/2024
Page No : 2

	Owens Road Southbound					Georgia Road Westbound					Waycross Church Road Northbound					Georgia Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	5	6	0	11	10	**29**	2	0	**41**	0	**3**	0	0	3	2	13	0	0	15	**70**
04:15 PM	0	1	**8**	0	9	**13**	24	**3**	0	40	1	1	**2**	0	4	0	12	**1**	0	13	66
04:30 PM	**1**	1	4	0	6	4	22	2	0	28	1	3	1	0	**5**	**3**	10	1	0	14	53
04:45 PM	0	**7**	6	0	**13**	7	19	1	0	27	**2**	2	1	0	5	1	**16**	0	0	**17**	62
Total Volume	1	14	24	0	39	34	94	8	0	136	4	9	4	0	17	6	51	2	0	59	251
% App. Total	2.6	35.9	61.5	0		25	69.1	5.9	0		23.5	52.9	23.5	0		10.2	86.4	3.4	0		
PHF	.250	.500	.750	.000	.750	.654	.810	.667	.000	.829	.500	.750	.500	.000	.850	.500	.797	.500	.000	.868	.896

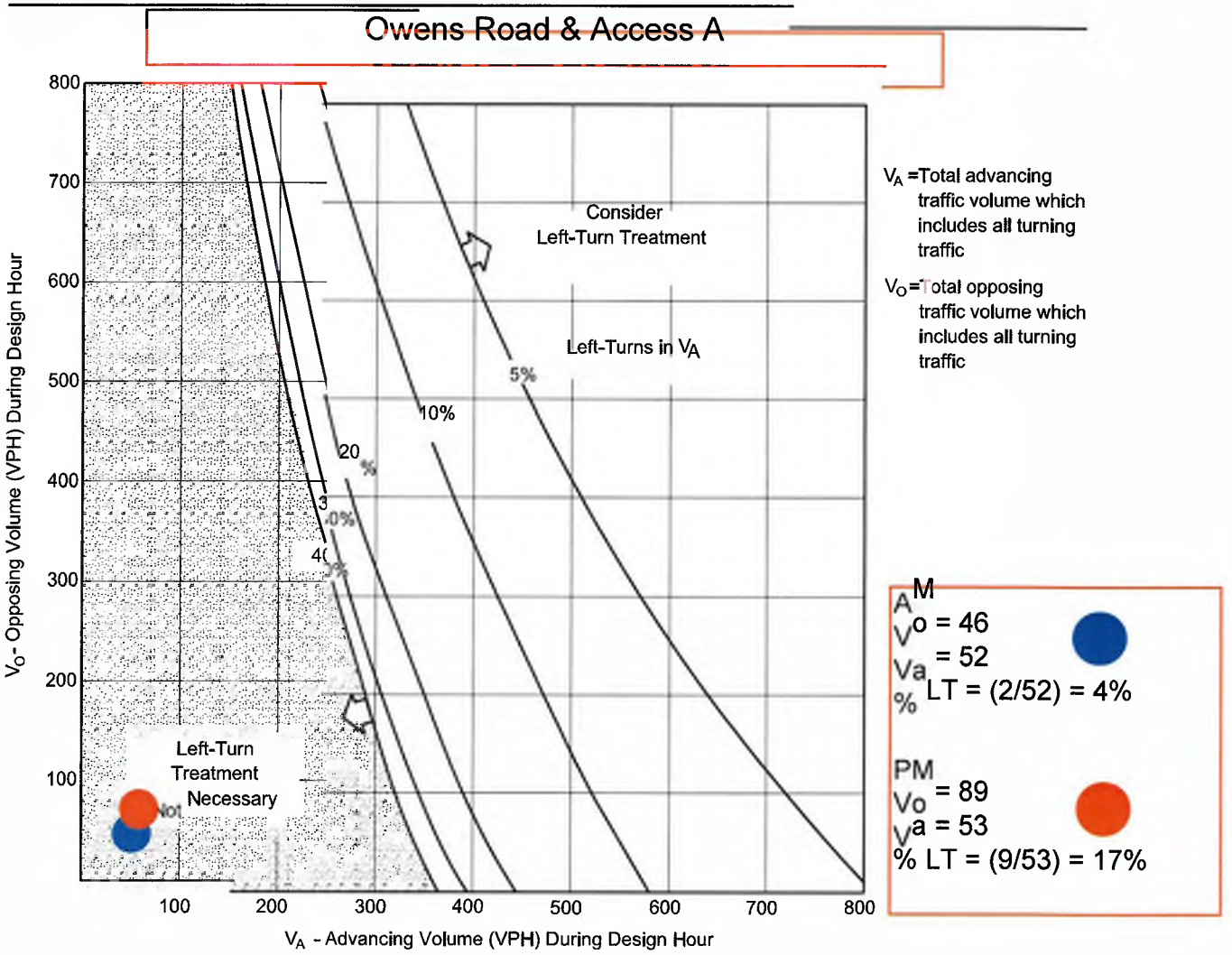


Historical Growth Calculation

Count Station	Location	ADTs						Avg. Annual % Change
		2023	2022	2021	2020	2019	2018	
23-0747	W. Georgia Rd	1,150	1,150	950	1,000	1,100	1,100	1%
Total		**1,150**	**1,150**	**950**	**1,000**	**1,100**	**1,100**	**1%**

