

THOMAS
&
HUTTON

REZONING APPLICATION

Preserve at Ravenel
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT G Traffic Impact Study

J – 28397

November 2022



DAVISON INVESTORS DEVELOPMENT

2021
March

FINAL

PREPARED FOR: **DAVISON INVESTORS, LLC**

TRAFFIC IMPACT ANALYSIS

ALONG COUNTY LINE ROAD/DAVISON ROAD
IN CHARLESTON COUNTY, SOUTH CAROLINA

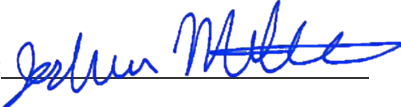
PREPARED BY: **STANTEC CONSULTING SERVICES INC.** // N. CHARLESTON, SC



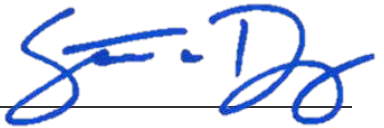


DAVISON INVESTORS DEVELOPMENT TRAFFIC IMPACT ANALYSIS

This document entitled "Davison Investors Development Traffic Impact Analysis" was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Davison Investors, LLC (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by: 

Joshua Mitchell, PE

Reviewed by: 

Stuart Day, PE, PTOE



Approved by: 

Joshua Mitchell, PE



TABLE OF CONTENTS



EXECUTIVE SUMMARY	I
1.0 INTRODUCTION	1.1
1.1 PROJECT BACKGROUND.....	1.1
1.2 EXISTING ROADWAY CONDITIONS.....	1.1
2.0 DRIVEWAY SPACING REVIEW	2.1
3.0 PROJECT TRAFFIC	3.1
3.1 PROPOSED LAND USES.....	3.1
3.2 TRIP GENERATION ESTIMATES.....	3.1
3.3 TRIP DISTRIBUTION & ASSIGNMENT.....	3.1
4.0 TRAFFIC VOLUME DEVELOPMENT	4.1
4.1 EXISTING TRAFFIC VOLUMES.....	4.1
4.2 FUTURE TRAFFIC PROJECTIONS.....	4.1
5.0 TRAFFIC IMPACT ANALYSIS	5.1
5.1 TURN LANE ANALYSIS.....	5.1
5.1.1 Right-Turn Lanes.....	5.1
5.1.2 Left-Turn Lanes.....	5.2
5.2 INTERSECTION LOS ANALYSIS.....	5.3
6.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS	6.1

LIST OF TABLES

Table 2.1 – Minimum Driveway Spacing*.....	2.1
Table 3.1 – Trip Generation Estimates.....	3.1
Table 5.1 – Right-Turn Lane Criteria Warrants.....	5.1
Table 5.2 – Left-Turn Lane Criteria Warrants.....	5.2
Table 5.3 – HCM 2010 Intersection LOS Criteria.....	5.3
Table 5.4 – Peak Hour Intersection Analysis Results.....	5.4

LIST OF EXHIBITS

Exhibit 1.1 – Davison Investors Development Location Map.....	1.2
Exhibit 1.2 – Davison Investors Development Site Plan.....	1.3
Exhibit 3.1 – Project Traffic Distribution and Assignment.....	3.2
Exhibit 3.2 – AM and PM Peak Hour Project Traffic Volumes.....	3.3
Exhibit 4.1 – 2020 Existing Peak Hour Traffic Volumes.....	4.2
Exhibit 4.2 – Vested Traffic Volumes from the Nearby Poplar Grove Development.....	4.3
Exhibit 4.3 – 2025 No Build Peak Hour Traffic Volumes.....	4.4
Exhibit 4.4 – 2025 Build Peak Hour Traffic Volumes.....	4.5
Exhibit 5.1 – 2025 No Build and Build Improved Level of Service Results.....	5.5

LIST OF APPENDICES

Appendix A	Trip Generation Worksheets
Appendix B	Traffic Volume Data
Appendix C	Traffic Volume Development Worksheets
Appendix D	Analysis Worksheets: 2020 Existing Conditions
Appendix E	Analysis Worksheets: 2025 No Build Conditions
Appendix F	Analysis Worksheets: 2025 Build Conditions
Appendix G	Analysis Worksheets: 2025 Build Conditions w/ Recommended Improvements
Appendix H	Turn Lane Analysis Worksheets



EXECUTIVE SUMMARY

A traffic impact analysis was conducted for the proposed Davison Investors development in accordance with SCDOT and Charleston County guidelines.

The proposed Davison Investors development is located west of Davison Road and south of County Line Road in Charleston County, South Carolina and will consist of up to 390 single-family detached homes and 110 multifamily housing units (low-rise). While the development will be marketed primarily to active retirees, the trip generation potential for single-family detached homes and multifamily housing was used in an effort to be conservative.

Access to the development will be provided through up to five (5) proposed full access driveway(s) along the western/southern side of Davison Road/County Line Road, all of which meet the SCDOT spacing requirements.

Therefore, the extent of the roadway network analyzed consisted of the five project driveway intersections as well as the signalized intersection of Davison Road & US 17/Savannah Highway.

According to the current development plan, based on the turn lane criteria in SCDOT's *Roadway Design Manual*, exclusive westbound/northbound left-turn lanes along County Line Road/Davison Road are recommended at Project Driveways #1, #2, #3, and #4 prior to full buildout of the development. However, as the development is built out and/or the development plan changes, a detailed, phased traffic study may be performed in the future to determine the precise timing and threshold of development triggering the need for turn lanes.

The results of the intersection analysis indicate that the study intersections (including the intersection of US 17/Savannah Highway & Davison Road) currently operate and are expected to continue to operate at an acceptable LOS with full build out of the proposed Davison Investors development, with only one exception at one of the project driveways:

The intersection of Davison Road & Ten Shillings Way/Project Driveway #1 is anticipated to experience undesirable delay in the PM peak hour of the 2025 Build Conditions. However, this projected delay is likely due to the conservative nature of the *HCM 2010* unsignalized methodology and is not an uncommon condition for two-way stop control during the peak hours of the day. Therefore, no improvements to mitigate this delay are recommended.



1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

The purpose of this report is to document the procedures and findings of a traffic impact analysis for the proposed Davison Investors development in accordance with SCDOT and Charleston County guidelines. The proposed Davison Investors development is located west of Davison Road and south of County Line Road in Charleston County, South Carolina, as shown in **Exhibit 1.1**, and will consist of the following land uses, with anticipated completion in 2025:

- ❖ up to 390 Single-Family Detached Housing Units; and
- ❖ up to 110 Multifamily Housing (Low-Rise) Units.

Access to the development will be provided through up to five (5) proposed full access driveway(s) along the western/southern side of Davison Road/County Line Road, as shown in the site plan in **Exhibit 1.2**.

Project Driveway #1 is proposed to align opposite of Ten Shillings Way; Project Driveway #2 is proposed to be located between Ten Shillings Way and Bulow Landing Road; Project Driveway #3 is proposed to align opposite of Bulow Landing Road; Project Driveway #4 is proposed to align opposite of the existing Equestrian Center driveway; and Project Driveway #5 is proposed to be located between Project Driveway #4 and the existing Moberry Road/S-10-1447.

The traffic impact analysis considers the weekday AM peak hour (between 7:00 AM and 9:00 AM) and the weekday PM peak hour (between 4:00 PM and 6:00 PM) as the study time frames.

The extent of the existing roadway network to be studied consists of the 6 (six) intersections of:

1. Davison Road & US 17/Savannah Highway;
2. Davison Road & Ten Shillings Way/Project Driveway #1
3. Davison Road & Project Driveway #2
4. Davison Road/County Line Road & Bulow Landing Road/Project Driveway #3;
5. County Line Road & Equestrian Center Driveway/Project Driveway #4; and
6. County Line Road & Project Driveway #5.

1.2 EXISTING ROADWAY CONDITIONS

County Line Road/Davison Road is a two-lane Major Collector that primarily serves residential and agricultural land uses. The posted speed limit is 45 mph and the average annual daily traffic (AADT) in 2019 was 3,800 vehicles/day. Based upon existing turning movement counts, the percentage of heavy vehicles along County Line Road/Davison Road is approximately 7%.

US 17/Savannah Highway is a four-lane, divided Principal Arterial that primarily serves commercial and residential land uses. The posted speed limit is 55 mph and the average annual daily traffic (AADT) in 2019 was 34,900 vehicles/day. Based upon existing turning movement counts, the percentage of heavy vehicles along US 17/Savannah Highway is approximately 5%.



Exhibit 1.1 – Davison Investors Development Location Map

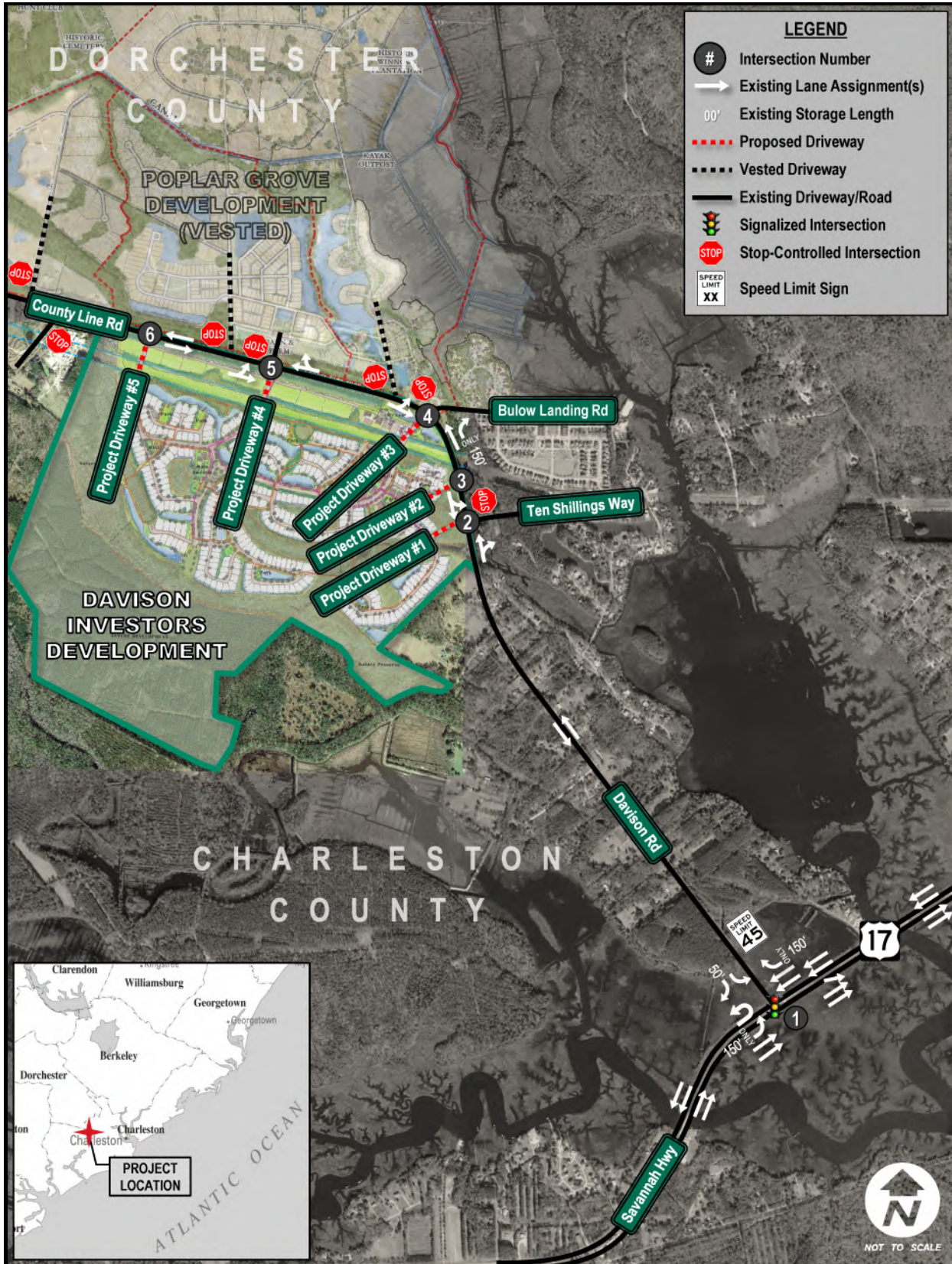




Exhibit 1.2 – Davison Investors Development Site Plan



PREPARED FOR:
 DAVISON INVESTORS LLC

THE PRESERVE AT RAVANEL
 ILLUSTRATIVE CONCEPTUAL
 MASTER PLAN

18 DECEMBER 2020

DISCLAIMER:
 THIS ILLUSTRATIVE CONCEPTUAL MASTER PLAN REPRESENTS A PRELIMINARY DESIGN AND SHOULD NOT BE RELIED UPON FOR ACCURACY. ALL ASPECTS OF THE PLAN INCLUDING LOT DIMENSIONS ARE SUBJECT TO CHANGE WITHIN THE GUIDELINES OF THE APPROVED PLANNED DEVELOPMENT DISTRICT PLAN.

PREPARED BY:
 DESIGNWORKS LC CHARLESTON SC

- Commercial, government and public area
 26 acres
- 9 Estates lots
 Size: 400'x200'
- 110 Townhouses
 Size: 25'x120'
- 53 Village lots
 Sizes: 65'x120'
- 328 Standard lots
 Sizes: 75'/80'x150'

Total : 500 Units

- Power Easement
- Property Lines
- Multi use trail:
 -golf cart
 -pedestrian
- Limited use trail:
 -bike
 -pedestrian
- Nature Preserve
- Neighborhood park
- Community Amenity
- Canals Ponds Lakes



2.0 DRIVEWAY SPACING REVIEW

Access to the development will be provided through up to five (5) proposed full access driveway(s) along the western/southern side of Davison Road/County Line Road.

Project Driveway #1 is proposed to align opposite of Ten Shillings Way; Project Driveway #2 is proposed to be located between Ten Shillings Way and Bulow Landing Road; Project Driveway #3 is proposed to align opposite of Bulow Landing Road; Project Driveway #4 is proposed to align opposite of the existing Equestrian Center driveway; and Project Driveway #5 is proposed to be located between Project Driveway #4 and the existing Moberry Road/S-10-1447.

A review of the driveway spacing of the proposed driveways was completed based on information contained in SCDOT's *Access & Roadside Management Standards (ARMS)* manual (2008), shown in the adapted Error! Reference source not found..

Table 2.1 – Minimum Driveway Spacing*

Posted Speed Limit (mph)	AADT ≥ 2000; or Driveways Generating > 50 Peak Hour Trips	AADT < 2000
30	160 ft	75 ft
35	220 ft	125 ft
40	275 ft	175 ft
45	325 ft	225 ft
≥ 50	400 ft	275 ft

*Figure 3-7 of *Access & Roadside Management Standards, 2008, SCDOT*

Based upon the 45-mph speed limit and the driveway spacing criteria of *ARMS*, **a minimum of 325 feet is required** for full access along County Line Road/Davison Road.

Project Driveway #1 is proposed to be aligned with the existing Ten Shillings Way, located approximately 550 feet south of the proposed Project Driveway #2 and approximately 775 feet north of the next closest residential driveway to the south, both of which meet the spacing criteria.

Project Driveway #2 is proposed to be located approximately 1,300 feet south of Bulow Landing Road and approximately 550 feet north of Ten Shillings Way, both of which meet the spacing criteria.

Project Driveway #3 is proposed to be aligned with the existing Bulow Landing Road, located approximately 550 feet east of a proposed Poplar Grove Development driveway and approximately 1,800 feet north of Ten Shillings Way, both of which meet the spacing criteria.

Project Driveway #4 is proposed to be aligned with the existing Equestrian Center driveway, located approximately 660 feet east of one proposed Poplar Grove development driveway and approximately 2,000 west of another proposed Poplar Grove development driveway, both of which meet the spacing criteria.

Project Driveway #5 is proposed to be located approximately 1,300 feet east of the existing Moberry Road/S-10-1447 and approximately 1,400 feet west of a proposed Poplar Grove development driveway, both of which meet the spacing criteria.



3.0 PROJECT TRAFFIC

3.1 PROPOSED LAND USES

Project Traffic in this analysis is defined as the vehicle trips anticipated to be generated by the proposed Davison Investors development. These trips were distributed and assigned throughout the study roadway network.

The Davison Investors development is proposed to consist of the following land uses:

- ❖ up to 390 Single-Family Detached Housing Units; and
- ❖ up to 110 Multifamily Housing (Low-Rise) Units.

3.2 TRIP GENERATION ESTIMATES

The trip generation potential for the development was estimated using information contained in ITE's *Trip Generation Manual*, 10th Edition (2017) reference. The estimates utilized the following land use codes:

- ❖ LUC 210 – Single Family Detached Housing; and
- ❖ LUC 220 – Multifamily Housing (Low-Rise).

Due to the nature of the proposed Davison Investors development, internal capture trips, pass-by trips, and multimodal reduction were not considered in the trip generation estimates. The trip generation estimates for the development are shown below in **Table 3.1** and documented in **Appendix A**.

3.3 TRIP DISTRIBUTION & ASSIGNMENT

New external traffic expected to be generated by the Davison Investors development was distributed and assigned to the roadway network based upon existing travel patterns in the area. The general distribution of project trips was assumed to be:

- ❖ 15% to/from the west via County Line Road
- ❖ 70% to/from the north via US 17/Savannah Highway
- ❖ 15% to/from the south via US 17/Savannah Highway

The assignment of new external project traffic anticipated to be generated by the Davison Investors development is illustrated in **Exhibit 3.1** and the AM and PM peak hour project traffic volumes are illustrated in **Exhibit 3.2**.