APPENDIX B

TURN LANE ANALYSIS



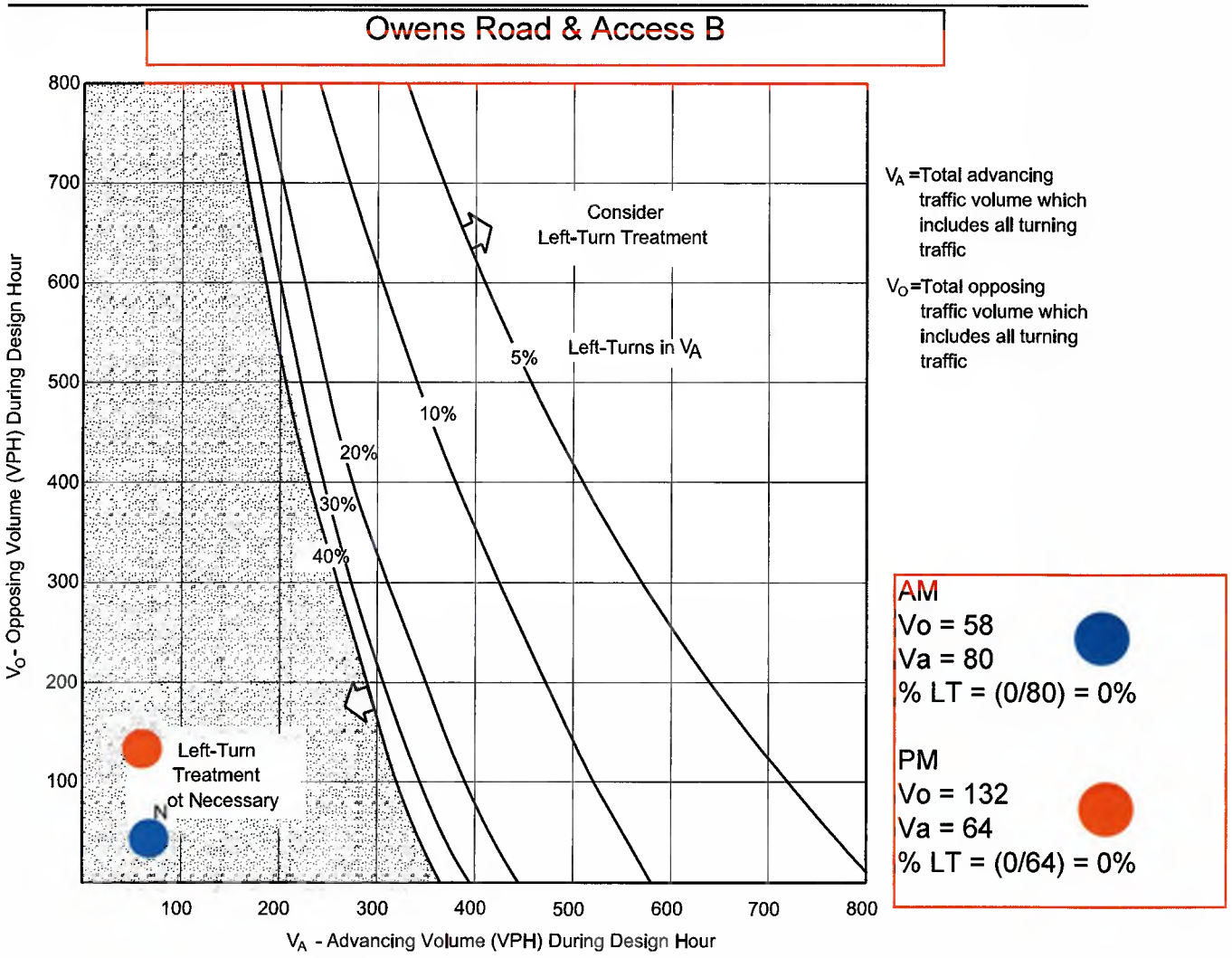
Instructions:

1. *The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.*

2. *Read V_A and V_O into the chart and locate the intersection of the two volumes.*

3. *Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.*

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph)
Figure 9.5-G



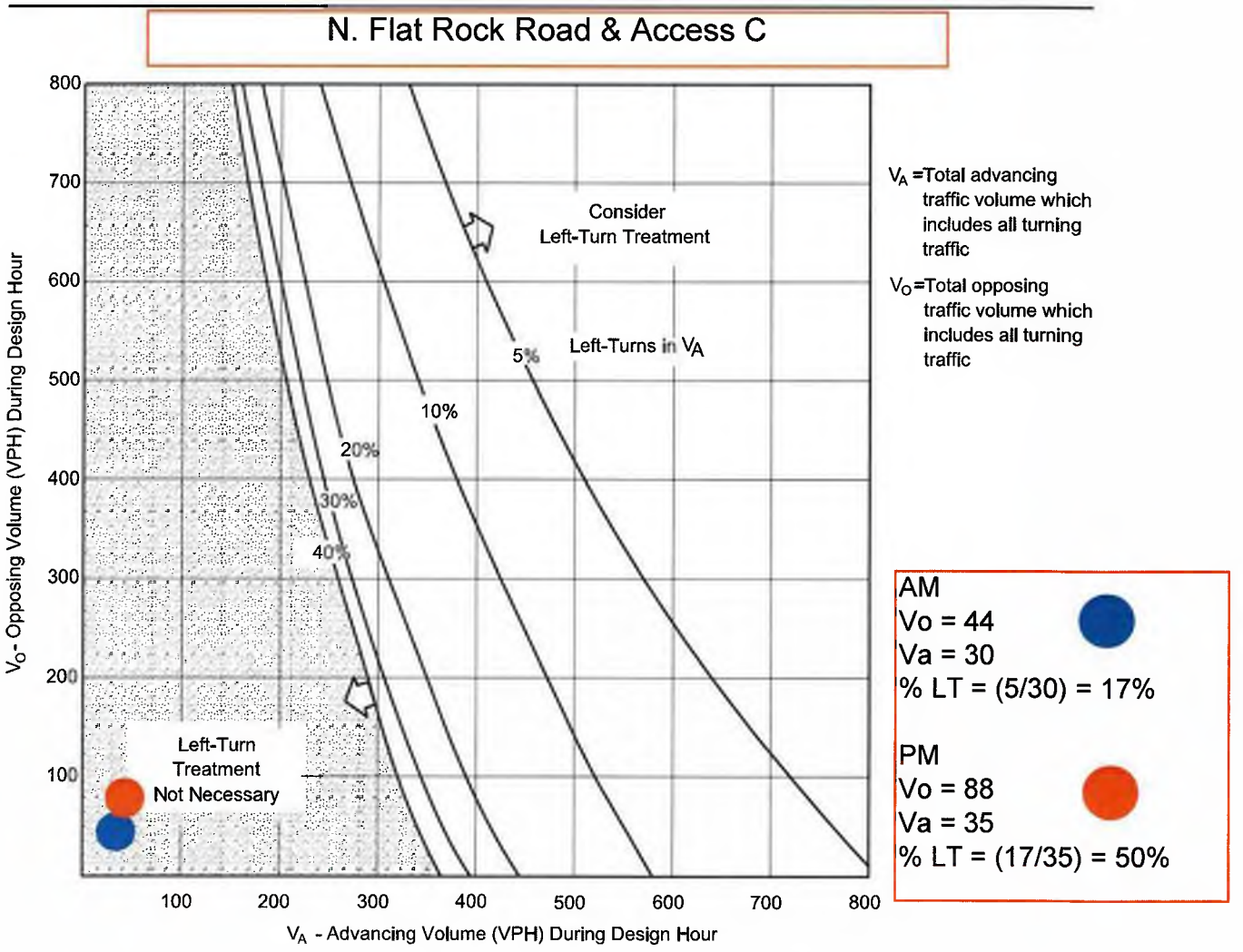
Instructions:

1. *The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.*

2. *Read V_A and V_O into the chart and locate the intersection of the two volumes.*

3. *Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.*

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph)
Figure 9.5-G



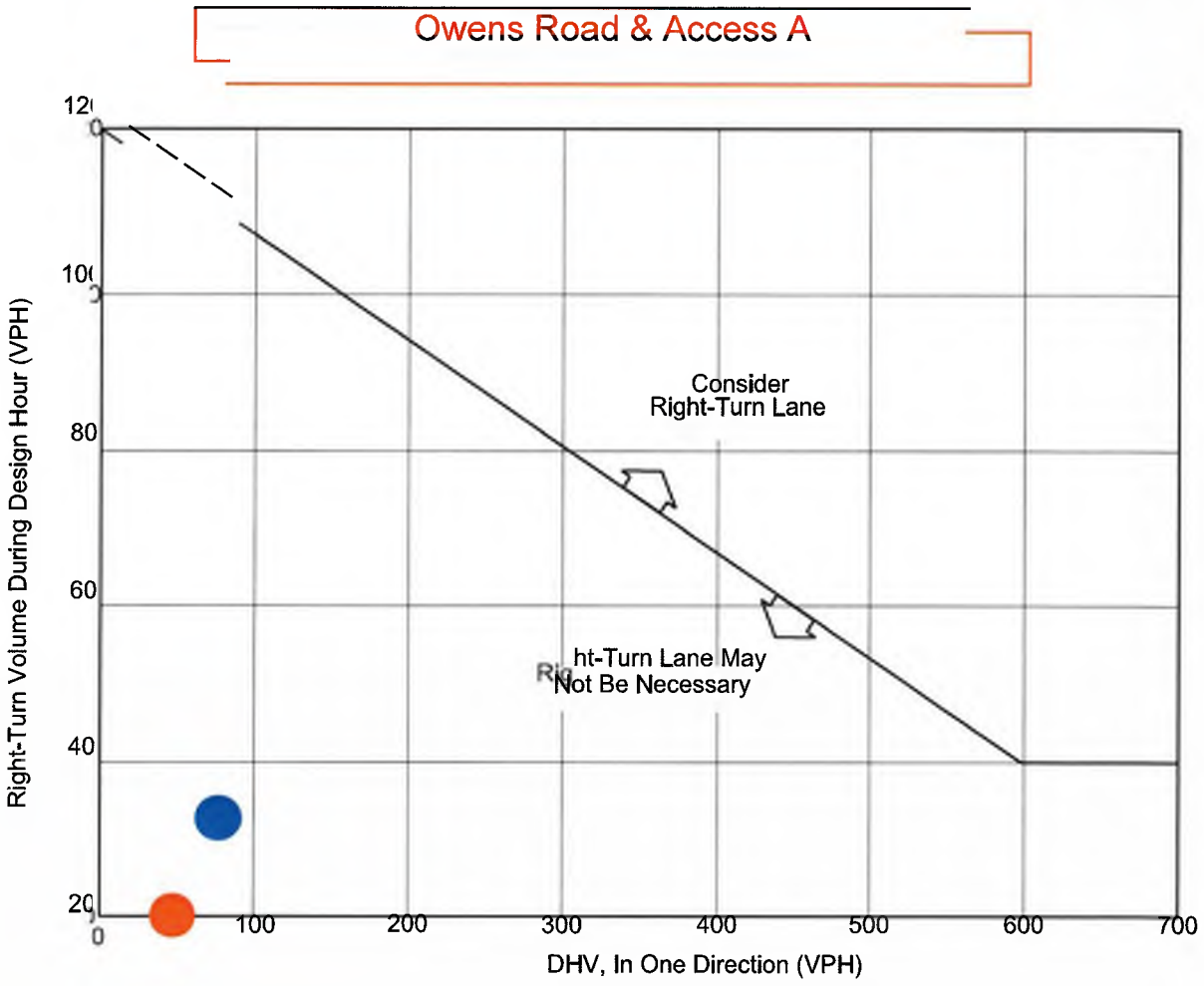
Instructions:

1. *The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.*

2. *Read V_A and V_O into the chart and locate the intersection of the two volumes.*

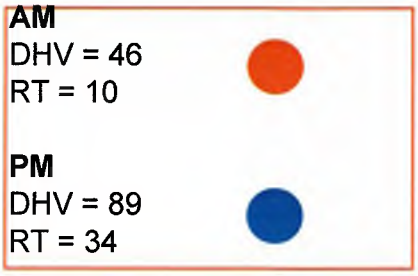
3. *Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.*

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph)
Figure 9.5-G



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example



Given:

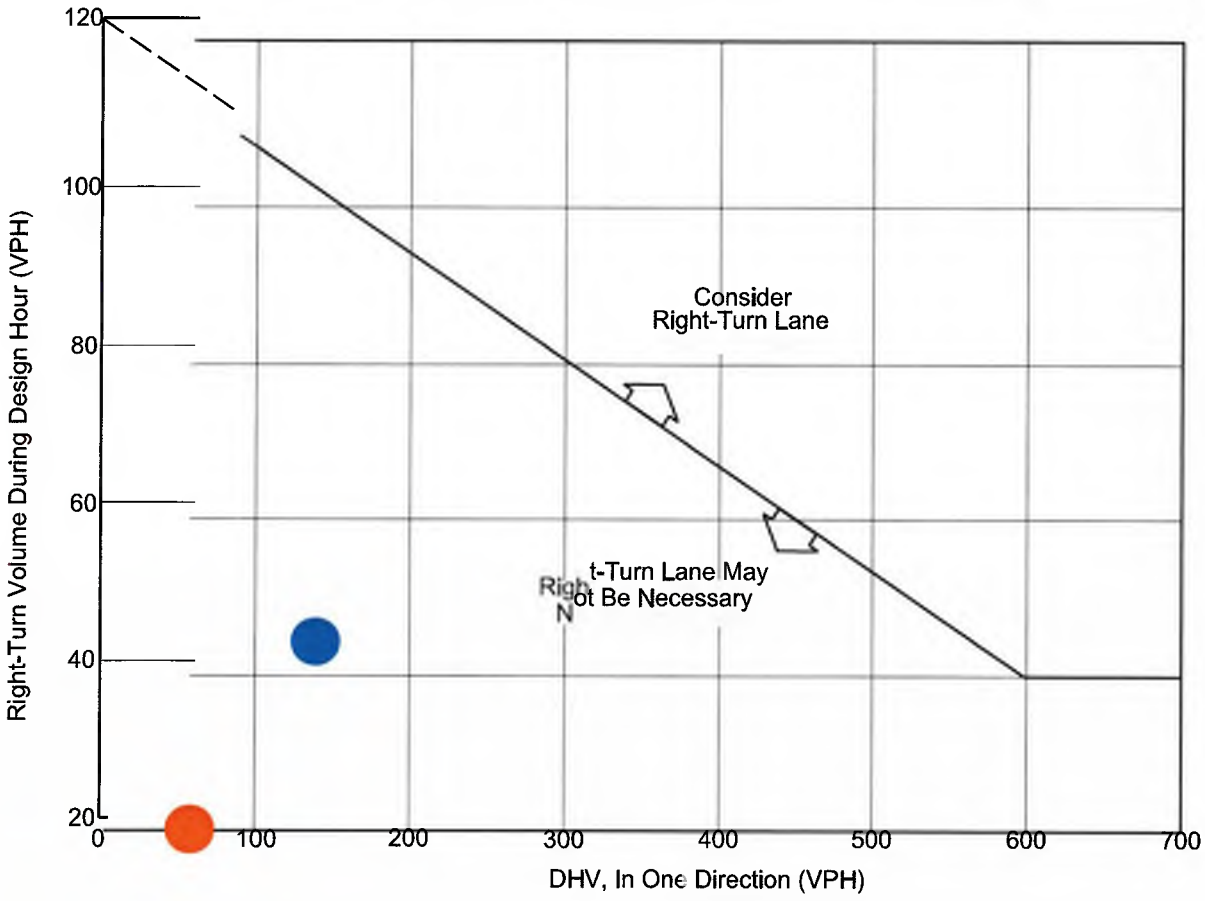
Design Speed	=	35 miles per hour
DHV	=	250 vehicles per hour
Right Turns	=	100 vehicles per hour

Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use 100 – 20 = 80 vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS
Figure 9.5-A

Owens Road & Access B



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

AM
DHV = 58
RT = 12

PM
DHV = 132
RT = 43

Example

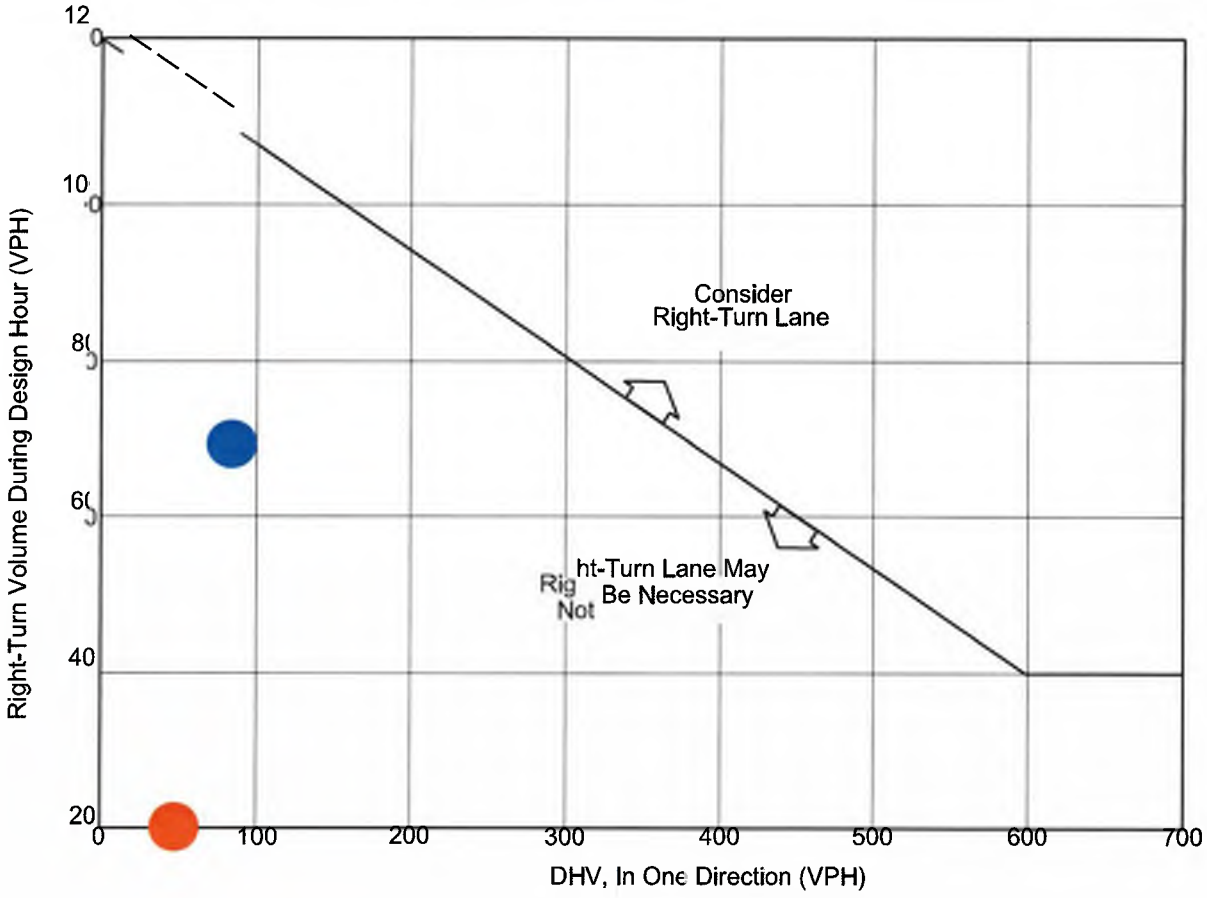
Given: Design Speed = 35 miles per hour
DHV = 250 vehicles per hour
Right Turns = 100 vehicles per hour

Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use 100 – 20 = 80 vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS
Figure 9.5-A

N. Flat Rock Road & Access C



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

AM
DHV = 44
RT = 20

PM
DHV = 88
RT = 68

Given: Design Speed = 35 miles per hour
DHV = 250 vehicles per hour
Right Turns = 100 vehicles per hour

Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use 100 – 20 = 80 vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS
Figure 9.5-A

APPENDIX C

SYNCHRO ANALYSIS REPORTS

EXISTING

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	61	10	2	31	17	6	7	3	33	9	7
Future Vol, veh/h	7	61	10	2	31	17	6	7	3	33	9	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	68	11	2	34	19	7	8	3	37	10	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	53	0	0	79	0	0	147	147	74	143	143	44
Stage 1	-	-	-	-	-	-	90	90	-	48	48	-
Stage 2	-	-	-	-	-	-	57	57	-	95	95	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1553	-	-	1519	-	-	821	744	988	826	748	1026
Stage 1	-	-	-	-	-	-	917	820	-	965	855	-
Stage 2	-	-	-	-	-	-	955	847	-	912	816	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1553	-	-	1519	-	-	803	740	988	813	744	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	803	740	-	813	744	-
Stage 1	-	-	-	-	-	-	912	816	-	960	854	-
Stage 2	-	-	-	-	-	-	936	846	-	896	812	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	9.6	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	801	1553	-	-	1519	-	-	823
HCM Lane V/C Ratio	0.022	0.005	-	-	0.001	-	-	0.066
HCM Control Delay (s)	9.6	7.3	0	-	7.4	0	-	9.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	35	22	9	12	10
Future Vol, veh/h	10	35	22	9	12	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	39	24	10	13	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	34	0	-	0	90	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	61	-
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	1578	-	-	-	910	1046
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	962	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1578	-	-	-	904	1046
Mov Cap-2 Maneuver	-	-	-	-	904	-
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	962	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1578	-	-	-	963
HCM Lane V/C Ratio	0.007	-	-	-	0.025
HCM Control Delay (s)	7.3	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	7	8	0	1	7	92	2	20	0	97	20	8
Future Vol, veh/h	7	8	0	1	7	92	2	20	0	97	20	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	9	0	1	8	102	2	22	0	108	22	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	324	269	27	273	273	22	31	0	0	22	0	0
Stage 1	243	243	-	26	26	-	-	-	-	-	-	-
Stage 2	81	26	-	247	247	-	-	-	-	-	-	-
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	629	637	1048	679	634	1055	1582	-	-	1593	-	-
Stage 1	761	705	-	992	874	-	-	-	-	-	-	-
Stage 2	927	874	-	775	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	532	592	1048	636	590	1055	1582	-	-	1593	-	-
Mov Cap-2 Maneuver	532	592	-	636	590	-	-	-	-	-	-	-
Stage 1	760	656	-	991	873	-	-	-	-	-	-	-
Stage 2	829	873	-	695	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	9.1	0.7	5.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1582	-	-	562	994	1593	-	-
HCM Lane V/C Ratio	0.001	-	-	0.03	0.112	0.068	-	-
HCM Control Delay (s)	7.3	0	-	11.6	9.1	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.2	-	-

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	2	51	6	8	94	34	4	9	4	24	14	1
Future Vol, veh/h	2	51	6	8	94	34	4	9	4	24	14	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None			None			None			None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	57	7	9	104	38	4	10	4	27	16	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	142	0	0	64	0	0	215	225	61	213	209	123
Stage 1	-	-	-	-	-	-	65	65	-	141	144	-
Stage 2	-	-	-	-	-	-	150	160	-	72	65	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1441	-	-	1538	-	-	742	674	1004	744	688	928
Stage 1	-	-	-	-	-	-	946	841	-	862	780	-
Stage 2	-	-	-	-	-	-	853	766	-	938	838	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1441	-	-	1538	-	-	724	669	1004	728	683	928
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	669	-	728	683	-
Stage 1	-	-	-	-	-	-	945	840	-	861	775	-
Stage 2	-	-	-	-	-	-	830	761	-	922	837	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	10	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	740	1441	-	-	1538	-	-	715
HCM Lane V/C Ratio	0.026	0.002	-	-	0.006	-	-	0.061
HCM Control Delay (s)	10	7.5	0	-	7.4	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	4	35	42	4	2	7
Future Vol, veh/h	4	35	42	4	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	39	47	4	2	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	51	0	-	0	96	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	47	-
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	1555	-	-	-	903	1020
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	975	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1555	-	-	-	900	1020
Mov Cap-2 Maneuver	-	-	-	-	900	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	975	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1555	-	-	-	991
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	4	3	1	3	2	27	1	13	2	24	14	4
Future Vol, veh/h	4	3	1	3	2	27	1	13	2	24	14	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	1	3	2	30	1	14	2	27	16	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	105	90	18	91	91	15	20	0	0	16	0	0
Stage 1	72	72	-	17	17	-	-	-	-	-	-	-
Stage 2	33	18	-	74	74	-	-	-	-	-	-	-
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	875	800	1061	893	799	1065	1596	-	-	1602	-	-
Stage 1	938	835	-	1002	881	-	-	-	-	-	-	-
Stage 2	983	880	-	935	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	837	786	1061	877	785	1065	1596	-	-	1602	-	-
Mov Cap-2 Maneuver	837	786	-	877	785	-	-	-	-	-	-	-
Stage 1	937	821	-	1001	880	-	-	-	-	-	-	-
Stage 2	952	879	-	914	819	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	8.6	0.5	4.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1596	-	-	839	1022	1602	-	-
HCM Lane V/C Ratio	0.001	-	-	0.011	0.035	0.017	-	-
HCM Control Delay (s)	7.3	0	-	9.3	8.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