Table 3.1 – Trip Generation Estimates

Land Use	ITE LUC	Scale	Daily	Weekday AM Peak Period		Weekday PM Peak Period	
				Enter	Exit	Enter	Exit
Single Family Detached Housing	210	390 Units	3,638	71	211	236	139
Multifamily Housing (Low-Rise)	220	110 Units	792	12	40	40	24
New, External Trips			4,430	83	251	276	163



Exhibit 3.1 – Project Traffic Distribution and Assignment

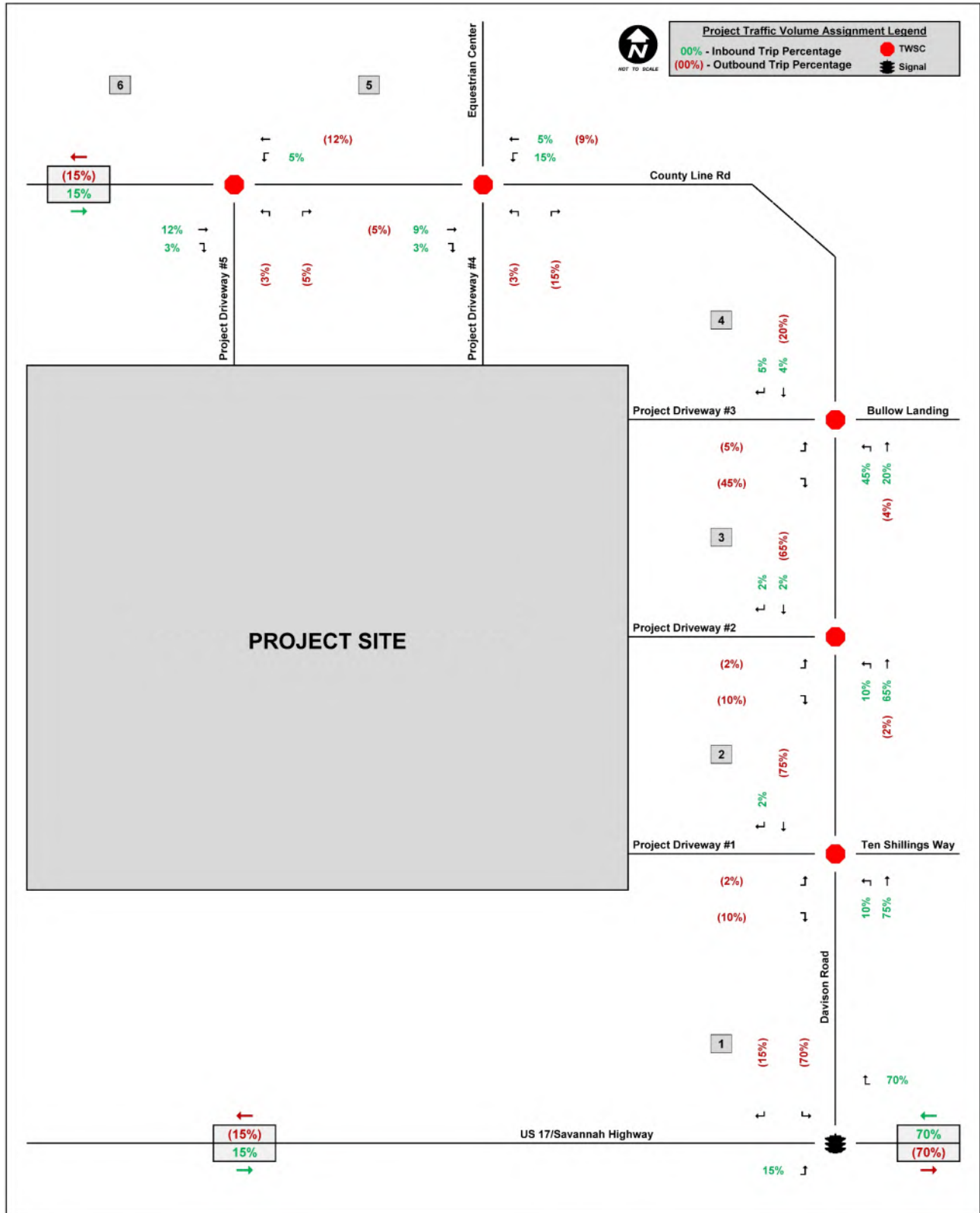
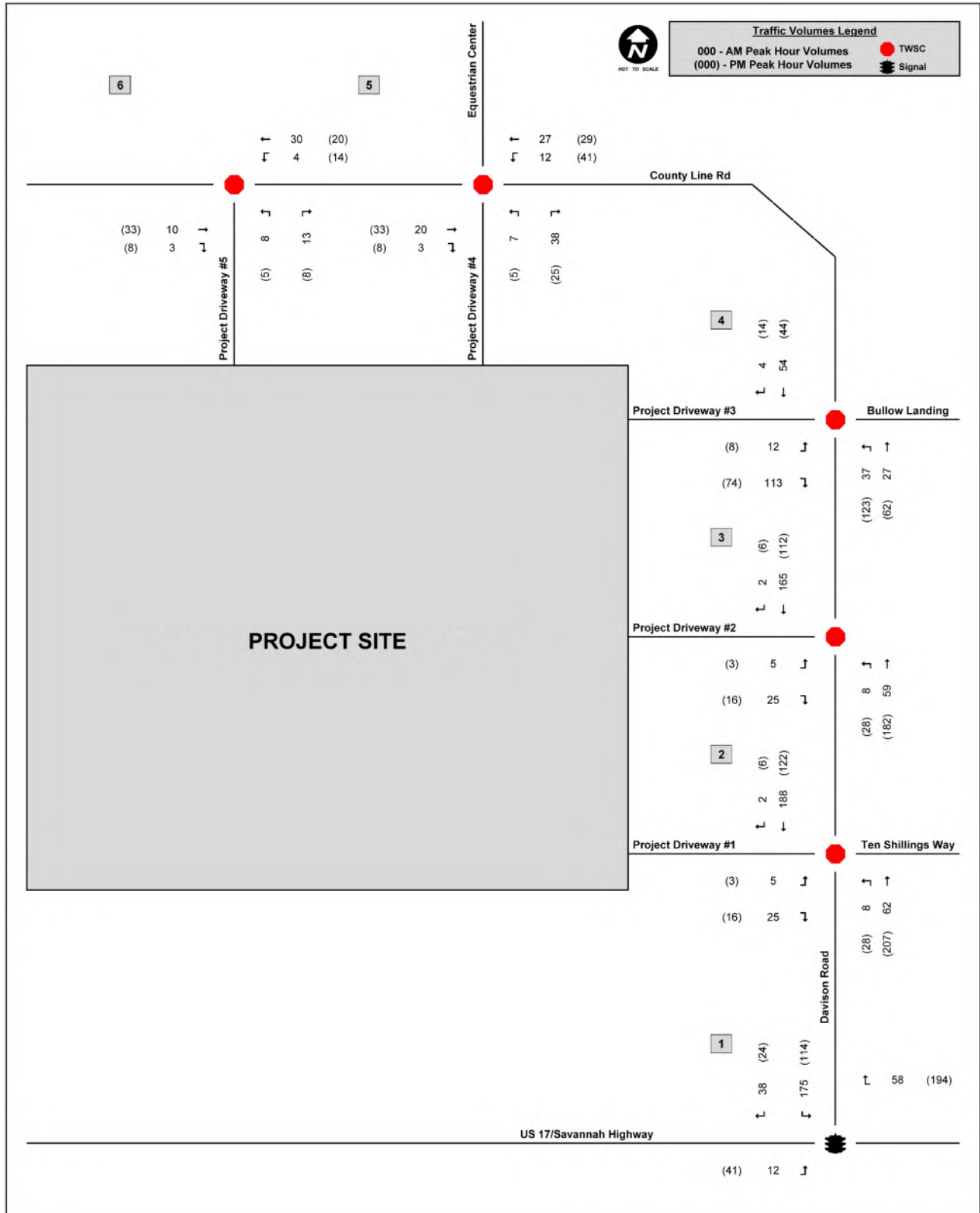




Exhibit 3.2 – AM and PM Peak Hour Project Traffic Volumes





4.0 TRAFFIC VOLUME DEVELOPMENT

4.1 EXISTING TRAFFIC VOLUMES

The traffic impact analysis considers the weekday AM peak hour (between 7:00 AM and 9:00 AM) and the weekday PM peak hour (between 4:00 PM and 6:00 PM) as the study time frames. The extent of the existing roadway network to be studied consists of the 2 (two) intersections of:

1. Davison Road & US 17/Savannah Highway;
2. Davison Road & Ten Shillings Way/Project Driveway #1
3. Davison Road & Project Driveway #2
4. Davison Road/County Line Road & Bulow Landing Road/Project Driveway #3;
5. County Line Road & Equestrian Center Driveway/Project Driveway #4; and
6. County Line Road & Project Driveway #5.

Existing 2020 traffic volumes were collected at these study area intersections during the AM and PM peak periods listed above in August of 2019 and were not recollected in 2020 due to the impacts of the ongoing COVID-19 pandemic on traffic volumes. At the intersection of Davison Road & Ten Shillings Way, existing traffic volumes in and out of Ten Shillings way were estimated based on a trip generation analysis of the number of homes using Ten Shillings Way for access (estimated to be 70 single-family-homes). At the intersection of County Line Road & Equestrian Center Driveway, existing traffic volumes in and out of the Equestrian Center were estimated to be 10 vehicles in and 10 vehicles out in a peak hour based on the low trip generation potential of the existing center during typical weekday peak hours.

As noted in the subsequent section, traffic volumes in the study area are anticipated to grow at an annual rate of 2% per year. Therefore, the raw 2019 volumes were adjusted to 2020 Existing Conditions by applying a 2% growth rate for one year.

The raw traffic volume counts are provided in **Appendix B** and the 2020 existing AM and PM peak hour traffic volumes are illustrated in **Exhibit 4.1** and documented in **Appendix D**.

4.2 FUTURE TRAFFIC PROJECTIONS

Future 2025 No Build traffic volumes were developed by adding *background traffic growth* and *vested traffic* to the collected Existing 2020 study area peak hour volumes. *Background traffic growth* is growth anticipated to occur in the study area regardless of the proposed Davison Investors development. *Vested traffic* is traffic anticipated to be generated by other known nearby developments expected to be completed prior to the Davison Investors development.

To develop an annual background growth rate for use in the analysis, historical count data from the last 15 years along US 17/Savannah Highway and Davison Road/County Line Road (SCDOT count stations #109 and #565) were reviewed. It was determined that the roadways have experienced a collected annual growth of 1.6%. Therefore, to be conservative, a 2% annual growth rate was utilized to develop anticipated *background traffic growth* through the anticipated 2025 buildout year.

A separate project is currently proposed adjacent to the Davison Investors development. The Poplar Grove development, consisting of 450 Single-Family Homes, is located along County Line Road opposite of the Davison Investors Development in Dorchester County, South Carolina. The traffic volumes anticipated to be generated by this development were considered in the analysis as *vested traffic*, as illustrated in **Exhibit 4.2**.

2025 No Build AM and PM peak hour traffic volumes, illustrated in **Exhibit 4.3**, were developed by adding the *background traffic growth* (assuming 2% annual growth of the existing traffic volumes) and the *vested traffic* from the nearby Poplar Grove development to the 2020 existing AM and PM peak hour traffic volumes.

2025 Build AM and PM peak hour traffic volumes, illustrated in **Exhibit 4.4**, were developed by adding the Davison Investors project traffic volumes (shown in **Exhibit 3.1**) to the 2025 No Build traffic volumes.

Volume development worksheets for each intersection are documented in **Appendix C**.



Exhibit 4.1 – 2020 Existing Peak Hour Traffic Volumes

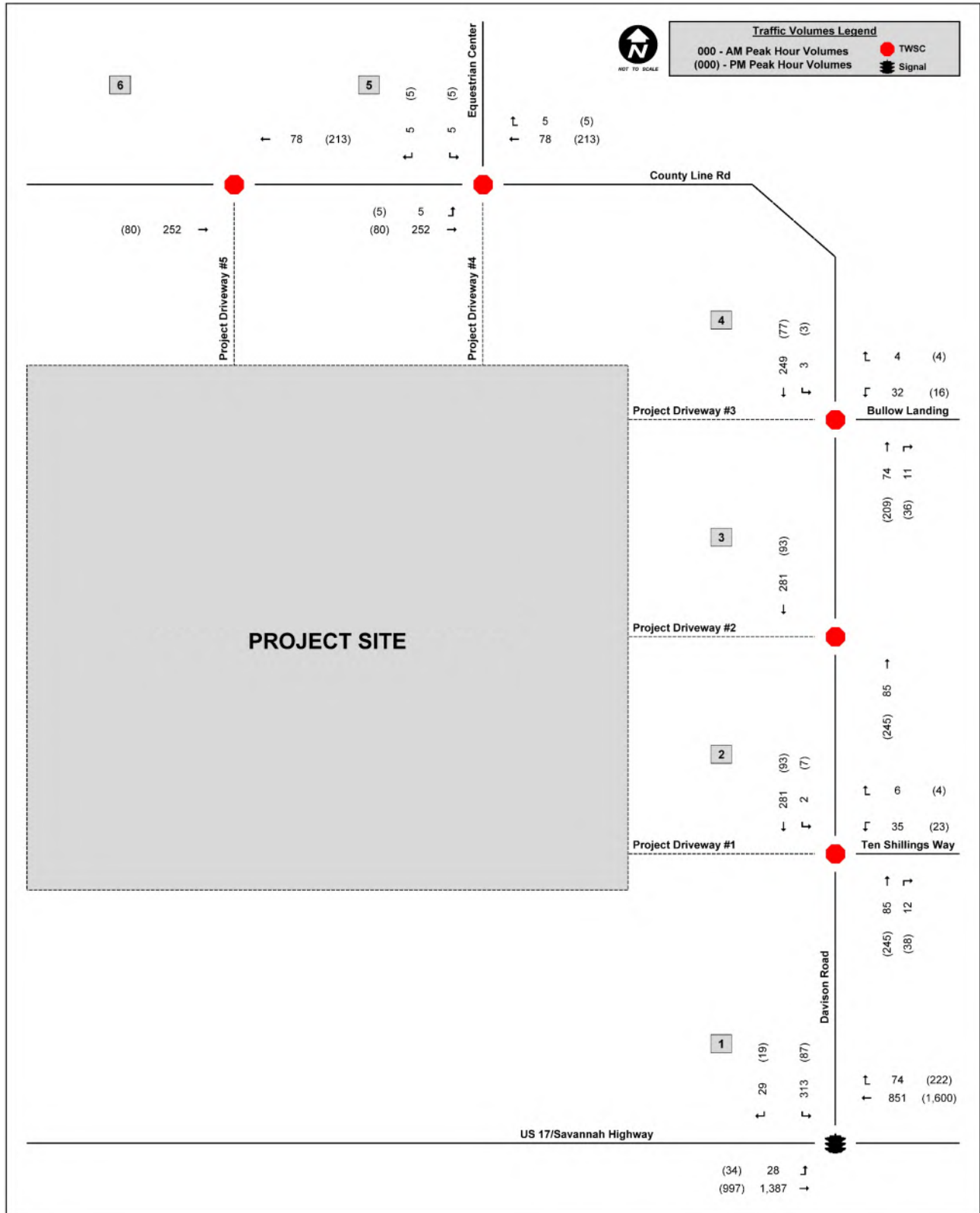




Exhibit 4.2 – Vested Traffic Volumes from the Nearby Poplar Grove Development

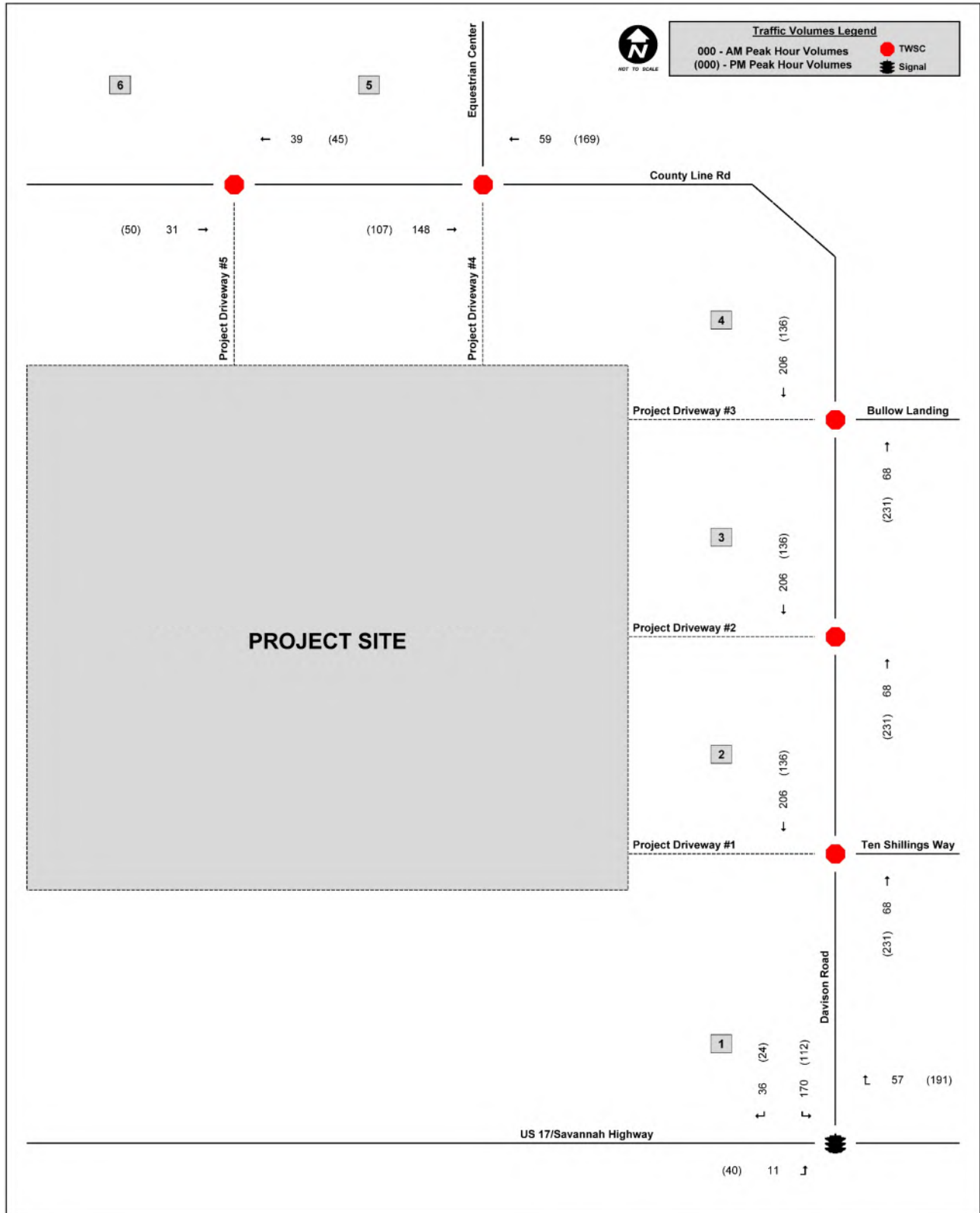




Exhibit 4.3 – 2025 No Build Peak Hour Traffic Volumes

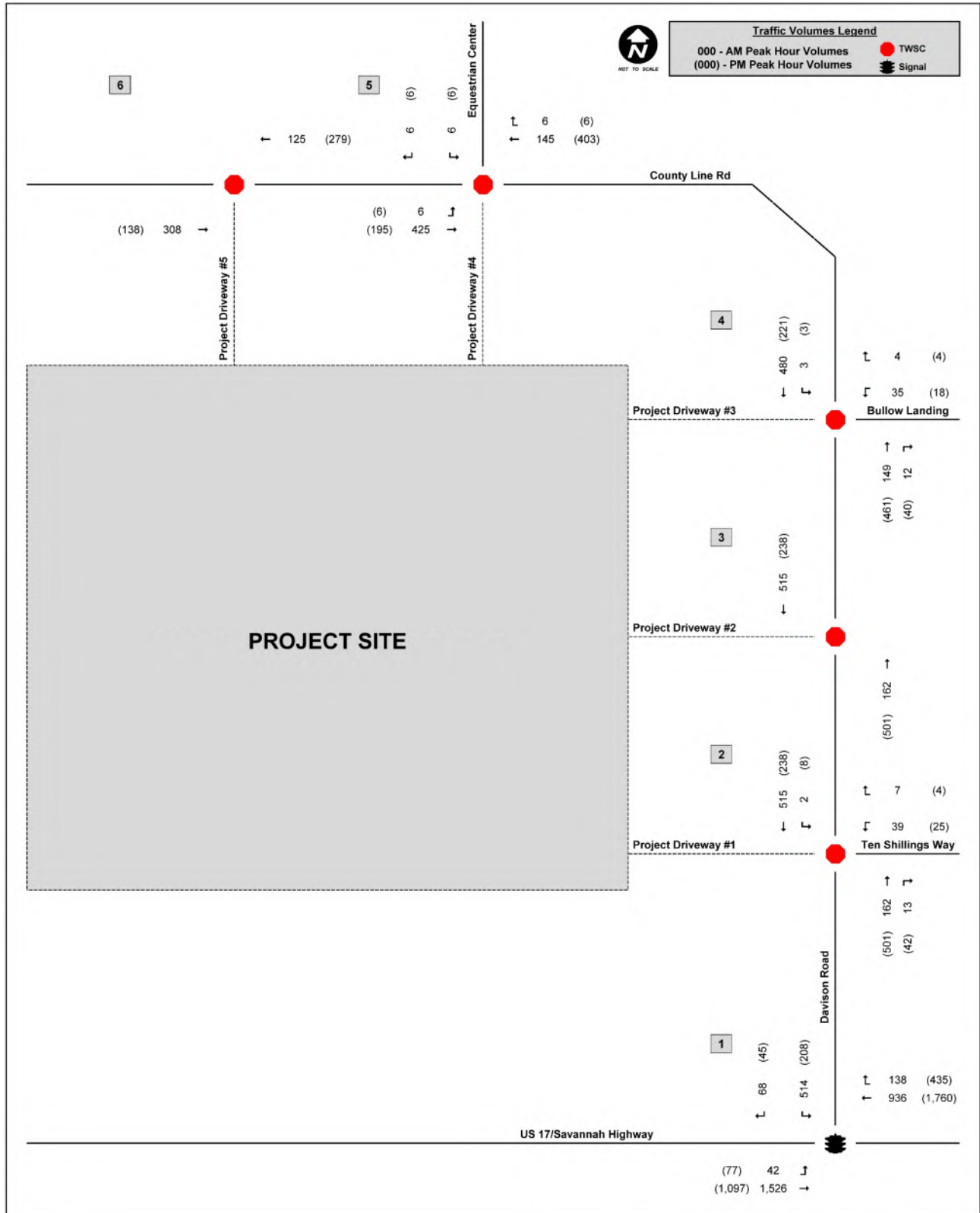
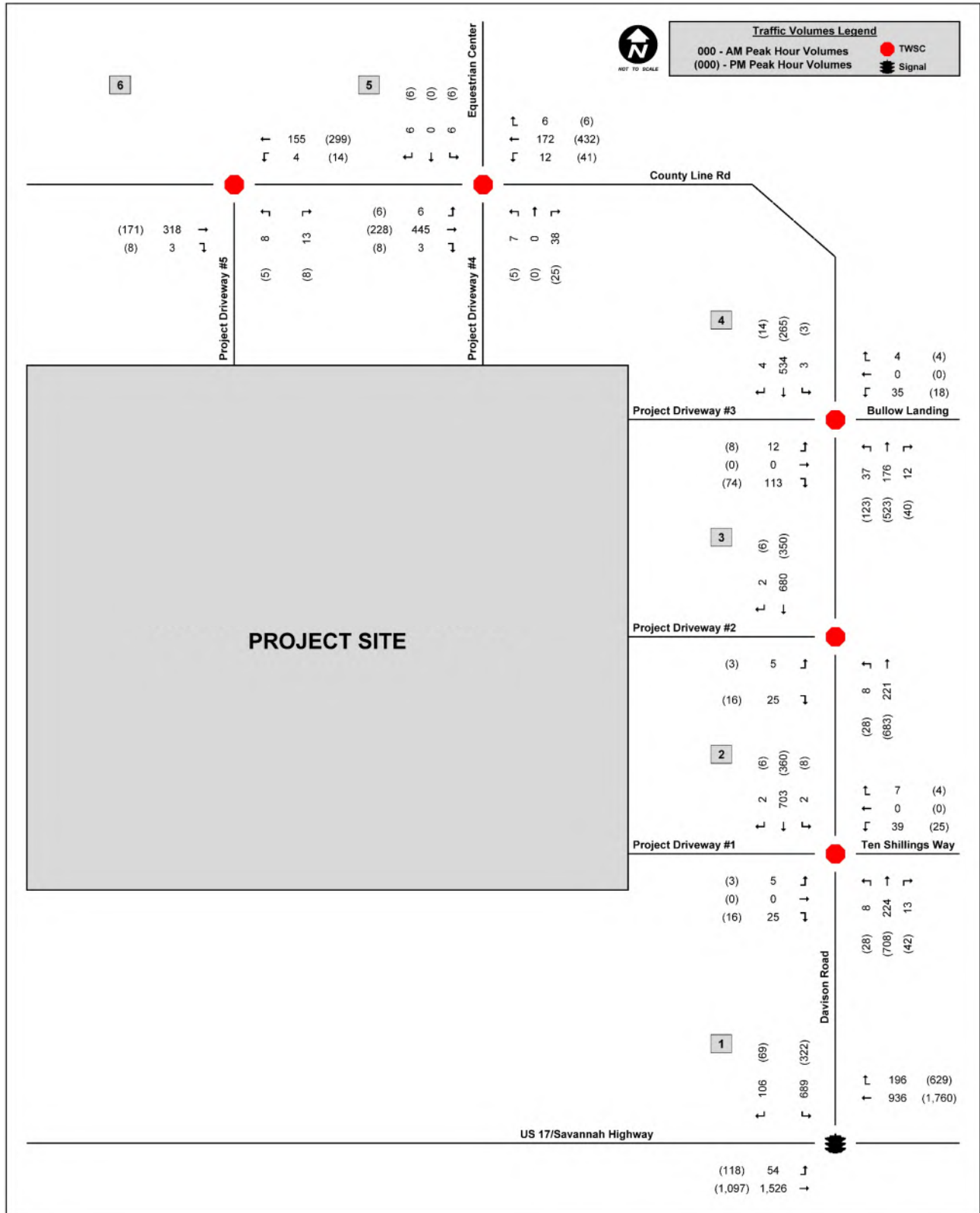




Exhibit 4.4 – 2025 Build Peak Hour Traffic Volumes





5.0 TRAFFIC IMPACT ANALYSIS

5.1 TURN LANE ANALYSIS

5.1.1 Right-Turn Lanes

An analysis was conducted to determine the potential need for exclusive right-turn lanes for ingress movements at the proposed project driveway(s). The need for exclusive right-turn lanes is based upon the criteria documented in Section 9.5.1.1 of SCDOT’s *Roadway Design Manual* (2017), which consists of nine considerations, listed below:

1. At a free-flowing leg of any unsignalized intersection on a two-lane urban or rural highway which satisfies the criteria in Figure 9.5-A;
2. at a free-flowing leg of any unsignalized intersection on a high-speed (50 mph or greater), four-lane urban or rural highway which satisfies the criteria in Figure 9.5-B;
3. at the free-flowing leg of any unsignalized intersection on a six-lane urban or rural highway;
4. at any intersection where a capacity analysis determines a right-turn lane is necessary to meet the overall level-of-service criteria;
5. as a general rule, at any signalized intersection where the projected right-turning volume is greater than 300 vehicles per hour and where there are greater than 300 vehicles per hour per lane on the mainline (A traffic analysis will be required if the turning volumes are greater than 300 vehicles per hour);
6. for uniformity of intersection design along the highway if other intersections have right-turn lanes;
7. at any intersection where the mainline is curved to the left and where the mainline curve requires superelevation;
8. at railroad crossings where the railroad is paralleled to the facility and is located close to the intersection and where a right-turn lane would be desirable to store queued vehicles avoiding interference with the movement of through traffic; or
9. at any intersection where the crash experience, existing traffic operations, sight distance restrictions (e.g., intersection beyond a crest vertical curve), or engineering judgement indicates a significant conflict related to right-turning vehicles;

Table 5.1 below details whether the previously mentioned criteria for exclusive right-turn lanes are satisfied for each driveway. An “✖” indicates that the criteria is not met; a “✓” indicates that it is met; and “N/A” indicates that the criteria is not applicable.

Table 5.1 – Right-Turn Lane Criteria Warrants

Criteria	Project Driveway					Reference/Note
	1	2	3	4	5	
1	✖	✖	✖	✖	✖	Appendix H
2	N/A	N/A	N/A	N/A	N/A	Speed Limit < 45 mph
3	N/A	N/A	N/A	N/A	N/A	Not a six-lane highway
4	✖	✖	✖	✖	✖	Does not impact LOS
5	N/A	N/A	N/A	N/A	N/A	No signalized driveways
6	✖	✖	✖	✖	✖	No EB/SB right-turn lanes
7	N/A	N/A	N/A	N/A	N/A	No such curves
8	N/A	N/A	N/A	N/A	N/A	No railroad crossings
9	N/A	N/A	N/A	N/A	N/A	No known issues

According to the current development plan, based on SCDOT’s *Roadway Design Manual* considerations, exclusive eastbound/southbound right-turn lanes along County Line Road/Davison Road **are not recommended** at any of the project driveways (#1, #2, #3, #4, or #5).



5.1.2 Left-Turn Lanes

An analysis was conducted to determine the potential need for exclusive left-turn lanes for ingress movements at the proposed project driveway(s). The need for exclusive left-turn lanes is based upon the criteria documented in Section 9.5.1.2 of SCDOT's *Roadway Design Manual* (2017), which consists of nine considerations, listed below:

1. At any unsignalized intersection on principal, high-speed rural highways with other arterials or collectors;
2. at any unsignalized intersection on a two-lane urban or rural highway that satisfies the criteria in Figures 9.5-C, 9.5-D, 9.5-E, 9.5-F, or 9.5-G;
3. at any intersection where a capacity analysis determines a left-turn lane is necessary to meet the level of service criteria;
4. at any signalized intersection where the left-turn volume is 300 vehicles per hour or more, conduct a traffic review to determine if dual left-turn lanes are required;
5. as a general rule, at any intersection where the left-turning volume is 100 vehicles per hour (for a single turn lane) or 300 vehicles per hour (for a dual turn lane);
6. at all entrances to major residential, commercial, and industrial developments;
7. at all median crossovers;
8. for uniformity of intersection design along the highway if other intersections have left-turn lanes (i.e., to satisfy driver expectancy); or
9. at any intersection where the crash experience, existing traffic operations, sight distance restrictions (e.g., intersection beyond a crest vertical curve), or engineering judgement indicates a significant conflict related to left-turning vehicles;

Table 5.2 below details whether the previously mentioned criteria for exclusive left-turn lanes are satisfied for each driveway. An “✖” indicates that the criteria is not met; a “✓” indicates that it is met; and “N/A” indicates that the criteria is not applicable.

Table 5.2 – Left-Turn Lane Criteria Warrants

Criteria	Project Driveway					Reference/Note
	1	2	3	4	5	
1	N/A	N/A	N/A	N/A	N/A	Not a high-speed arterial
2	✓	✓	✓	✓	✖	Appendix H
3	✖	✖	✖	✖	✖	Does not impact LOS
4	N/A	N/A	N/A	N/A	N/A	No signalized driveways
5	✖	✖	✓	✖	✖	Exhibit 4.4
6	✓	✓	✓	✓	✓	Major residential develop.
7	N/A	N/A	N/A	N/A	N/A	No median
8	✖	✖	✖	✖	✖	No WB/NB left-turn lanes
9	N/A	N/A	N/A	N/A	N/A	No known issues

According to the current development plan, based on the turn lane criteria in SCDOT's *Roadway Design Manual*, exclusive westbound/northbound left-turn lanes along County Line Road/Davison Road **are recommended** at Project Driveways #1, #2, #3, and #4 prior to full buildout of the development. However, as the development is built out, a detailed, phased traffic study may be performed in the future to determine the precise timing and threshold of development triggering the need for turn lanes.

Per the criteria documented in Section 5D-4 of SCDOT's *Access and Roadside Management Standards (ARMS, 2008)*, it is recommended that, when installed, each of the exclusive left-turn lanes consist of a total of 380 feet, with 200 feet of storage and a 180-foot taper.

Based on SCDOT's *Roadway Design Manual* considerations, an exclusive westbound left-turn lane **is not recommended** at Project Driveway #5.



5.2 INTERSECTION LOS ANALYSIS

Using the existing and projected peak hour traffic volumes previously discussed, intersection analysis was conducted for the study and project driveway intersections considering 2020 Existing Conditions, 2025 No Build Conditions, and 2025 Build Conditions. The analysis was conducted using the Transportation Research Board’s *Highway Capacity Manual 2010 (HCM 2010)* methodologies of the *Synchro*, Version 10 software for stop-controlled and signalized intersection analysis.

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 5.3** summarizes the HCM 2010 control delay thresholds associated with each LOS grade for unsignalized and signalized intersections.

Table 5.3 – HCM 2010 Intersection LOS Criteria

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

As part of the intersection analysis, SCDOT’s default *Synchro* parameters were utilized.

The existing 2020 traffic counts’ peak hour factors (PHF) were utilized in the analysis of existing conditions. Future-year 2025 conditions were analyzed utilizing existing PHF, but with a minimum PHF of 0.90 and maximum PHF of 0.95 considered.

The existing 2020 heavy vehicle percentages, as previously discussed, were utilized in the analysis, with a minimum percentage of 2% considered.

Existing lane geometry was utilized for the analysis of 2020 Existing Conditions and 2025 No Build Conditions. The 2025 Build Conditions were analyzed both with existing lane geometry and with any recommended improvements resulting from this impact analysis (including any recommended exclusive turn lanes per the results of **Section 5.1**) to illustrate their anticipated impact on traffic operations.

The results of the intersection analysis for existing and future-year conditions for the weekday AM and PM peak hour time periods are summarized in **Table 5.4**.

For signalized intersections, the overall intersection LOS and delay results are evaluated for acceptable operation, while for two-way-stop-controlled (TWSC) intersections, the LOS and delay results are evaluated for the worst-case minor-street approaches only, per *HCM 2010* methodologies for TWSC intersections.

Level of service A through D is considered to be acceptable LOS, while LOS E and F is considered to be undesirable.



Table 5.4 – Peak Hour Intersection Analysis Results

Intersection	Control	LOS/Delay (seconds/vehicle)							
		AM Peak Hour				PM Peak Hour			
		2020 Existing	2025 No Build	2025 Build	2025 Build w/ turn lanes	2020 Existing	2025 No Build	2025 Build	2025 Build w/ turn lanes
1 Davison Road & US 17/Savannah Highway	SIGNAL	B/12.5	B/18.8	C/26.6	C/26.6	B/12.3	B/19.8	C/31.4	C/31.4
2 Davison Road & Ten Shilling Way/ Project Driveway #1	TWSC	B/11.2 (WB)	C/15.1 (WB)	D/28.1 (WB)	D/28.1 (WB)	B/11.2 (WB)	C/16.7 (WB)	E/38.5 (WB)	E/37.6 (WB)
3 County Line Road & Project Driveway #2	TWSC	N/A	N/A	B/14.8 (EB)	B/14.8 (EB)	N/A	N/A	B/11.7 (EB)	B/11.6 (EB)
4 Davison Road/County Line Road & Bulow Landing Road/Project Driveway #3	TWSC	B/10.8 (WB)	B/14.4 (WB)	D/29.5 (WB)	D/29.1 (WB)	B/10.4 (WB)	B/14.7 (WB)	E/35.0 (WB)	D/33.6 (WB)
5 County Line Road & Equestrian Center/Project Driveway #4	TWSC	A/9.8 (SB)	B/11.5 (SB)	B/13.4 (SB)	B/12.8 (SB)	B/10.1 (SB)	B/12.7 (SB)	C/15.6 (SB)	C/15.5 (SB)
6 County Line Road & Project Driveway #5	TWSC	N/A	N/A	B/11.2 (NB)	B/11.2 (NB)	N/A	N/A	B/10.6 (NB)	B/10.6 (NB)