NO-BUILD

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	69	11	2	35	19	7	8	3	37	10	8
Future Vol, veh/h	8	69	11	2	35	19	7	8	3	37	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	77	12	2	39	21	8	9	3	41	11	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	89	0	0	165	165	83	161	161	50
Stage 1	-	-	-	-	-	-	101	101	-	54	54	-
Stage 2	-	-	-	-	-	-	64	64	-	107	107	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1544	-	-	1506	-	-	900	728	976	904	731	1018
Stage 1	-	-	-	-	-	-	905	811	-	958	850	-
Stage 2	-	-	-	-	-	-	947	842	-	898	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1544	-	-	1506	-	-	779	723	976	790	726	1018
Mov Cap-2 Maneuver	-	-	-	-	-	-	779	723	-	790	726	-
Stage 1	-	-	-	-	-	-	900	806	-	952	849	-
Stage 2	-	-	-	-	-	-	926	841	-	880	802	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	9.7	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	778	1544	-	-	1506	-	-	803
HCM Lane V/C Ratio	0.026	0.006	-	-	0.001	-	-	0.076
HCM Control Delay (s)	9.7	7.3	0	-	7.4	0	-	9.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	39	25	10	14	11
Future Vol, veh/h	11	39	25	10	14	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	43	28	11	16	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	101	34
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	67	-
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	1571	-	-	-	898	1039
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1571	-	-	-	891	1039
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	956	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1571	-	-	-	951
HCM Lane V/C Ratio	0.008	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	9	0	1	8	104	2	23	0	109	23	9
Future Vol, veh/h	8	9	0	1	8	104	2	23	0	109	23	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %		0			0			0			0	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	10	0	1	9	116	2	26	0	121	26	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	366	303	31	308	308	6	36	0	0	26	0	0
Stage 1	273	273	-	30	30	-	-	-	-	-	-	-
Stage 2	93	30	-	278	278	-	-	-	-	-	-	-
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	590	610	1043	644	606	1050	1575	-	-	1588	-	-
Stage 1	733	684	-	987	870	-	-	-	-	-	-	-
Stage 2	914	870	-	728	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	487	562	1043	597	558	1050	1575	-	-	1588	-	-
Mov Cap-2 Maneuver	487	562	-	597	558	-	-	-	-	-	-	-
Stage 1	732	631	-	986	869	-	-	-	-	-	-	-
Stage 2	804	869	-	661	627	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	9.2	0.6	5.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1575	-	-	524	982	1588	-	-
HCM Lane V/C Ratio	0.001	-	-	0.036	0.128	0.076	-	-
HCM Control Delay (s)	7.3	0	-	12.1	9.2	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.2	-	-

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	2	57	7	9	106	38	5	10	5	27	16	1
Future Vol, veh/h	2	57	7	9	106	38	5	10	5	27	16	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	63	8	10	118	42	6	11	6	30	18	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	160	0	0	71	0	0	240	251	67	239	234	139
Stage 1	-	-	-	-	-	-	71	71	-	159	159	-
Stage 2	-	-	-	-	-	-	169	180	-	80	75	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1419	-	-	1529	-	-	714	652	997	715	666	909
Stage 1	-	-	-	-	-	-	939	836	-	843	766	-
Stage 2	-	-	-	-	-	-	833	750	-	929	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1419	-	-	1529	-	-	694	647	997	697	661	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	694	647	-	697	661	-
Stage 1	-	-	-	-	-	-	938	835	-	842	761	-
Stage 2	-	-	-	-	-	-	807	745	-	911	832	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	10.1	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	723	1419	-	-	1529	-	-	687
HCM Lane V/C Ratio	0.031	0.002	-	-	0.007	-	-	0.071
HCM Control Delay (s)	10.1	7.5	0	-	7.4	0	-	10.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	5	39	47	5	2	8
Future Vol, veh/h	5	39	47	5	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	43	52	6	2	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	58	0	-	0	110	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	55	-
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	1546	-	-	-	887	1012
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1546	-	-	-	883	1012
Mov Cap-2 Maneuver	-	-	-	-	883	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1546	-	-	-	983
HCM Lane V/C Ratio	0.004	-	-	-	0.011
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	3	1	3	2	30	1	15	2	27	16	5
Future Vol, veh/h	5	3	1	3	2	30	1	15	2	27	16	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	3	1	3	2	33	1	17	2	30	18	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	119	102	21	103	104	18	24	0	0	19	0	0
Stage 1	81	81	-	20	20	-	-	-	-	-	-	-
Stage 2	38	21	-	83	84	-	-	-	-	-	-	-
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	857	788	1056	877	786	1061	1591	-	-	1597	-	-
Stage 1	927	828	-	999	879	-	-	-	-	-	-	-
Stage 2	977	878	-	925	825	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	816	772	1056	859	770	1061	1591	-	-	1597	-	-
Mov Cap-2 Maneuver	816	772	-	859	770	-	-	-	-	-	-	-
Stage 1	926	812	-	998	878	-	-	-	-	-	-	-
Stage 2	943	877	-	903	809	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	8.7	0.4	4.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1591	-	-	821	1018	1597	-	-
HCM Lane V/C Ratio	0.001	-	-	0.012	0.038	0.019	-	-
HCM Control Delay (s)	7.3	0	-	9.4	8.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