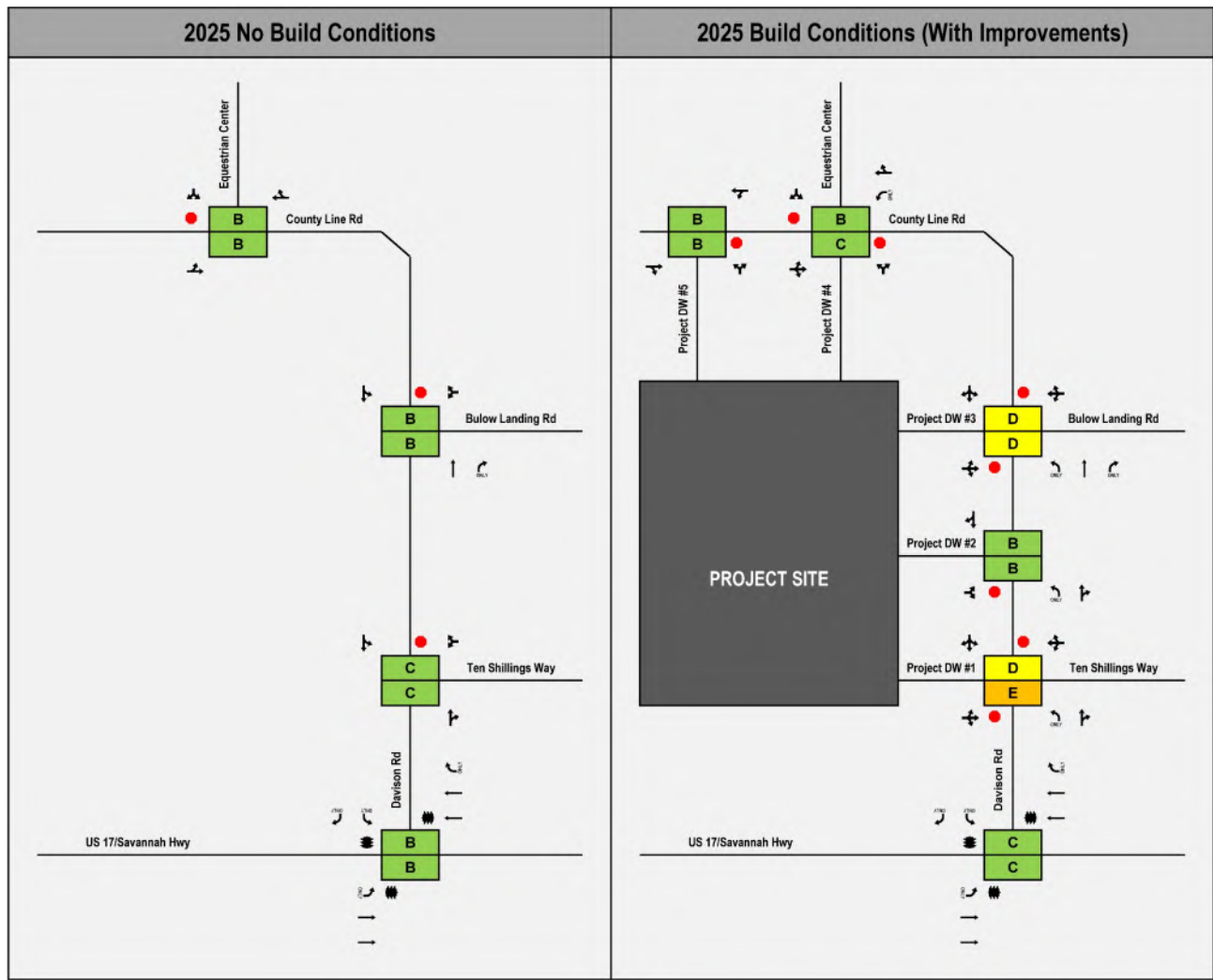


As shown in **Table 5.4** and illustrated below in **Exhibit 5.1**, the results of the analysis indicate that the study intersections currently operate and are expected to continue to operate at an acceptable LOS with the proposed Davison Investors development, with one exception:

Worksheets documenting the intersection analyses are provided in **Appendix D** for 2020 Existing Conditions, **Appendix E** for 2025 No Build Conditions, **Appendix F** for 2025 Build Conditions, and in **Appendix G** for 2025 Build Conditions with recommended improvements (turn lanes).

The intersection of Davison Road & Ten Shillings Way/Project Driveway #1 is anticipated to experience undesirable delay in the PM peak hour of the 2025 Build Conditions, with or without the recommended turn lanes. However, this projected delay is likely due to the conservative nature of the *HCM 2010* unsignalized methodology and is not an uncommon condition for two-way stop control during the peak hours of the day.

Exhibit 5.1 – 2025 No Build and Build Improved Level of Service Results



Intersection LOS Legend			
↔	Approach Laneage	LOS A	AM PEAK
●	Stop Sign	LOS B	PM PEAK
⊙	Signal	LOS C	
		LOS D	
		LOS E	
		LOS F	



6.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

A traffic impact analysis was conducted for the proposed Davison Investors development in accordance with SCDOT and Charleston County guidelines.

The proposed Davison Investors development is located west of Davison Road and south of County Line Road in Charleston County, South Carolina and will consist of up to 390 single-family detached homes and 110 multifamily housing units (low-rise). While the development will be marketed primarily to active retirees, the trip generation potential for single-family detached homes and multifamily housing was used in an effort to be conservative.

Access to the development will be provided through up to five (5) proposed full access driveway(s) along the western/southern side of Davison Road/County Line Road, all of which meet the SCDOT spacing requirements.

Therefore, the extent of the roadway network analyzed consisted of the five project driveway intersections as well as the signalized intersection of Davison Road & US 17/Savannah Highway.

According to the current development plan, based on the turn lane criteria in SCDOT's *Roadway Design Manual*, exclusive westbound/northbound left-turn lanes along County Line Road/Davison Road are recommended at Project Driveways #1, #2, #3, and #4 prior to full buildout of the development. However, as the development is built out and/or the development plan changes, a detailed, phased traffic study may be performed in the future to determine the precise timing and threshold of development triggering the need for turn lanes.

The results of the intersection analysis indicate that the study intersections (including the intersection of US 17/Savannah Highway & Davison Road) currently operate and are expected to continue to operate at an acceptable LOS with full build out of the proposed Davison Investors development, with only one exception at one of the project driveways:

The intersection of Davison Road & Ten Shillings Way/Project Driveway #1 is anticipated to experience undesirable delay in the PM peak hour of the 2025 Build Conditions. However, this projected delay is likely due to the conservative nature of the *HCM 2010* unsignalized methodology and is not an uncommon condition for two-way stop control during the peak hours of the day. Therefore, no improvements to mitigate this delay are recommended.



DAVISON INVESTORS TRAFFIC IMPACT ANALYSIS **APPENDICES**



Appendix A TRIP GENERATION WORKSHEETS

TRIP GENERATION ESTIMATES

Davison Investors Development

Weekday Daily

TRIP GENERATION CHARACTERISTICS						DIRECT. DISTRIB.		NEW EXTERNAL TRIPS		
Land Use	Ed.	LUC	Scale	Unit	Equation/Rate	In	Out	In	Out	Total
Single-Family Detached Housing	10th	210	390	DU	$\text{Ln}(T) = 0.92\text{Ln}(X) + 2.71$	50%	50%	1,819	1,819	3,638
Multifamily Housing (Low-Rise)	10	220	110	DU	$T = 7.56(X) - 40.86$	50%	50%	396	396	792
Total:								2,215	2,215	4,430

Weekday AM Peak Hour

TRIP GENERATION CHARACTERISTICS						DIRECT. DISTRIB.		GROSS TRIPS		
Land Use	Ed.	LUC	Scale	Unit	Equation/Rate	In	Out	In	Out	Total
Single-Family Detached Housing	10th	210	390	DU	$T = 0.71(X) + 4.80$	25%	75%	71	211	282
Multifamily Housing (Low-Rise)	10	220	110	DU	$\text{Ln}(T) = 0.95\text{Ln}(X) - 0.51$	23%	77%	12	40	52
Total:								83	251	334

Weekday PM Peak Hour

TRIP GENERATION CHARACTERISTICS						DIRECT. DISTRIB.		GROSS TRIPS		
Land Use	Ed.	LUC	Scale	Unit	Equation/Rate	In	Out	In	Out	Total
Single-Family Detached Housing	10th	210	390	DU	$\text{Ln}(T)=0.96\text{Ln}(X)+0.20$	63%	37%	236	139	375
Multifamily Housing (Low-Rise)	10	220	110	DU	$\text{Ln}(T) = 0.89\text{Ln}(X) - 0.02$	63%	37%	40	24	64
Total:								276	163	439



Appendix B TRAFFIC VOLUME DATA



(303) 216-2439
www.alltrafficdata.net

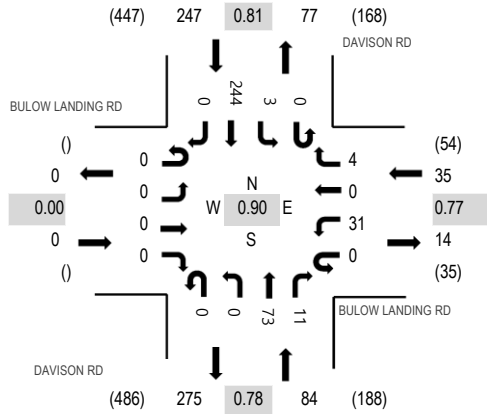
Location: 1 DAVISON RD & BULOW LANDING RD AM

Date and Start Time: Monday, August 26, 2019

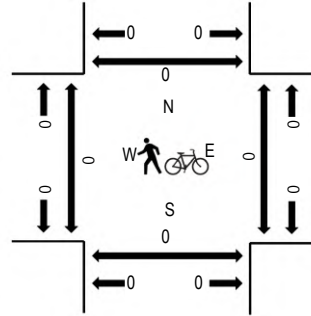
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	BULOW LANDING RD Eastbound				BULOW LANDING RD Westbound				DAVISON RD Northbound				DAVISON RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	4	0	1	0	0	16	1	0	0	54	0	76	366	0	0	0	0
7:15 AM	0	0	0	0	0	9	0	0	0	0	20	3	0	1	63	0	96	366	0	0	0	0
7:30 AM	0	0	0	0	0	8	0	1	0	0	15	2	0	1	75	0	102	363	0	0	0	0
7:45 AM	0	0	0	0	0	10	0	2	0	0	22	5	0	1	52	0	92	345	0	0	0	0
8:00 AM	0	0	0	0	0	5	0	2	0	0	15	4	0	3	47	0	76	323	0	0	0	0
8:15 AM	0	0	0	0	0	5	0	0	0	0	26	8	0	1	53	0	93		0	0	0	0
8:30 AM	0	0	0	0	0	3	0	0	0	0	24	2	0	0	55	0	84		0	0	0	0
8:45 AM	0	0	0	0	0	3	0	1	0	0	23	2	0	1	40	0	70		0	0	0	0

Peak Rolling Hour Flow Rates

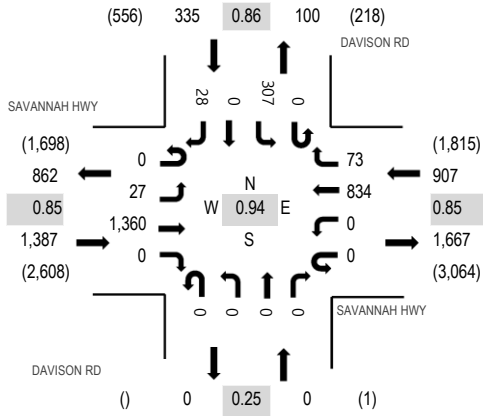
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	9
Lights	0	0	0	0	0	31	0	4	0	0	48	11	0	2	210	0	306
Mediums	0	0	0	0	0	0	0	0	0	0	21	0	0	1	29	0	51
Total	0	0	0	0	0	31	0	4	0	0	73	11	0	3	244	0	366



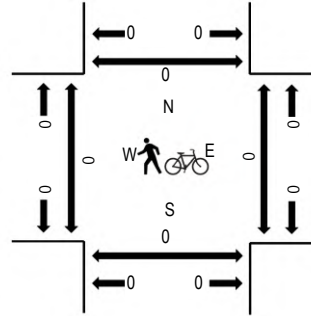
(303) 216-2439
www.alltrafficdata.net

Location: 2 DAVISON RD & SAVANNAH HWY AM
Date and Start Time: Monday, August 26, 2019
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	SAVANNAH HWY Eastbound				SAVANNAH HWY Westbound				DAVISON RD Northbound				DAVISON RD Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
7:00 AM	0	7	401	0	0	0	202	14	0	0	0	0	0	0	70	0	8	702	2,629	0	0	0	0
7:15 AM	0	8	326	0	0	0	219	16	0	0	0	0	0	61	0	5	635	2,505	0	0	0	0	
7:30 AM	0	3	298	0	0	0	180	22	0	0	0	0	0	89	0	5	597	2,456	0	0	0	0	
7:45 AM	0	9	335	0	0	0	233	21	0	0	0	0	0	87	0	10	695	2,476	0	0	0	0	
8:00 AM	0	0	296	0	0	0	203	19	0	0	0	0	0	55	0	5	578	2,351	0	0	0	0	
8:15 AM	0	5	346	0	0	0	159	25	0	0	0	1	0	42	0	8	586		0	0	0	0	
8:30 AM	0	3	288	0	1	0	238	34	0	0	0	0	0	45	0	8	617		0	0	0	0	
8:45 AM	0	11	272	0	0	0	208	21	0	0	0	0	0	51	0	7	570		0	0	0	0	

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	41	0	0	0	42	5	0	0	0	0	0	6	0	0	95
Lights	0	26	1,289	0	0	0	746	49	0	0	0	0	0	273	0	27	2,410
Mediums	0	0	30	0	0	0	46	19	0	0	0	0	0	28	0	1	124
Total	0	27	1,360	0	0	0	834	73	0	0	0	0	0	307	0	28	2,629



(303) 216-2439
www.alltrafficdata.net

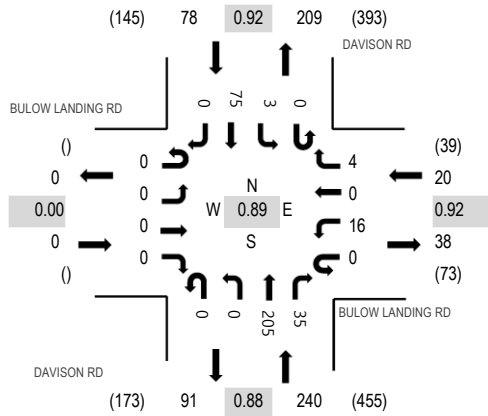
Location: 1 DAVISON RD & BULOW LANDING RD PM

Date and Start Time: Monday, August 26, 2019

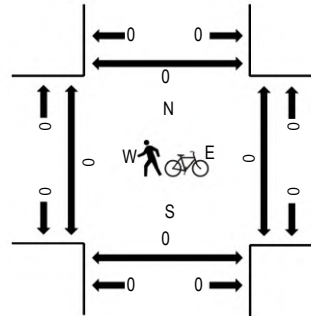
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	BULOW LANDING RD Eastbound				BULOW LANDING RD Westbound				DAVISON RD Northbound				DAVISON RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	5	0	0	0	0	41	7	0	0	11	0	64	301	0	0	0	0
4:15 PM	0	0	0	0	0	3	0	1	0	0	52	9	0	0	16	0	81	311	0	0	0	0
4:30 PM	0	0	0	0	0	4	0	0	0	0	37	8	0	2	20	0	71	313	0	0	0	0
4:45 PM	0	0	0	0	1	5	0	0	0	0	53	8	0	0	18	0	85	337	0	0	0	0
5:00 PM	0	0	0	0	0	2	0	2	0	0	47	4	0	0	19	0	74	338	0	0	0	0
5:15 PM	0	0	0	0	0	6	0	0	0	0	48	7	0	0	22	0	83		0	0	0	0
5:30 PM	0	0	0	0	0	5	0	1	0	0	52	16	0	1	20	0	95		0	0	0	0
5:45 PM	0	0	0	0	0	3	0	1	0	0	58	8	0	2	14	0	86		0	0	0	0

Peak Rolling Hour Flow Rates

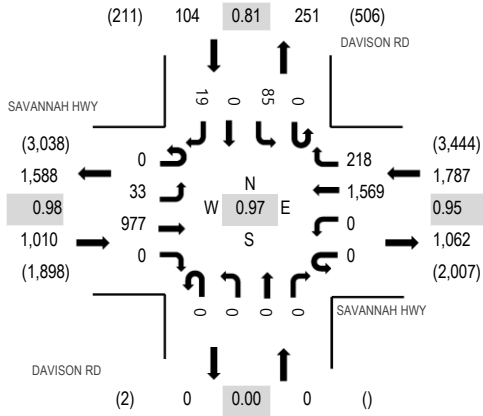
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
Lights	0	0	0	0	0	16	0	4	0	0	195	35	0	3	74	0	327
Mediums	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0	7
Total	0	0	0	0	0	16	0	4	0	0	205	35	0	3	75	0	338



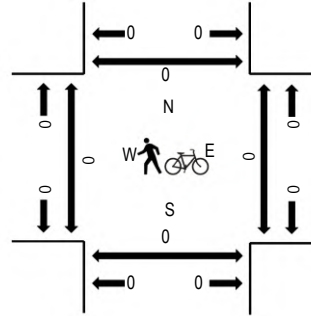
(303) 216-2439
www.alltrafficdata.net

Location: 2 DAVISON RD & SAVANNAH HWY PM
Date and Start Time: Monday, August 26, 2019
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	SAVANNAH HWY Eastbound				SAVANNAH HWY Westbound				DAVISON RD Northbound				DAVISON RD Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
4:00 PM	0	6	254	0	0	0	330	49	0	0	0	0	0	0	14	0	4	657	2,807	0	0	0	0
4:15 PM	0	10	244	0	0	0	377	66	0	0	0	0	0	17	0	5	719	2,901	0	0	0	0	
4:30 PM	0	4	247	0	0	0	363	49	0	0	0	0	0	27	0	9	699	2,891	0	0	0	0	
4:45 PM	0	11	239	0	0	0	409	49	0	0	0	0	0	21	0	3	732	2,861	0	0	0	0	
5:00 PM	0	8	247	0	0	0	420	54	0	0	0	0	0	20	0	2	751	2,746	0	0	0	0	
5:15 PM	0	9	209	0	0	0	389	67	0	0	0	0	0	25	0	10	709		0	0	0	0	
5:30 PM	0	4	235	0	0	0	340	59	0	0	0	0	0	25	0	6	669		0	0	0	0	
5:45 PM	0	4	165	2	0	0	366	57	0	0	0	0	0	18	0	5	617		0	0	0	0	

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	19	0	0	0	35	0	0	0	0	0	0	0	0	0	56
Lights	0	31	932	0	0	0	1,497	213	0	0	0	0	0	80	0	18	2,771
Mediums	0	0	26	0	0	0	37	5	0	0	0	0	0	5	0	1	74
Total	0	33	977	0	0	0	1,569	218	0	0	0	0	0	85	0	19	2,901