BUILD

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	69	11	2	35	31	7	18	3	74	40	23
Future Vol, veh/h	13	69	11	2	35	31	7	18	3	74	40	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None			None			None			None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	77	12	2	39	34	8	20	3	82	44	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	89	0	0	206	188	83	183	177	56
Stage 1	-	-	-	-	-	-	111	111	-	60	60	-
Stage 2	-	-	-	-	-	-	95	77	-	123	117	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1527	-	-	1506	-	-	752	707	976	778	717	1011
Stage 1	-	-	-	-	-	-	894	804	-	951	845	-
Stage 2	-	-	-	-	-	-	912	831	-	881	799	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1527	-	-	1506	-	-	692	699	976	752	709	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	692	699	-	752	709	-
Stage 1	-	-	-	-	-	-	885	796	-	941	844	-
Stage 2	-	-	-	-	-	-	841	830	-	847	791	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.2	10.2	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	719	1527	-	-	1506	-	-	772
HCM Lane V/C Ratio	0.043	0.009	-	-	0.001	-	-	0.197
HCM Control Delay (s)	10.2	7.4	0	-	7.4	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	106	47	15	29	11
Future Vol, veh/h	11	106	47	15	29	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	118	52	17	32	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	69	0	-	0	203	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	142	-
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	1532	-	-	-	786	1004
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1532	-	-	-	780	1004
Mov Cap-2 Maneuver	-	-	-	-	780	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	885	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1532	-	-	-	831
HCM Lane V/C Ratio	0.008	-	-	-	0.053
HCM Control Delay (s)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	9	0	8	8	104	2	60	22	1	36	9
Future Vol, veh/h	8	9	0	8	8	104	2	60	22	109	36	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized			None			None			None			None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	10	0	9	9	116	2	67	24	121	40	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	433	382	45	375	375	79	50	0	0	91	0	0
Stage 1	287	287	-	83	83	-	-	-	-	-	-	-
Stage 2	146	95	-	292	292	-	-	-	-	-	-	-
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	533	551	1025	582	556	981	1557	-	-	1504	-	-
Stage 1	720	674	-	925	826	-	-	-	-	-	-	-
Stage 2	857	816	-	716	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	434	505	1025	537	509	981	1557	-	-	1504	-	-
Mov Cap-2 Maneuver	434	505	-	537	509	-	-	-	-	-	-	-
Stage 1	719	618	-	924	825	-	-	-	-	-	-	-
Stage 2	747	815	-	646	615	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	9.8	0.2	5.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1557	-	-	469	878	1504	-	-
HCM Lane V/C Ratio	0.001	-	-	0.04	0.152	0.081	-	-
HCM Control Delay (s)	7.3	0	-	13	9.8	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0.3	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰↱	
Traffic Vol, veh/h	2	50	36	10	30	7
Future Vol, veh/h	2	50	36	10	30	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	56	40	11	33	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	51	0	-	0	106	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	60	-
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	1555	-	-	-	892	1023
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	963	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1555	-	-	-	891	1023
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1555	-	-	-	913
HCM Lane V/C Ratio	0.001	-	-	-	0.045
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	80	46	12	37	0
Future Vol, veh/h	0	80	46	12	37	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	89	51	13	41	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	64	0	-	0	147	58
Stage 1	-	-	-	-	58	-
Stage 2	-	-	-	-	89	-
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	1538	-	-	-	845	1008
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1538	-	-	-	845	1008
Mov Cap-2 Maneuver	-	-	-	-	845	-
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1538	-	-	-	845
HCM Lane V/C Ratio	-	-	-	-	0.049
HCM Control Delay (s)	0	-	-	-	9.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	15	5	25	24	20
Future Vol, veh/h	59	15	5	25	24	20
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	17	6	28	27	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	78	38	49	0	-	0
Stage 1	38	-	-	-	-	-
Stage 2	40	-	-	-	-	-
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	925	1034	1558	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	921	1034	1558	-	-	-
Mov Cap-2 Maneuver	921	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	982	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1558	-	942	-	-
HCM Lane V/C Ratio	0.004	-	0.087	-	-
HCM Control Delay (s)	7.3	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	BL N	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	57	7	9	106	81	5	44	5	52	36	11
Future Vol, veh/h	19	57	7	9	106	81	5	44	5	52	36	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	63	8	10	118	90	6	49	6	58	40	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	208	0	0	71	0	0	318	337	67	320	296	163
Stage 1	-	-	-	-	-	-	109	109	-	183	183	-
Stage 2	-	-	-	-	-	-	209	228	-	137	113	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1363	-	-	1529	-	-	635	584	997	633	616	882
Stage 1	-	-	-	-	-	-	896	805	-	819	748	-
Stage 2	-	-	-	-	-	-	793	715	-	866	802	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1363	-	-	1529	-	-	584	571	997	578	602	882
Mov Cap-2 Maneuver	-	-	-	-	-	-	584	571	-	578	602	-
Stage 1	-	-	-	-	-	-	882	792	-	806	743	-
Stage 2	-	-	-	-	-	-	735	710	-	795	789	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.3	11.7	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	596	1363	-	-	1529	-	-	610
HCM Lane V/C Ratio	0.101	0.015	-	-	0.007	-	-	0.18
HCM Control Delay (s)	11.7	7.7	0	-	7.4	0	-	12.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	84	124	22	12	8
Future Vol, veh/h	5	84	124	22	12	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	93	138	24	13	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	162	0	-	0	255	150
Stage 1	-	-	-	-	150	-
Stage 2	-	-	-	-	105	-
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	1417	-	-	-	734	896
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	919	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1417	-	-	-	731	896
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	919	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1417	-	-	-	789
HCM Lane V/C Ratio	0.004	-	-	-	0.028
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	1	29	2	30	1	40	17	27	58	5
Future Vol, veh/h	5	3	1	29	2	30	1	40	17	27	58	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %		0			0			0			0	
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	3	1	32	2	33	1	44	19	30	64	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	200	192	67	185	186	54	70	0	0	63	0	0
Stage 1	127	127	-	56	56	-	-	-	-	-	-	-
Stage 2	73	65	-	129	130	-	-	-	-	-	-	-
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	759	703	997	776	708	1013	1531	-	-	1540	-	-
Stage 1	877	791	-	956	848	-	-	-	-	-	-	-
Stage 2	937	841	-	875	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	720	688	997	760	693	1013	1531	-	-	1540	-	-
Mov Cap-2 Maneuver	720	688	-	760	693	-	-	-	-	-	-	-
Stage 1	876	775	-	955	847	-	-	-	-	-	-	-
Stage 2	903	840	-	853	773	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.5	0.1	2.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	731	863	1540	-	-
HCM Lane V/C Ratio	0.001	-	-	0.014	0.079	0.019	-	-
HCM Control Delay (s)	7.4	0	-	10	9.5	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	44	55	34	20	5
Future Vol, veh/h	9	44	55	34	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	49	61	38	22	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	149	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	69	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1494	-	-	-	843	980
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1494	-	-	-	837	980
Mov Cap-2 Maneuver	-	-	-	-	837	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	954	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1494	-	-	-	862
HCM Lane V/C Ratio	0.007	-	-	-	0.032
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	64	89	43	25	0
Future Vol, veh/h	0	64	89	43	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	71	99	48	28	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	147	0	-	0	194	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	71	-
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	1435	-	-	-	795	928
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	952	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1435	-	-	-	795	928
Mov Cap-2 Maneuver	-	-	-	-	795	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1435	-	-	-	795
HCM Lane V/C Ratio	-	-	-	-	0.035
HCM Control Delay (s)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	10	17	18	20	8
Future Vol, veh/h	40	10	17	18	20	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized		None		None		
Storage Length	0	-	-	-	-	None
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	11	19	20	22	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	118	60	98	0	-	0
Stage 1	60	-	-	-	-	-
Stage 2	58	-	-	-	-	-
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	878	1005	1495	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	867	1005	1495	-	-	-
Mov Cap-2 Maneuver	867	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	3.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1495	-	891	-	-
HCM Lane V/C Ratio	0.013	-	0.062	-	-
HCM Control Delay (s)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