Appendix C TRAFFIC VOLUME DEVELOPMENT WORKSHEETS

1 - US 17/Savannah Highway & Davison Road

Traffic Control: Signal
Date Counted: 8/26/2019

TOTAL PROJECT TRAFFIC

AM IN OUT PM IN OUT
 83 251 276 163

AM PEAK HOUR 7:00 AM - 8:00 AM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	28	1,387	0	0	851	74	0	0	0	313	0	29
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	3	139	0	0	85	7	0	0	0	31	0	3
Vested Traffic	11					57				170		36
2025 No Build Traffic Volumes	42	1,526	0	0	936	138	0	0	0	514	0	68
Inbound Project Traffic %	15%			70%								
Outbound Project Traffic %										70%		15%
2025 Project Traffic	12	0	0	0	0	58	0	0	0	175	0	38
2025 Pass-By Traffic												
2025 Build Traffic Volumes	54	1,526	0	0	936	196	0	0	0	689	0	106
PM PEAK HOUR 4:15 PM - 5:15 PM												
2020 Existing Traffic Volumes	34	997	0	0	1,600	222	0	0	0	87	0	19
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	3	100	0	0	160	22	0	0	0	9	0	2
Vested Traffic	40					191				112		24
2025 No Build Traffic Volumes	77	1,097	0	0	1,760	435	0	0	0	208	0	45
Inbound Project Traffic %	15%			70%								
Outbound Project Traffic %										70%		15%
2025 Project Traffic	41	0	0	0	0	194	0	0	0	114	0	24
2025 Pass-By Traffic												
2025 Build Traffic Volumes	118	1,097	0	0	1,760	629	0	0	0	322	0	69

2 - Davison Road & Ten Shillings Way

Traffic Control: TWSC
Date Counted: 8/26/2019

TOTAL PROJECT TRAFFIC

AM IN OUT PM IN OUT
 83 251 276 163

AM PEAK HOUR 7:00 AM - 8:00 AM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	0	0	0	35	0	6	0	85	12	2	281	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	0	0	4	0	1	0	9	1	0	28	0
Vested Traffic								68			206	
2025 No Build Traffic Volumes	0	0	0	39	0	7	0	162	13	2	515	0
Inbound Project Traffic %							10%	75%				2%
Outbound Project Traffic %	2%		10%								75%	
2025 Project Traffic	5	0	25	0	0	0	8	62	0	0	188	2
2025 Pass-By Traffic												
2025 Build Traffic Volumes	5	0	25	39	0	7	8	224	13	2	703	2
PM PEAK HOUR 5:00 PM - 6:00 PM												
2020 Existing Traffic Volumes	0	0	0	23	0	4	0	245	38	7	93	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	0	0	2	0	0	0	25	4	1	9	0
Vested Traffic								231			136	
2025 No Build Traffic Volumes	0	0	0	25	0	4	0	501	42	8	238	0
Inbound Project Traffic %							10%	75%				2%
Outbound Project Traffic %	2%		10%								75%	
2025 Project Traffic	3	0	16	0	0	0	28	207	0	0	122	6
2025 Pass-By Traffic												
2025 Build Traffic Volumes	3	0	16	25	0	4	28	708	42	8	360	6

3 - Davison Road & DW#2

Traffic Control: TWSC
Date Counted: 8/26/2019

TOTAL PROJECT TRAFFIC

AM IN OUT PM IN OUT
 83 251 276 163

AM PEAK HOUR 7:00 AM - 8:00 AM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	0	0	0	0	0	0	0	85	0	0	281	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	0	0	0	0	0	0	9	0	0	28	0
Vested Traffic								68			206	
2025 No Build Traffic Volumes	0	0	0	0	0	0	0	162	0	0	515	0
Inbound Project Traffic %							10%	65%			2%	2%
Outbound Project Traffic %	2%		10%					2%			65%	
2025 Project Traffic	5	0	25	0	0	0	8	59	0	0	165	2
2025 Pass-By Traffic												
2025 Build Traffic Volumes	5	0	25	0	0	0	8	221	0	0	680	2
PM PEAK HOUR 5:00 PM - 6:00 PM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	0	0	0	0	0	0	0	245	0	0	93	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	0	0	0	0	0	0	25	0	0	9	0
Vested Traffic								231			136	
2025 No Build Traffic Volumes	0	0	0	0	0	0	0	501	0	0	238	0
Inbound Project Traffic %							10%	65%			2%	2%
Outbound Project Traffic %	2%		10%					2%			65%	
2025 Project Traffic	3	0	16	0	0	0	28	182	0	0	112	6
2025 Pass-By Traffic												
2025 Build Traffic Volumes	3	0	16	0	0	0	28	683	0	0	350	6

4 - Bulow Landing Road & County Line Road

Traffic Control: TWSC
Date Counted: 8/26/2019

TOTAL PROJECT TRAFFIC

AM IN OUT PM IN OUT
 83 251 276 163

AM PEAK HOUR 7:00 AM - 8:00 AM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	0	0	0	32	0	4	0	74	11	3	249	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	0	0	3	0	0	0	7	1	0	25	0
Vested Traffic								68			206	
2025 No Build Traffic Volumes	0	0	0	35	0	4	0	149	12	3	480	0
Inbound Project Traffic %							45%	20%			4%	5%
Outbound Project Traffic %	5%		45%					4%			20%	
2025 Project Traffic	12	0	113	0	0	0	37	27	0	0	54	4
2025 Pass-By Traffic												
2025 Build Traffic Volumes	12	0	113	35	0	4	37	176	12	3	534	4
PM PEAK HOUR 5:00 PM - 6:00 PM												
2020 Existing Traffic Volumes	0	0	0	16	0	4	0	209	36	3	77	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	0	0	2	0	0	0	21	4	0	8	0
Vested Traffic								231			136	
2025 No Build Traffic Volumes	0	0	0	18	0	4	0	461	40	3	221	0
Inbound Project Traffic %							45%	20%			4%	5%
Outbound Project Traffic %	5%		45%					4%			20%	
2025 Project Traffic	8	0	74	0	0	0	123	62	0	0	44	14
2025 Pass-By Traffic												
2025 Build Traffic Volumes	8	0	74	18	0	4	123	523	40	3	265	14

5 - County Line Road & DW#4

Traffic Control: TWSC
Date Counted: 8/26/2019

TOTAL PROJECT TRAFFIC

AM IN OUT PM IN OUT
 83 251 276 163

AM PEAK HOUR 7:00 AM - 8:00 AM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	5	252	0	0	78	5	0	0	0	5	0	5
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	1	25	0	0	8	1	0	0	0	1	0	1
Vested Traffic		148			59							
2025 No Build Traffic Volumes	6	425	0	0	145	6	0	0	0	6	0	6
Inbound Project Traffic %		9%	3%	15%	5%							
Outbound Project Traffic %		5%			9%		3%		15%			
2025 Project Traffic	0	20	3	12	27	0	7	0	38	0	0	0
2025 Pass-By Traffic												
2025 Build Traffic Volumes	6	445	3	12	172	6	7	0	38	6	0	6
PM PEAK HOUR 5:00 PM - 6:00 PM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	5	80	0	0	213	5	0	0	0	5	0	5
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	1	8	0	0	21	1	0	0	0	1	0	1
Vested Traffic		107			169							
2025 No Build Traffic Volumes	6	195	0	0	403	6	0	0	0	6	0	6
Inbound Project Traffic %		9%	3%	15%	5%							
Outbound Project Traffic %		5%			9%		3%		15%			
2025 Project Traffic	0	33	8	41	29	0	5	0	25	0	0	0
2025 Pass-By Traffic												
2025 Build Traffic Volumes	6	228	8	41	432	6	5	0	25	6	0	6

6 - County Line Road & DW#5

Traffic Control: TWSC
Date Counted: 8/26/2019

TOTAL PROJECT TRAFFIC

AM IN OUT PM IN OUT
 83 251 276 163

AM PEAK HOUR 7:00 AM - 8:00 AM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	0	252	0	0	78	0	0	0	0	0	0	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	25	0	0	8	0	0	0	0	0	0	0
Vested Traffic		31			39							
2025 No Build Traffic Volumes	0	308	0	0	125	0	0	0	0	0	0	0
Inbound Project Traffic %		12%	3%	5%								
Outbound Project Traffic %					12%		3%		5%			
2025 Project Traffic	0	10	3	4	30	0	8	0	13	0	0	0
2025 Pass-By Traffic												
2025 Build Traffic Volumes	0	318	3	4	155	0	8	0	13	0	0	0
PM PEAK HOUR 5:00 PM - 6:00 PM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2020 Existing Traffic Volumes	0	80	0	0	213	0	0	0	0	0	0	0
Years to Buildout	5	5	5	5	5	5	5	5	5	5	5	5
Yearly Growth Rate	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Background Traffic	0	8	0	0	21	0	0	0	0	0	0	0
Vested Traffic		50			45							
2025 No Build Traffic Volumes	0	138	0	0	279	0	0	0	0	0	0	0
Inbound Project Traffic %		12%	3%	5%								
Outbound Project Traffic %					12%		3%		5%			
2025 Project Traffic	0	33	8	14	20	0	5	0	8	0	0	0
2025 Pass-By Traffic												
2025 Build Traffic Volumes	0	171	8	14	299	0	5	0	8	0	0	0



Appendix D ANALYSIS WORKSHEETS: 2020 EXISTING CONDITIONS

Timings
1: US17/Savannah Hwy & Davison Road

2020 Existing Conditions
AM Peak Hour

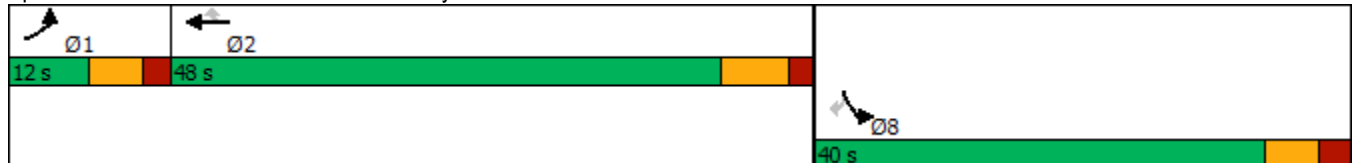


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑	↘	↙	↘
Traffic Volume (vph)	28	1387	851	74	313	29
Future Volume (vph)	28	1387	851	74	313	29
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	12.0		48.0	48.0	40.0	40.0
Total Split (%)	12.0%		48.0%	48.0%	40.0%	40.0%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	6.2	74.4	27.6	27.6	20.3	20.3
Actuated g/C Ratio	0.08	1.00	0.37	0.37	0.27	0.27
v/c Ratio	0.21	0.43	0.71	0.13	0.72	0.07
Control Delay	41.8	0.4	23.9	4.9	34.9	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	0.4	23.9	4.9	34.9	11.0
LOS	D	A	C	A	C	B
Approach Delay		1.2	22.4		32.8	
Approach LOS		A	C		C	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 74.4
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 12.5
 Intersection LOS: B
 Intersection Capacity Utilization 64.4%
 ICU Level of Service C
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	6	85	12	2	281
Future Vol, veh/h	35	6	85	12	2	281
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	7	7	7	7
Mvmt Flow	39	7	94	13	2	312

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	417	101	0	0	107
Stage 1	101	-	-	-	-
Stage 2	316	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	592	954	-	-	1453
Stage 1	923	-	-	-	-
Stage 2	739	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	591	954	-	-	1453
Mov Cap-2 Maneuver	591	-	-	-	-
Stage 1	923	-	-	-	-
Stage 2	738	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	626	1453
HCM Lane V/C Ratio	-	-	0.073	0.002
HCM Control Delay (s)	-	-	11.2	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑		↑
Traffic Vol, veh/h	32	4	74	11	3	249
Future Vol, veh/h	32	4	74	11	3	249
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	-	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	36	4	82	12	3	277

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	365	82	0	0	94
Stage 1	82	-	-	-	-
Stage 2	283	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	635	978	-	-	1469
Stage 1	941	-	-	-	-
Stage 2	765	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	634	978	-	-	1469
Mov Cap-2 Maneuver	634	-	-	-	-
Stage 1	941	-	-	-	-
Stage 2	763	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	660	1469
HCM Lane V/C Ratio	-	-	0.061	0.002
HCM Control Delay (s)	-	-	10.8	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	252	78	5	5	5
Future Vol, veh/h	5	252	78	5	5	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, %	7	7	7	7	2	2
Mvmt Flow	6	280	87	6	6	6

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	93	0	-	0	382 90
Stage 1	-	-	-	-	90 -
Stage 2	-	-	-	-	292 -
Critical Hdwy	4.17	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.263	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1471	-	-	-	620 968
Stage 1	-	-	-	-	934 -
Stage 2	-	-	-	-	758 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1471	-	-	-	617 968
Mov Cap-2 Maneuver	-	-	-	-	617 -
Stage 1	-	-	-	-	929 -
Stage 2	-	-	-	-	758 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1471	-	-	-	754
HCM Lane V/C Ratio	0.004	-	-	-	0.015
HCM Control Delay (s)	7.5	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Timings
1: US17/Savannah Hwy & Davison Road

2020 Existing Conditions
PM Peak Hour

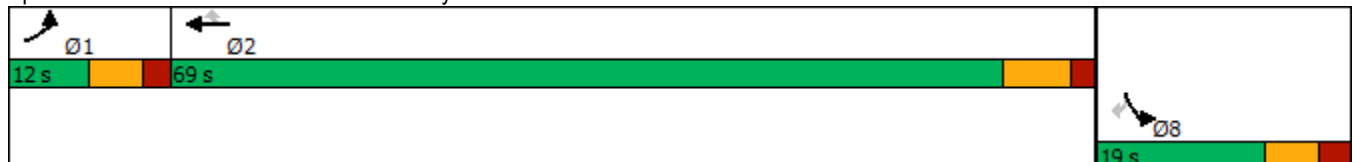


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷↷	↷↷	↷	↶	↷
Traffic Volume (vph)	34	997	1600	222	87	19
Future Volume (vph)	34	997	1600	222	87	19
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	12.0		69.0	69.0	19.0	19.0
Total Split (%)	12.0%		69.0%	69.0%	19.0%	19.0%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	6.1	86.9	50.6	50.6	10.2	10.2
Actuated g/C Ratio	0.07	1.00	0.58	0.58	0.12	0.12
v/c Ratio	0.29	0.30	0.82	0.23	0.45	0.10
Control Delay	49.7	0.2	18.5	1.8	46.8	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.7	0.2	18.5	1.8	46.8	17.8
LOS	D	A	B	A	D	B
Approach Delay		1.9	16.5		41.5	
Approach LOS		A	B		D	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 86.9
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 12.3
 Intersection LOS: B
 Intersection Capacity Utilization 62.1%
 ICU Level of Service B
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	23	4	245	38	7	93
Future Vol, veh/h	23	4	245	38	7	93
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	89	89	89	89	89	89
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	26	4	275	43	8	104

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	417	297	0	0	318
Stage 1	297	-	-	-	-
Stage 2	120	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	592	742	-	-	1214
Stage 1	754	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	588	742	-	-	1214
Mov Cap-2 Maneuver	588	-	-	-	-
Stage 1	754	-	-	-	-
Stage 2	899	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	607	1214
HCM Lane V/C Ratio	-	-	0.05	0.006
HCM Control Delay (s)	-	-	11.2	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T	T		T
Traffic Vol, veh/h	16	4	209	36	3	77
Future Vol, veh/h	16	4	209	36	3	77
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	-	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	18	4	235	40	3	87

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	328	235	0	0	275
Stage 1	235	-	-	-	-
Stage 2	93	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	666	804	-	-	1260
Stage 1	804	-	-	-	-
Stage 2	931	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	664	804	-	-	1260
Mov Cap-2 Maneuver	664	-	-	-	-
Stage 1	804	-	-	-	-
Stage 2	928	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	688	1260
HCM Lane V/C Ratio	-	-	0.033	0.003
HCM Control Delay (s)	-	-	10.4	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	80	213	5	5	5
Future Vol, veh/h	5	80	213	5	5	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	89	89	89	89	89	89
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	6	90	239	6	6	6

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	245	0	-	0	344 242
Stage 1	-	-	-	-	242 -
Stage 2	-	-	-	-	102 -
Critical Hdwy	4.17	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.263	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1292	-	-	-	652 797
Stage 1	-	-	-	-	798 -
Stage 2	-	-	-	-	922 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1292	-	-	-	649 797
Mov Cap-2 Maneuver	-	-	-	-	649 -
Stage 1	-	-	-	-	794 -
Stage 2	-	-	-	-	922 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	715
HCM Lane V/C Ratio	0.004	-	-	-	0.016
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Appendix E ANALYSIS WORKSHEETS: 2025 NO BUILD CONDITIONS

Timings
1: US17/Savannah Hwy & Davison Road

2025 No Build Conditions
AM Peak Hour

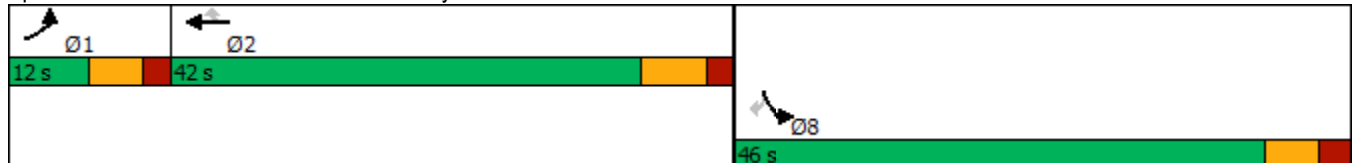


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↗↗	↗	↖	↖
Traffic Volume (vph)	42	1526	936	138	514	68
Future Volume (vph)	42	1526	936	138	514	68
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	12.0		42.0	42.0	46.0	46.0
Total Split (%)	12.0%		42.0%	42.0%	46.0%	46.0%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	6.1	90.7	31.4	31.4	33.4	33.4
Actuated g/C Ratio	0.07	1.00	0.35	0.35	0.37	0.37
v/c Ratio	0.39	0.47	0.84	0.24	0.88	0.12
Control Delay	54.7	0.5	35.5	5.7	44.5	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	0.5	35.5	5.7	44.5	11.2
LOS	D	A	D	A	D	B
Approach Delay		1.9	31.6		40.7	
Approach LOS		A	C		D	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 90.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 18.8
 Intersection LOS: B
 Intersection Capacity Utilization 79.4%
 ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	39	7	162	13	2	515
Future Vol, veh/h	39	7	162	13	2	515
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	7	7	7	7
Mvmt Flow	43	8	180	14	2	572

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	763	187	0	0	194
Stage 1	187	-	-	-	-
Stage 2	576	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	372	855	-	-	1350
Stage 1	845	-	-	-	-
Stage 2	562	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	371	855	-	-	1350
Mov Cap-2 Maneuver	371	-	-	-	-
Stage 1	845	-	-	-	-
Stage 2	561	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	406	1350
HCM Lane V/C Ratio	-	-	0.126	0.002
HCM Control Delay (s)	-	-	15.1	7.7
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.4	0

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑	↑		↓
Traffic Vol, veh/h	35	4	149	12	3	480
Future Vol, veh/h	35	4	149	12	3	480
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	-	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	39	4	166	13	3	533

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	705	166	0	0	179
Stage 1	166	-	-	-	-
Stage 2	539	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	403	878	-	-	1367
Stage 1	863	-	-	-	-
Stage 2	585	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	402	878	-	-	1367
Mov Cap-2 Maneuver	402	-	-	-	-
Stage 1	863	-	-	-	-
Stage 2	583	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	426	1367
HCM Lane V/C Ratio	-	-	0.102	0.002
HCM Control Delay (s)	-	-	14.4	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	6	425	145	6	6	6
Future Vol, veh/h	6	425	145	6	6	6
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	7	7	7	7
Mvmt Flow	7	472	161	7	7	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	168	0	-	0	651 165
Stage 1	-	-	-	-	165 -
Stage 2	-	-	-	-	486 -
Critical Hdwy	4.12	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.218	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1410	-	-	-	425 867
Stage 1	-	-	-	-	852 -
Stage 2	-	-	-	-	608 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1410	-	-	-	422 867
Mov Cap-2 Maneuver	-	-	-	-	422 -
Stage 1	-	-	-	-	846 -
Stage 2	-	-	-	-	608 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1410	-	-	-	568
HCM Lane V/C Ratio	0.005	-	-	-	0.023
HCM Control Delay (s)	7.6	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Timings
1: US17/Savannah Hwy & Davison Road

2025 No Build Conditions
PM Peak Hour

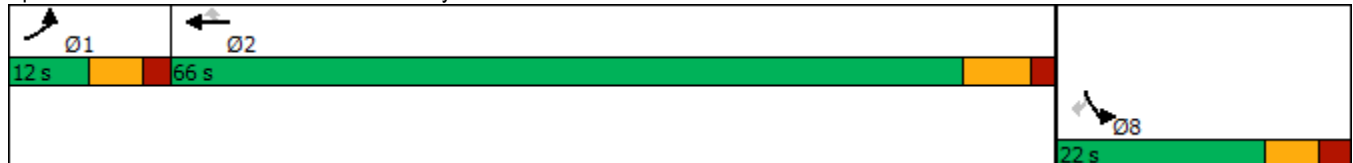


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑	↗	↖	↗
Traffic Volume (vph)	77	1097	1760	435	208	45
Future Volume (vph)	77	1097	1760	435	208	45
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	12.0		66.0	66.0	22.0	22.0
Total Split (%)	12.0%		66.0%	66.0%	22.0%	22.0%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	6.0	97.8	57.4	57.4	14.9	14.9
Actuated g/C Ratio	0.06	1.00	0.59	0.59	0.15	0.15
v/c Ratio	0.77	0.34	0.92	0.43	0.86	0.18
Control Delay	89.0	0.3	27.2	3.6	70.8	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.0	0.3	27.2	3.6	70.8	13.3
LOS	F	A	C	A	E	B
Approach Delay		6.1	22.5		60.6	
Approach LOS		A	C		E	

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 97.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 19.8
 Intersection LOS: B
 Intersection Capacity Utilization 81.4%
 ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	25	4	501	42	8	238
Future Vol, veh/h	25	4	501	42	8	238
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	7	7	7	7
Mvmt Flow	28	4	557	47	9	264

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	863	581	0	0	604
Stage 1	581	-	-	-	-
Stage 2	282	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	325	514	-	-	950
Stage 1	559	-	-	-	-
Stage 2	766	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	321	514	-	-	950
Mov Cap-2 Maneuver	321	-	-	-	-
Stage 1	559	-	-	-	-
Stage 2	758	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	950
HCM Lane V/C Ratio	-	-	0.095	0.009
HCM Control Delay (s)	-	-	16.7	8.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↑		↔
Traffic Vol, veh/h	18	4	461	40	3	221
Future Vol, veh/h	18	4	461	40	3	221
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	-	-	150	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	20	4	512	44	3	246

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	764	512	0	0	556
Stage 1	512	-	-	-	-
Stage 2	252	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263
Pot Cap-1 Maneuver	372	562	-	-	990
Stage 1	602	-	-	-	-
Stage 2	790	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	371	562	-	-	990
Mov Cap-2 Maneuver	371	-	-	-	-
Stage 1	602	-	-	-	-
Stage 2	787	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	990
HCM Lane V/C Ratio	-	-	0.062	0.003
HCM Control Delay (s)	-	-	14.7	8.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	6	195	403	6	6	6
Future Vol, veh/h	6	195	403	6	6	6
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	7	7	7	7
Mvmt Flow	7	217	448	7	7	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	455	0	-	0	683 452
Stage 1	-	-	-	-	452 -
Stage 2	-	-	-	-	231 -
Critical Hdwy	4.12	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.218	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1106	-	-	-	407 597
Stage 1	-	-	-	-	631 -
Stage 2	-	-	-	-	796 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1106	-	-	-	404 597
Mov Cap-2 Maneuver	-	-	-	-	404 -
Stage 1	-	-	-	-	627 -
Stage 2	-	-	-	-	796 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	482
HCM Lane V/C Ratio	0.006	-	-	-	0.028
HCM Control Delay (s)	8.3	0	-	-	12.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Appendix F ANALYSIS WORKSHEETS: 2025 BUILD CONDITIONS

Timings
1: US17/Savannah Hwy & Davison Road

2025 Build Conditions
AM Peak Hour

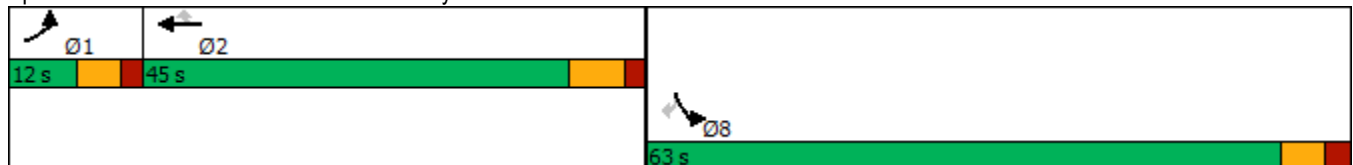


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑	↗	↖	↗
Traffic Volume (vph)	54	1526	936	196	689	106
Future Volume (vph)	54	1526	936	196	689	106
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	12.0		45.0	45.0	63.0	63.0
Total Split (%)	10.0%		37.5%	37.5%	52.5%	52.5%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	6.0	114.6	36.3	36.3	52.6	52.6
Actuated g/C Ratio	0.05	1.00	0.32	0.32	0.46	0.46
v/c Ratio	0.63	0.47	0.91	0.35	0.95	0.16
Control Delay	85.9	0.5	51.7	10.7	52.4	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.9	0.5	51.7	10.7	52.4	11.9
LOS	F	A	D	B	D	B
Approach Delay		3.4	44.5		47.0	
Approach LOS		A	D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 26.6
 Intersection LOS: C
 Intersection Capacity Utilization 89.1%
 ICU Level of Service E
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	25	39	0	7	8	224	13	2	703	2
Future Vol, veh/h	5	0	25	39	0	7	8	224	13	2	703	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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	7	7	7	7	7	7
Mvmt Flow	6	0	28	43	0	8	9	249	14	2	781	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1064	1067	782	1074	1061	256	783	0	0	263	0	0
Stage 1	786	786	-	274	274	-	-	-	-	-	-	-
Stage 2	278	281	-	800	787	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	201	222	394	198	224	783	813	-	-	1273	-	-
Stage 1	385	403	-	732	683	-	-	-	-	-	-	-
Stage 2	728	678	-	379	403	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	197	218	394	182	220	783	813	-	-	1273	-	-
Mov Cap-2 Maneuver	197	218	-	182	220	-	-	-	-	-	-	-
Stage 1	380	402	-	722	674	-	-	-	-	-	-	-
Stage 2	711	669	-	351	402	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	28.1	0.3	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	813	-	-	338	206	1273	-	-
HCM Lane V/C Ratio	0.011	-	-	0.099	0.248	0.002	-	-
HCM Control Delay (s)	9.5	0	-	16.8	28.1	7.8	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.9	0	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	25	8	221	680	2
Future Vol, veh/h	5	25	8	221	680	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	6	28	9	246	756	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1021	757	758	0	-	0
Stage 1	757	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	262	408	831	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	259	408	831	-	-	-
Mov Cap-2 Maneuver	367	-	-	-	-	-
Stage 1	457	-	-	-	-	-
Stage 2	780	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	831	-	401	-	-
HCM Lane V/C Ratio	0.011	-	0.083	-	-
HCM Control Delay (s)	9.4	0	14.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	12	0	113	35	0	4	37	176	12	3	534	4
Future Vol, veh/h	12	0	113	35	0	4	37	176	12	3	534	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	-	-	-	-	-	-	-	-	150	-	-	-
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	7	7	7	7	7	7
Mvmt Flow	13	0	126	39	0	4	41	196	13	3	593	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	888	892	595	942	881	196	597	0	0	209	0	0
Stage 1	601	601	-	278	278	-	-	-	-	-	-	-
Stage 2	287	291	-	664	603	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	264	281	504	243	285	845	956	-	-	1333	-	-
Stage 1	487	489	-	728	680	-	-	-	-	-	-	-
Stage 2	720	672	-	450	488	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	252	266	504	175	270	845	956	-	-	1333	-	-
Mov Cap-2 Maneuver	252	266	-	175	270	-	-	-	-	-	-	-
Stage 1	463	488	-	692	647	-	-	-	-	-	-	-
Stage 2	681	639	-	337	487	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.2		29.5		1.5		0	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	956	-	-	460	190	1333	-	-
HCM Lane V/C Ratio	0.043	-	-	0.302	0.228	0.003	-	-
HCM Control Delay (s)	8.9	0	-	16.2	29.5	7.7	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	0.8	0	-	-

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	445	3	12	172	6	7	0	38	6	0	6
Future Vol, veh/h	6	445	3	12	172	6	7	0	38	6	0	6
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, %	7	7	7	7	7	7	2	2	2	2	2	2
Mvmt Flow	7	494	3	13	191	7	8	0	42	7	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	497	0	0	734	734	496	752	732	195
Stage 1	-	-	-	-	-	-	510	510	-	221	221	-
Stage 2	-	-	-	-	-	-	224	224	-	531	511	-
Critical Hdwy	4.17	-	-	4.17	-	-	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	2.263	-	-	2.263	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1345	-	-	1042	-	-	336	347	574	327	348	846
Stage 1	-	-	-	-	-	-	546	538	-	781	720	-
Stage 2	-	-	-	-	-	-	779	718	-	532	537	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1345	-	-	1042	-	-	328	340	574	298	341	846
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	340	-	298	341	-
Stage 1	-	-	-	-	-	-	542	534	-	776	710	-
Stage 2	-	-	-	-	-	-	762	708	-	489	533	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.5			12.8			13.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	514	1345	-	-	1042	-	-	441
HCM Lane V/C Ratio	0.097	0.005	-	-	0.013	-	-	0.03
HCM Control Delay (s)	12.8	7.7	0	-	8.5	0	-	13.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	318	3	4	155	8	13
Future Vol, veh/h	318	3	4	155	8	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	353	3	4	172	9	14

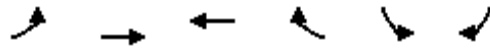
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	356	0	535 355
Stage 1	-	-	-	-	355 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	4.17	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.263	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1175	-	506 689
Stage 1	-	-	-	-	710 -
Stage 2	-	-	-	-	851 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1175	-	504 689
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	710 -
Stage 2	-	-	-	-	848 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	604	-	-	1175	-
HCM Lane V/C Ratio	0.039	-	-	0.004	-
HCM Control Delay (s)	11.2	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Timings
1: US17/Savannah Hwy & Davison Road

2025 Build Conditions
PM Peak Hour

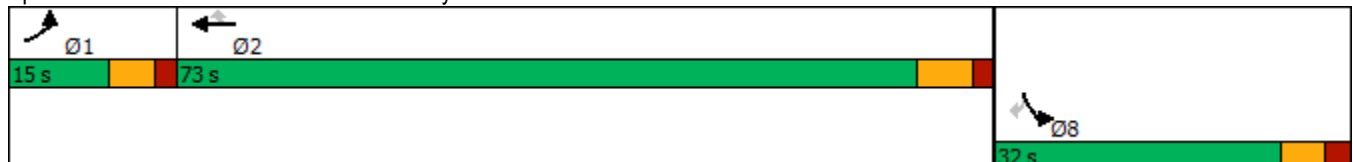


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑	↗	↖	↗
Traffic Volume (vph)	118	1097	1760	629	322	69
Future Volume (vph)	118	1097	1760	629	322	69
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	15.0		73.0	73.0	32.0	32.0
Total Split (%)	12.5%		60.8%	60.8%	26.7%	26.7%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	9.0	119.8	66.0	66.0	25.3	25.3
Actuated g/C Ratio	0.08	1.00	0.55	0.55	0.21	0.21
v/c Ratio	0.97	0.34	0.98	0.64	0.95	0.21
Control Delay	126.5	0.3	42.9	9.7	84.5	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.5	0.3	42.9	9.7	84.5	21.4
LOS	F	A	D	A	F	C
Approach Delay		12.5	34.1		73.3	
Approach LOS		B	C		E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.8
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 31.4
 Intersection LOS: C
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	16	25	0	4	28	708	42	8	360	6
Future Vol, veh/h	3	0	16	25	0	4	28	708	42	8	360	6
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	7	7	7	7	7	7
Mvmt Flow	3	0	18	28	0	4	31	787	47	9	400	7

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1297	1318	404	1304	1298	811	407	0	0	834	0	0
Stage 1	422	422	-	873	873	-	-	-	-	-	-	-
Stage 2	875	896	-	431	425	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	139	157	647	137	162	379	1125	-	-	778	-	-
Stage 1	609	588	-	345	368	-	-	-	-	-	-	-
Stage 2	344	359	-	603	586	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	130	147	647	126	151	379	1125	-	-	778	-	-
Mov Cap-2 Maneuver	130	147	-	126	151	-	-	-	-	-	-	-
Stage 1	577	579	-	327	349	-	-	-	-	-	-	-
Stage 2	322	340	-	578	577	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	38.5	0.3	0.2
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1125	-	-	397	139	778	-	-
HCM Lane V/C Ratio	0.028	-	-	0.053	0.232	0.011	-	-
HCM Control Delay (s)	8.3	0	-	14.6	38.5	9.7	0	-
HCM Lane LOS	A	A	-	B	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.9	0	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	3	16	28	683	350	6
Future Vol, veh/h	3	16	28	683	350	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	3	18	31	759	389	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1214	393	396	0	-	0
Stage 1	393	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	201	656	1136	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	656	1136	-	-	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1136	-	562	-	-
HCM Lane V/C Ratio	0.027	-	0.038	-	-
HCM Control Delay (s)	8.3	0	11.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	8	0	74	18	0	4	123	523	40	3	265	14
Future Vol, veh/h	8	0	74	18	0	4	123	523	40	3	265	14
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	-	-	-	-	-	-	-	-	150	-	-	-
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	7	7	7	7	7	7
Mvmt Flow	9	0	82	20	0	4	137	581	44	3	294	16

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1187	1207	302	1204	1171	581	310	0	0	625	0	0
Stage 1	308	308	-	855	855	-	-	-	-	-	-	-
Stage 2	879	899	-	349	316	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	165	183	738	161	193	514	1223	-	-	933	-	-
Stage 1	702	660	-	353	375	-	-	-	-	-	-	-
Stage 2	342	358	-	667	655	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	141	151	738	124	159	514	1223	-	-	933	-	-
Mov Cap-2 Maneuver	141	151	-	124	159	-	-	-	-	-	-	-
Stage 1	581	657	-	292	310	-	-	-	-	-	-	-
Stage 2	280	296	-	590	652	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	13.3		35		1.5			0.1		
HCM LOS	B		E							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1223	-	-	522	144	933	-	-
HCM Lane V/C Ratio	0.112	-	-	0.175	0.17	0.004	-	-
HCM Control Delay (s)	8.3	0	-	13.3	35	8.9	0	-
HCM Lane LOS	A	A	-	B	E	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.6	0.6	0	-	-

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	228	8	41	432	6	5	0	25	6	0	6
Future Vol, veh/h	6	228	8	41	432	6	5	0	25	6	0	6
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, %	7	7	7	7	7	7	2	2	2	2	2	2
Mvmt Flow	7	253	9	46	480	7	6	0	28	7	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	487	0	0	262	0	0	851	851	258	862	852	484
Stage 1	-	-	-	-	-	-	272	272	-	576	576	-
Stage 2	-	-	-	-	-	-	579	579	-	286	276	-
Critical Hdwy	4.17	-	-	4.17	-	-	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	2.263	-	-	2.263	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1051	-	-	1274	-	-	280	297	781	275	297	583
Stage 1	-	-	-	-	-	-	734	685	-	503	502	-
Stage 2	-	-	-	-	-	-	501	501	-	721	682	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1051	-	-	1274	-	-	265	280	781	254	280	583
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	280	-	254	280	-
Stage 1	-	-	-	-	-	-	728	680	-	499	477	-
Stage 2	-	-	-	-	-	-	471	476	-	690	677	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			11.5			15.6		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	590	1051	-	-	1274	-	-	354
HCM Lane V/C Ratio	0.056	0.006	-	-	0.036	-	-	0.038
HCM Control Delay (s)	11.5	8.4	0	-	7.9	0	-	15.6
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	171	8	14	299	5	8
Future Vol, veh/h	171	8	14	299	5	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, %	7	7	7	7	2	2
Mvmt Flow	190	9	16	332	6	9

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	199	0	559
Stage 1	-	-	-	-	195
Stage 2	-	-	-	-	364
Critical Hdwy	-	-	4.17	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.263	-	3.518
Pot Cap-1 Maneuver	-	-	1344	-	490
Stage 1	-	-	-	-	838
Stage 2	-	-	-	-	703
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1344	-	483
Mov Cap-2 Maneuver	-	-	-	-	483
Stage 1	-	-	-	-	838
Stage 2	-	-	-	-	692

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	656	-	-	1344	-
HCM Lane V/C Ratio	0.022	-	-	0.012	-
HCM Control Delay (s)	10.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Appendix G ANALYSIS WORKSHEETS: 2025 BUILD CONDITIONS W/ RECOMMENDED IMPROVEMENTS