APPENDIX D

SIMTRAFFIC ANALYSIS REPORTS

Intersection: 3: Waycross Church Road/Owens Road & W. Georgia Road

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	3	3	59
Average Queue (ft)	0	1	24
95th Queue (ft)	1	12	59
Link Distance (ft)	1788	1262	562
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Owens Road & N. Flat Rock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	39
Average Queue (ft)	0	16
95th Queue (ft)	5	41
Link Distance (ft)	2111	2869
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: N. Flat Rock Road & Woodmont School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	63	3	36
Average Queue (ft)	12	34	0	3
95th Queue (ft)	37	52	0	17
Link Distance (ft)	1065	1154	1552	1429
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection: 3: Waycross Church Road/Owens Road & W. Georgia Road

Movement Directions Served	EB LTR	WB LTR	NB LTR	SB LTR
Maximum Queue (ft)	3	11	35	56
Average Queue (ft)	0	0	14	24
95th Queue (ft)	3	6	38	49
Link Distance (ft)	1788	1717	1262	5 2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Owens Road & N. Flat Rock Road

Movement Directions Served	EB LT	SB LR
Maximum Queue (ft)	9	34
Average Queue (ft)	0	8
95th Queue (ft)	4	29
Link Distance (ft)	2111	2869
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: N. Flat Rock Road & Woodmont School Road

Movement Directions Served	EB LTR	WB LTR	SB LTR
Maximum Queue (ft)	31	52	17
Average Queue (ft)	8	20	1
95th Queue (ft)	31	46	9
Link Distance (ft)	1065	1154	1429
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection: 3: Waycross Church Road/Owens Road & W. Georgia Road

Movement	EB	B N	B S
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	5	33	52
Average Queue (ft)	0	14	27
95th Queue (ft)	4	38	50
Link Distance (ft)	1788	1262	562
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Owens Road & N. Flat Rock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	50
Average Queue (ft)	0	17
95th Queue (ft)	6	43
Link Distance (ft)	2111	2869
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: N. Flat Rock Road & Woodmont School Road

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	40	73	33
Average Queue (ft)	14	35	2
95th Queue (ft)	40	56	16
Link Distance (ft)	1065	1154	1429
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection: 3: Waycross Church Road/Owens Road & W. Georgia Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	5	11	31	60
Average Queue (ft)	0	1	15	25
95th Queue (ft)	4	8	39	51
Link Distance (ft)	1788	1717	1262	562
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Owens Road & N. Flat Rock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	6	34
Average Queue (ft)	0	8
95th Queue (ft)	6	29
Link Distance (ft)	2111	2869
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: N. Flat Rock Road & Woodmont School Road

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	42	21
Average Queue (ft)	7	20	1
95th Queue (ft)	29	44	8
Link Distance (ft)	1065	1154	1429
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection: 3: Waycross Church Road/Owens Road & W. Georgia Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	15	3	37	78
Average Queue (ft)	1	0	19	39
95th Queue (ft)	8	3	43	64
Link Distance (ft)	1788	1717	1262	562
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Owens Road & N. Flat Rock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	56
Average Queue (ft)	1	24
95th Queue (ft)	7	51
Link Distance (ft)	2105	2880
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: N. Flat Rock Road & Woodmont School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	66	2	47
Average Queue (ft)	15	35	0	8
95th Queue (ft)	41	55	2	30
Link Distance (ft)	1065	1154	1544	1429
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Owens Road & Access A

Movement	SB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	23
95th Queue (ft)	50
Link Distance (ft)	1196
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Owens Road & Access B

Movement	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	22
95th Queue (ft)	49
Link Distance (ft)	1180
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: N. Flat Rock Road & Access C

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	56	6
Average Queue (ft)	29	0
95th Queue (ft)	49	5
Link Distance (ft)	1262	2880
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 3: Waycross Church Road/Owens Road & W. Georgia Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	15	62	77
Average Queue (ft)	3	1	27	37
95th Queue (ft)	19	8	50	64
Link Distance (ft)	1788	1717	1262	562
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Owens Road & N. Flat Rock Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	15	44
Average Queue (ft)	1	15
95th Queue (ft)	7	40
Link Distance (ft)	2105	2880
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: N. Flat Rock Road & Woodmont School Road

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	36	62	30
Average Queue (ft)	8	30	2
95th Queue (ft)	31	53	14
Link Distance (ft)	1065	1154	1429
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Owens Road & Access A

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	43
Average Queue (ft)	1	20
95th Queue (ft)	10	46
Link Distance (ft)	1824	1196
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Owens Road & Access B

Movement	SB
Directions Served	LR
Maximum Queue (ft)	46
Average Queue (ft)	18
95th Queue (ft)	45
Link Distance (ft)	1180
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: N. Flat Rock Road & Access C

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	56	25
Average Queue (ft)	24	1
95th Queue (ft)	48	12
Link Distance (ft)	1262	2880
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0