Timings
1: US17/Savannah Hwy & Davison Road

2025 Build Conditions (Improved)
AM Peak Hour

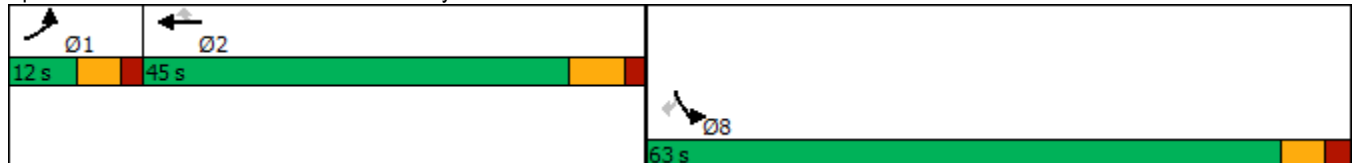


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↘
Traffic Volume (vph)	54	1526	936	196	689	106
Future Volume (vph)	54	1526	936	196	689	106
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	12.0		45.0	45.0	63.0	63.0
Total Split (%)	10.0%		37.5%	37.5%	52.5%	52.5%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	6.0	114.6	36.3	36.3	52.6	52.6
Actuated g/C Ratio	0.05	1.00	0.32	0.32	0.46	0.46
v/c Ratio	0.63	0.47	0.91	0.35	0.95	0.16
Control Delay	85.9	0.5	51.7	10.7	52.4	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.9	0.5	51.7	10.7	52.4	11.9
LOS	F	A	D	B	D	B
Approach Delay		3.4	44.5		47.0	
Approach LOS		A	D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 26.6
 Intersection LOS: C
 Intersection Capacity Utilization 89.1%
 ICU Level of Service E
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	25	39	0	7	8	224	13	2	703	2
Future Vol, veh/h	5	0	25	39	0	7	8	224	13	2	703	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
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	7	7	7	7	7	7
Mvmt Flow	6	0	28	43	0	8	9	249	14	2	781	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1064	1067	782	1074	1061	256	783	0	0	263	0	0
Stage 1	786	786	-	274	274	-	-	-	-	-	-	-
Stage 2	278	281	-	800	787	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	201	222	394	198	224	783	813	-	-	1273	-	-
Stage 1	385	403	-	732	683	-	-	-	-	-	-	-
Stage 2	728	678	-	379	403	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	197	219	394	182	221	783	813	-	-	1273	-	-
Mov Cap-2 Maneuver	197	219	-	182	221	-	-	-	-	-	-	-
Stage 1	381	402	-	724	675	-	-	-	-	-	-	-
Stage 2	713	671	-	352	402	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	28.1	0.3	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	813	-	-	338	206	1273	-	-
HCM Lane V/C Ratio	0.011	-	-	0.099	0.248	0.002	-	-
HCM Control Delay (s)	9.5	-	-	16.8	28.1	7.8	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.9	0	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	25	8	221	680	2
Future Vol, veh/h	5	25	8	221	680	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	6	28	9	246	756	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1021	757	758	0	-	0
Stage 1	757	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	262	408	831	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	259	408	831	-	-	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	780	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	831	-	401	-	-
HCM Lane V/C Ratio	0.011	-	0.083	-	-
HCM Control Delay (s)	9.4	-	14.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↖	↖	↗
Traffic Vol, veh/h	12	0	113	35	0	4	37	176	12	3	534	4
Future Vol, veh/h	12	0	113	35	0	4	37	176	12	3	534	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	-	-	-	-	-	-	200	-	150	200	-	-
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	7	7	7	7	7	7
Mvmt Flow	13	0	126	39	0	4	41	196	13	3	593	4

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	888	892	595	942	881	196	597	0	0	209	0	0
Stage 1	601	601	-	278	278	-	-	-	-	-	-	-
Stage 2	287	291	-	664	603	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	264	281	504	243	285	845	956	-	-	1333	-	-
Stage 1	487	489	-	728	680	-	-	-	-	-	-	-
Stage 2	720	672	-	450	488	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	254	268	504	176	272	845	956	-	-	1333	-	-
Mov Cap-2 Maneuver	254	268	-	176	272	-	-	-	-	-	-	-
Stage 1	466	488	-	697	651	-	-	-	-	-	-	-
Stage 2	685	643	-	337	487	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	16.2		29.1		1.5			0		
HCM LOS	C		D							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	956	-	-	460	192	1333	-	-
HCM Lane V/C Ratio	0.043	-	-	0.302	0.226	0.003	-	-
HCM Control Delay (s)	8.9	-	-	16.2	29.1	7.7	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	0.8	0	-	-

HCM 2010 TWSC
 5: Project Driveway #4/Equestrian Center & County Line Road

2025 Build Conditions (Improved)
 AM Peak Hour

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	6	445	3	12	172	6	7	0	38	6	0	6
Future Vol, veh/h	6	445	3	12	172	6	7	0	38	6	0	6
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	200	-	-	200	-	-	-	-	-	-	-	-
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, %	7	7	7	7	7	7	2	2	2	2	2	2
Mvmt Flow	7	494	3	13	191	7	8	0	42	7	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	497	0	0	734	734	496	752	732	195
Stage 1	-	-	-	-	-	-	510	510	-	221	221	-
Stage 2	-	-	-	-	-	-	224	224	-	531	511	-
Critical Hdwy	4.17	-	-	4.17	-	-	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	2.263	-	-	2.263	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1345	-	-	1042	-	-	336	347	574	327	348	846
Stage 1	-	-	-	-	-	-	546	538	-	781	720	-
Stage 2	-	-	-	-	-	-	779	718	-	532	537	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1345	-	-	1042	-	-	329	341	574	299	342	846
Mov Cap-2 Maneuver	-	-	-	-	-	-	329	341	-	299	342	-
Stage 1	-	-	-	-	-	-	543	535	-	777	711	-
Stage 2	-	-	-	-	-	-	763	709	-	490	534	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.5			12.8			13.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	514	1345	-	-	1042	-	-	442
HCM Lane V/C Ratio	0.097	0.005	-	-	0.013	-	-	0.03
HCM Control Delay (s)	12.8	7.7	-	-	8.5	-	-	13.4
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	318	3	4	155	8	13
Future Vol, veh/h	318	3	4	155	8	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	7	7	7	2	2
Mvmt Flow	353	3	4	172	9	14

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	356	0	535 355
Stage 1	-	-	-	-	355 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	-	-	4.17	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.263	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1175	-	506 689
Stage 1	-	-	-	-	710 -
Stage 2	-	-	-	-	851 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1175	-	504 689
Mov Cap-2 Maneuver	-	-	-	-	504 -
Stage 1	-	-	-	-	710 -
Stage 2	-	-	-	-	848 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	604	-	-	1175	-
HCM Lane V/C Ratio	0.039	-	-	0.004	-
HCM Control Delay (s)	11.2	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Timings
1: US17/Savannah Hwy & Davison Road

2025 Build Conditions (Improved)
PM Peak Hour

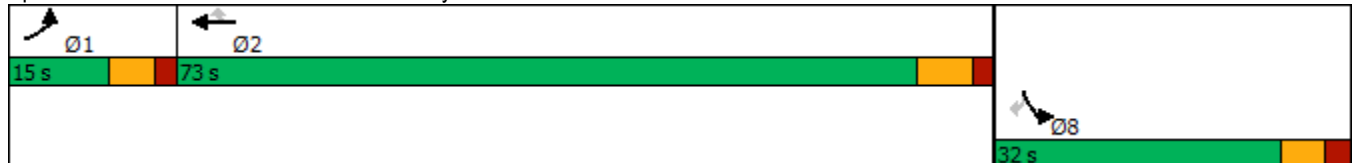


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↖	↗
Traffic Volume (vph)	118	1097	1760	629	322	69
Future Volume (vph)	118	1097	1760	629	322	69
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	Free!	2		8!	
Permitted Phases				2		8
Detector Phase	1		2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0		20.0	20.0	8.0	8.0
Minimum Split (s)	12.0		27.0	27.0	14.5	14.5
Total Split (s)	15.0		73.0	73.0	32.0	32.0
Total Split (%)	12.5%		60.8%	60.8%	26.7%	26.7%
Yellow Time (s)	4.0		5.0	5.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		Min	Min	Min	Min
Act Effct Green (s)	9.0	119.8	66.0	66.0	25.3	25.3
Actuated g/C Ratio	0.08	1.00	0.55	0.55	0.21	0.21
v/c Ratio	0.97	0.34	0.98	0.64	0.95	0.21
Control Delay	126.5	0.3	42.9	9.7	84.5	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.5	0.3	42.9	9.7	84.5	21.4
LOS	F	A	D	A	F	C
Approach Delay		12.5	34.1		73.3	
Approach LOS		B	C		E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.8
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 31.4
 Intersection Capacity Utilization 89.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E
 ! Phase conflict between lane groups.

Splits and Phases: 1: US17/Savannah Hwy & Davison Road



Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	3	0	16	25	0	4	28	708	42	8	360	6
Future Vol, veh/h	3	0	16	25	0	4	28	708	42	8	360	6
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	-	-	-	-	-	-	200	-	-	200	-	-
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	7	7	7	7	7	7
Mvmt Flow	3	0	18	28	0	4	31	787	47	9	400	7

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1297	1318	404	1304	1298	811	407	0	0	834	0	0
Stage 1	422	422	-	873	873	-	-	-	-	-	-	-
Stage 2	875	896	-	431	425	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	139	157	647	137	162	379	1125	-	-	778	-	-
Stage 1	609	588	-	345	368	-	-	-	-	-	-	-
Stage 2	344	359	-	603	586	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	133	151	647	129	156	379	1125	-	-	778	-	-
Mov Cap-2 Maneuver	133	151	-	129	156	-	-	-	-	-	-	-
Stage 1	592	581	-	335	358	-	-	-	-	-	-	-
Stage 2	331	349	-	580	579	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	37.6	0.3	0.2
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1125	-	-	402	142	778	-	-
HCM Lane V/C Ratio	0.028	-	-	0.053	0.227	0.011	-	-
HCM Control Delay (s)	8.3	-	-	14.5	37.6	9.7	-	-
HCM Lane LOS	A	-	-	B	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.8	0	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	3	16	28	683	350	6
Future Vol, veh/h	3	16	28	683	350	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	3	18	31	759	389	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1214	393	396	0	-	0
Stage 1	393	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	201	656	1136	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	196	656	1136	-	-	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1136	-	564	-	-
HCM Lane V/C Ratio	0.027	-	0.037	-	-
HCM Control Delay (s)	8.3	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↑	↖	↗	↖	
Traffic Vol, veh/h	8	0	74	18	0	4	123	523	40	3	265	14
Future Vol, veh/h	8	0	74	18	0	4	123	523	40	3	265	14
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	-	-	-	-	-	-	200	-	150	200	-	-
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	7	7	7	7	7	7
Mvmt Flow	9	0	82	20	0	4	137	581	44	3	294	16

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1187	1207	302	1204	1171	581	310	0	0	625	0	0
Stage 1	308	308	-	855	855	-	-	-	-	-	-	-
Stage 2	879	899	-	349	316	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
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	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	165	183	738	161	193	514	1223	-	-	933	-	-
Stage 1	702	660	-	353	375	-	-	-	-	-	-	-
Stage 2	342	358	-	667	655	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	149	162	738	130	171	514	1223	-	-	933	-	-
Mov Cap-2 Maneuver	149	162	-	130	171	-	-	-	-	-	-	-
Stage 1	623	658	-	313	333	-	-	-	-	-	-	-
Stage 2	301	318	-	591	653	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.1		33.6		1.5		0.1	
HCM LOS	B		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1223	-	-	533	150	933	-	-
HCM Lane V/C Ratio	0.112	-	-	0.171	0.163	0.004	-	-
HCM Control Delay (s)	8.3	-	-	13.1	33.6	8.9	-	-
HCM Lane LOS	A	-	-	B	D	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.6	0.6	0	-	-

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	6	228	8	41	432	6	5	0	25	6	0	6
Future Vol, veh/h	6	228	8	41	432	6	5	0	25	6	0	6
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	200	-	-	200	-	-	-	-	-	-	-	-
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, %	7	7	7	7	7	7	2	2	2	2	2	2
Mvmt Flow	7	253	9	46	480	7	6	0	28	7	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	487	0	0	262	0	0	851	851	258	862	852	484
Stage 1	-	-	-	-	-	-	272	272	-	576	576	-
Stage 2	-	-	-	-	-	-	579	579	-	286	276	-
Critical Hdwy	4.17	-	-	4.17	-	-	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	2.263	-	-	2.263	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1051	-	-	1274	-	-	280	297	781	275	297	583
Stage 1	-	-	-	-	-	-	734	685	-	503	502	-
Stage 2	-	-	-	-	-	-	501	501	-	721	682	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1051	-	-	1274	-	-	268	284	781	257	284	583
Mov Cap-2 Maneuver	-	-	-	-	-	-	268	284	-	257	284	-
Stage 1	-	-	-	-	-	-	729	680	-	499	484	-
Stage 2	-	-	-	-	-	-	477	483	-	691	677	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			11.4			15.5		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	592	1051	-	-	1274	-	-	357
HCM Lane V/C Ratio	0.056	0.006	-	-	0.036	-	-	0.037
HCM Control Delay (s)	11.4	8.4	-	-	7.9	-	-	15.5
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	171	8	14	299	5	8
Future Vol, veh/h	171	8	14	299	5	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, %	7	7	7	7	2	2
Mvmt Flow	190	9	16	332	6	9

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	199	0	559 195
Stage 1	-	-	-	-	195 -
Stage 2	-	-	-	-	364 -
Critical Hdwy	-	-	4.17	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.263	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1344	-	490 846
Stage 1	-	-	-	-	838 -
Stage 2	-	-	-	-	703 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1344	-	483 846
Mov Cap-2 Maneuver	-	-	-	-	483 -
Stage 1	-	-	-	-	838 -
Stage 2	-	-	-	-	692 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	656	-	-	1344	-
HCM Lane V/C Ratio	0.022	-	-	0.012	-
HCM Control Delay (s)	10.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

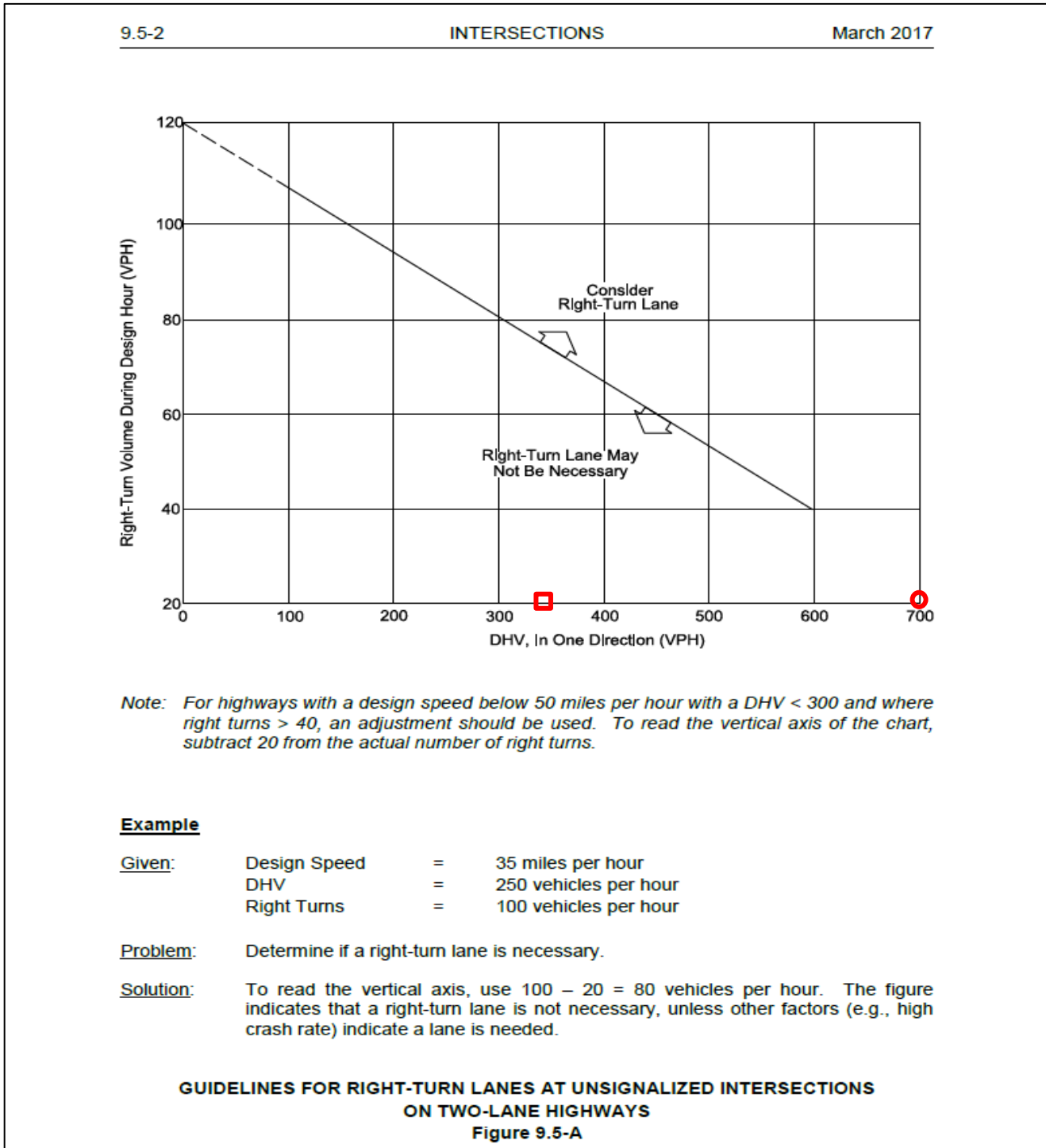


Appendix H TURN LANE ANALYSIS WORKSHEETS

RIGHT-TURN LANE WARRANT REVIEW

INTERSECTION: County Line Road & Project Driveway 1

MOVEMENT: Southbound Right-Turn Lane



2025 Build Conditions	Major Road Volume (Direction of Right Turn Ingress)	Right Turn Volume	Speed along Right Turn Ingress	Symbol
AM Peak Hour	707	2	45	○
PM Peak Hour	374	6	45	□

LEFT-TURN LANE WARRANT REVIEW

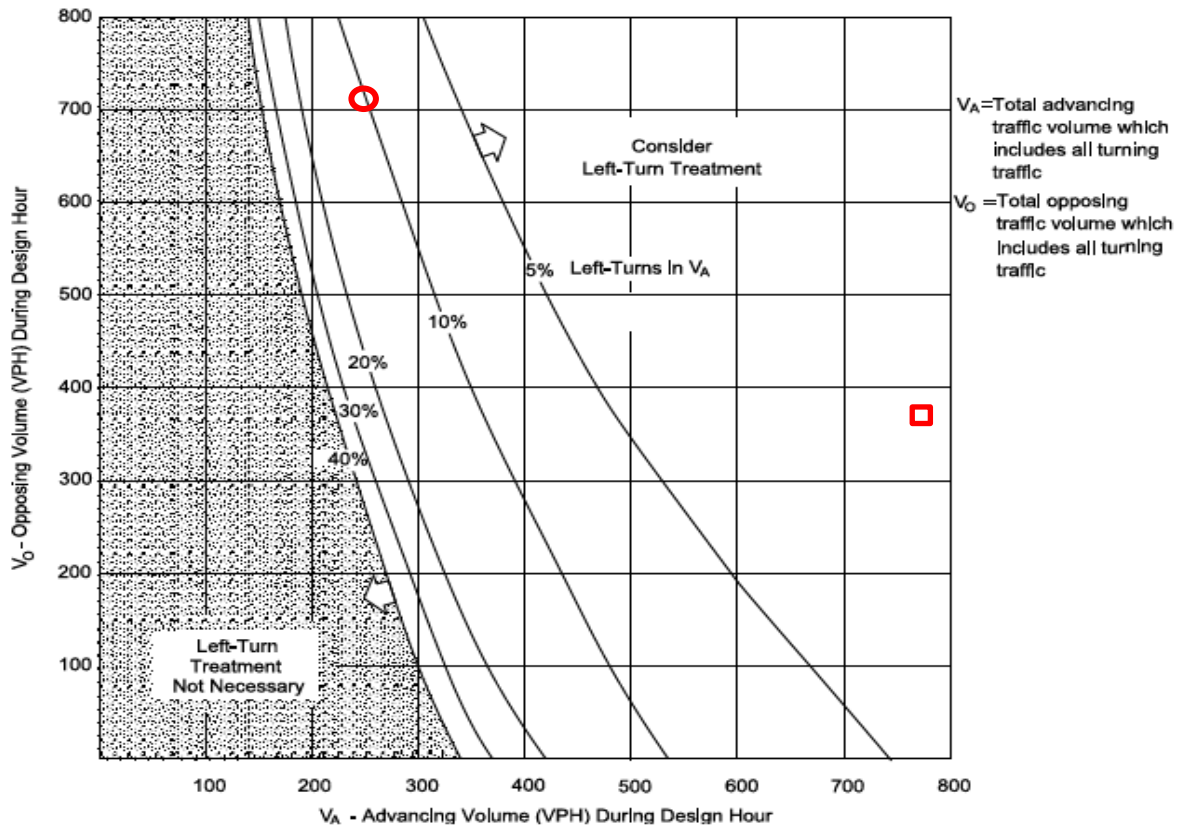
INTERSECTION: County Line Road & Project Driveway 1

MOVEMENT: Northbound Left-Turn Lane

9.5-8

INTERSECTIONS

March 2017



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.

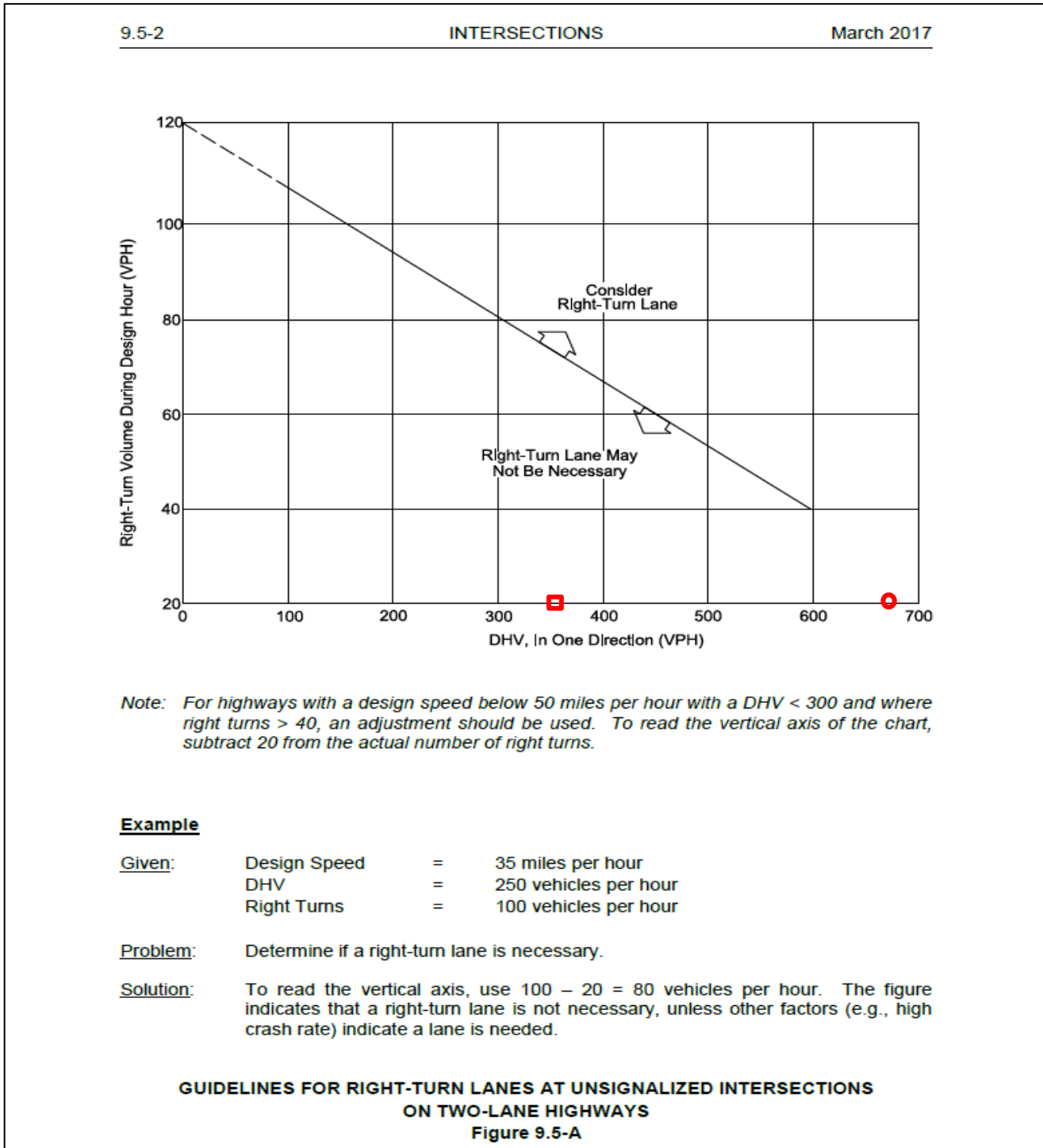
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)
 Figure 9.5-F

2025 Build Conditions	V_A	EBL	V_O	V_A LT %	Symbol
AM Peak Hour	245	8	707	3.3%	○
PM Peak Hour	778	28	374	3.6%	□

RIGHT-TURN LANE WARRANT REVIEW

INTERSECTION: County Line Road & Project Driveway 2

MOVEMENT: Southbound Right-Turn Lane



2025 Build Conditions	Major Road Volume (Direction of Right Turn Ingress)	Right Turn Volume	Speed along Right Turn Ingress	Symbol
AM Peak Hour	682	6	45	○
PM Peak Hour	356	2	45	□

LEFT-TURN LANE WARRANT REVIEW

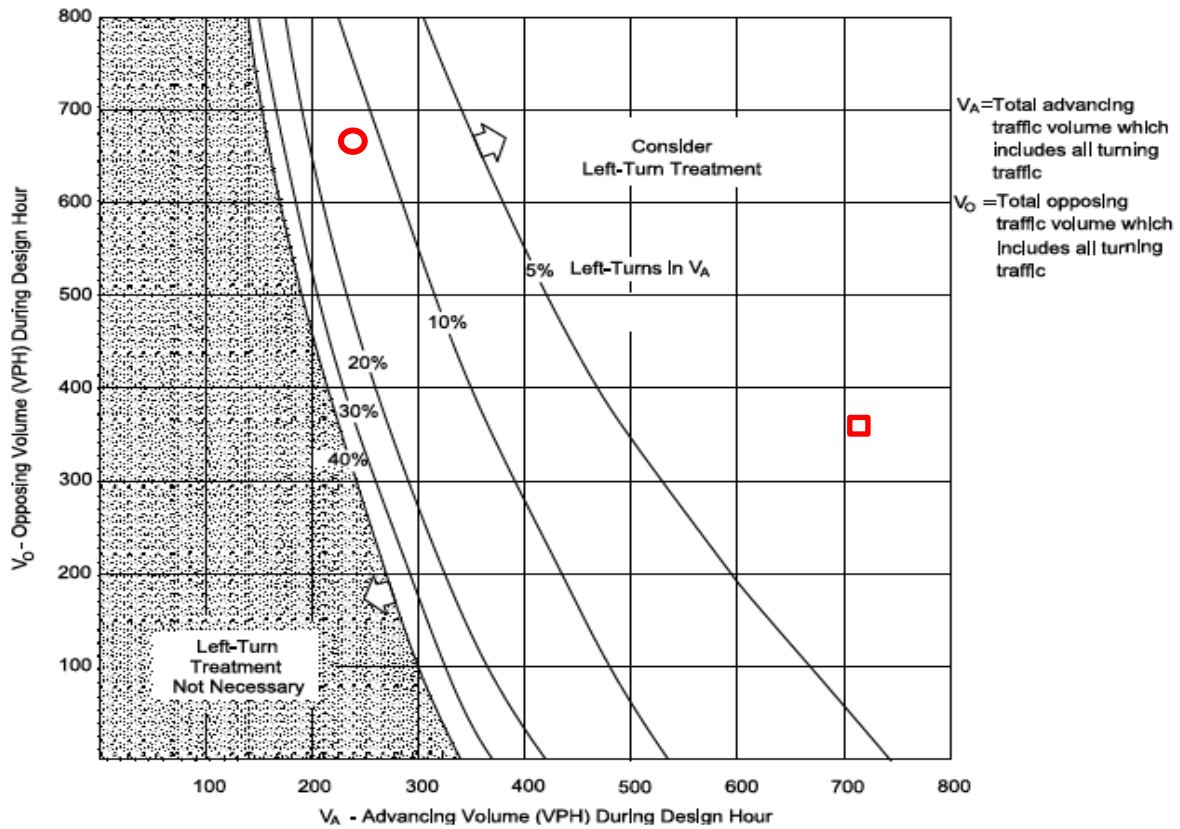
INTERSECTION: County Line Road & Project Driveway 2

MOVEMENT: Northbound Left-Turn Lane

9.5-8

INTERSECTIONS

March 2017



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.

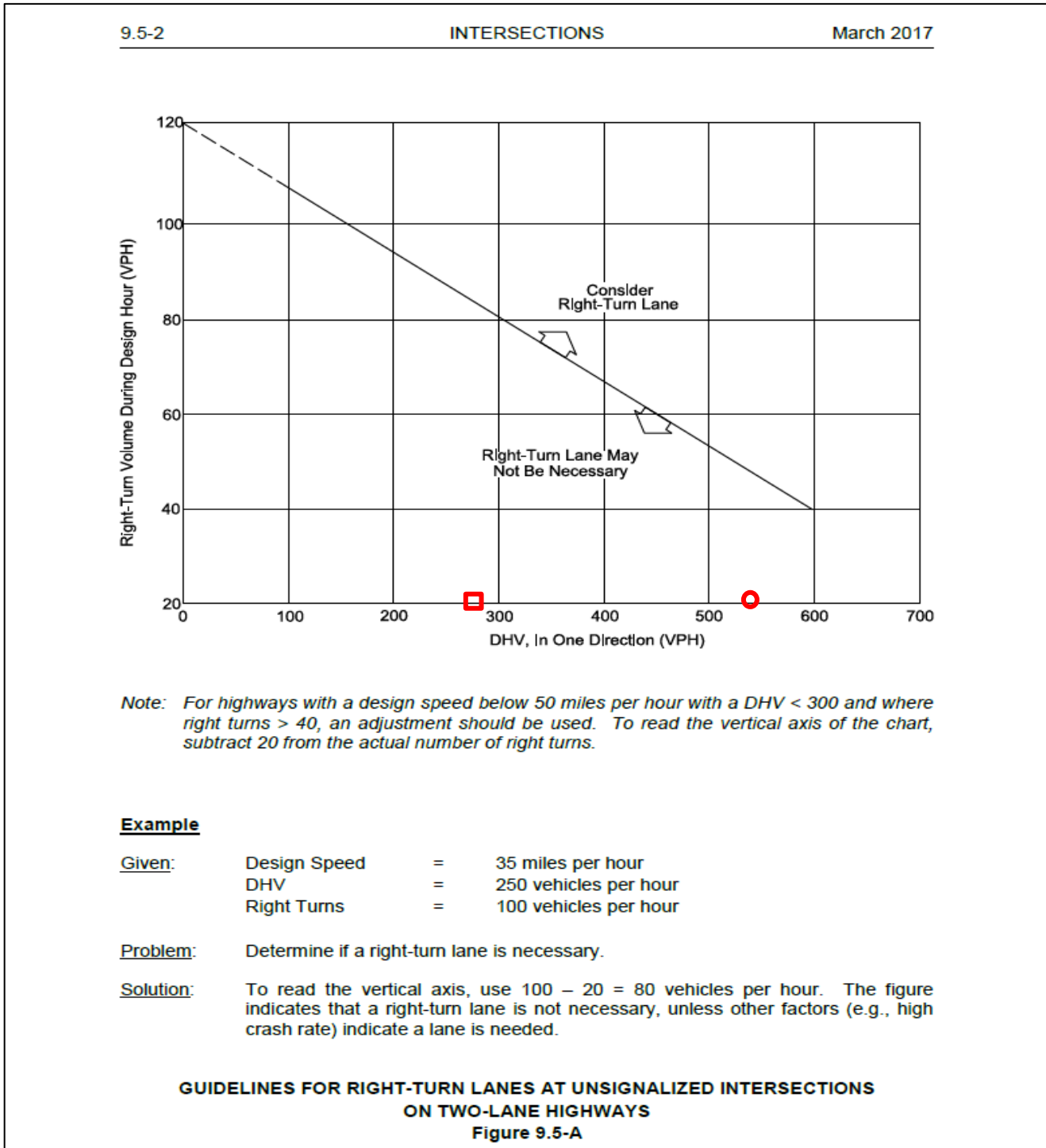
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)
Figure 9.5-F

2025 Build Conditions	V_A	EBL	V_O	V_A LT %	Symbol
AM Peak Hour	229	8	682	3.5%	○
PM Peak Hour	711	28	356	3.9%	□

RIGHT-TURN LANE WARRANT REVIEW

INTERSECTION: County Line Road & Project Driveway 3

MOVEMENT: Southbound Right-Turn Lane



2025 Build Conditions	Major Road Volume (Direction of Right Turn Ingress)	Right Turn Volume	Speed along Right Turn Ingress	Symbol
AM Peak Hour	541	4	45	○
PM Peak Hour	282	14	45	□

LEFT-TURN LANE WARRANT REVIEW

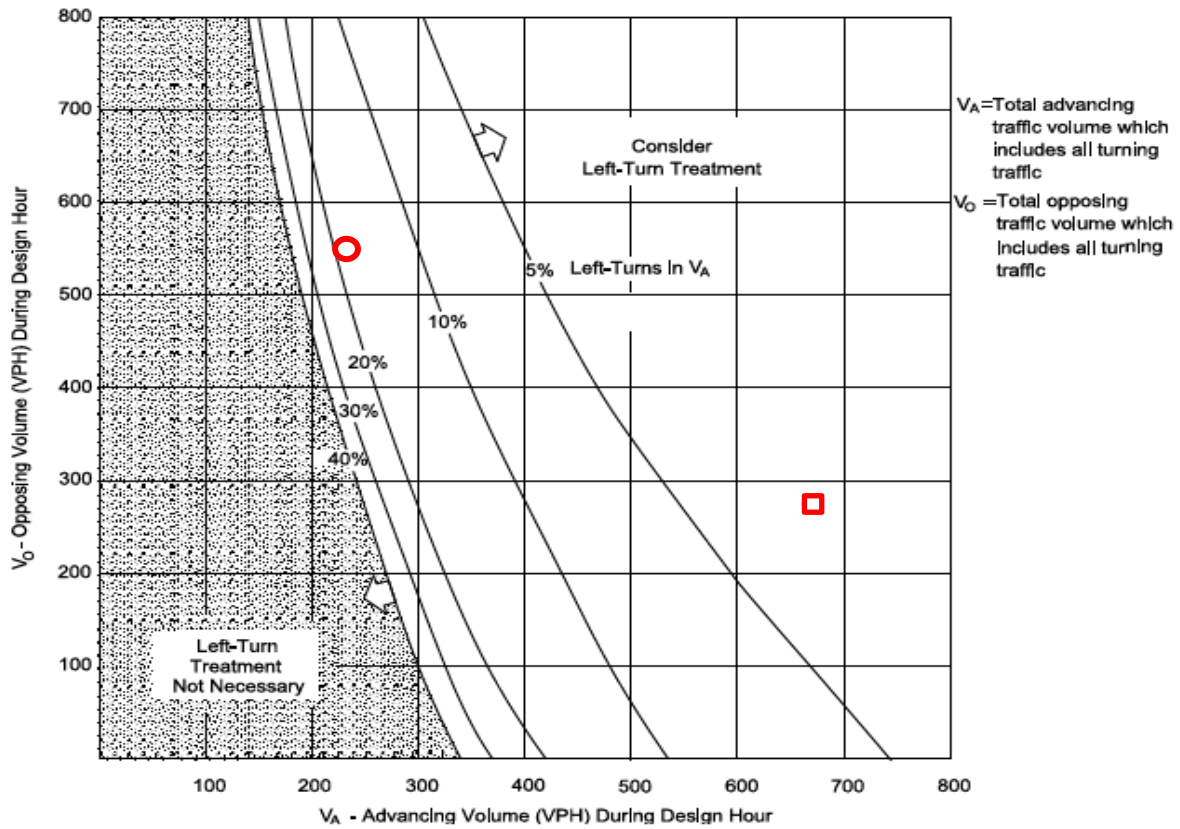
INTERSECTION: County Line Road & Project Driveway 3

MOVEMENT: Northbound Left-Turn Lane

9.5-8

INTERSECTIONS

March 2017



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.

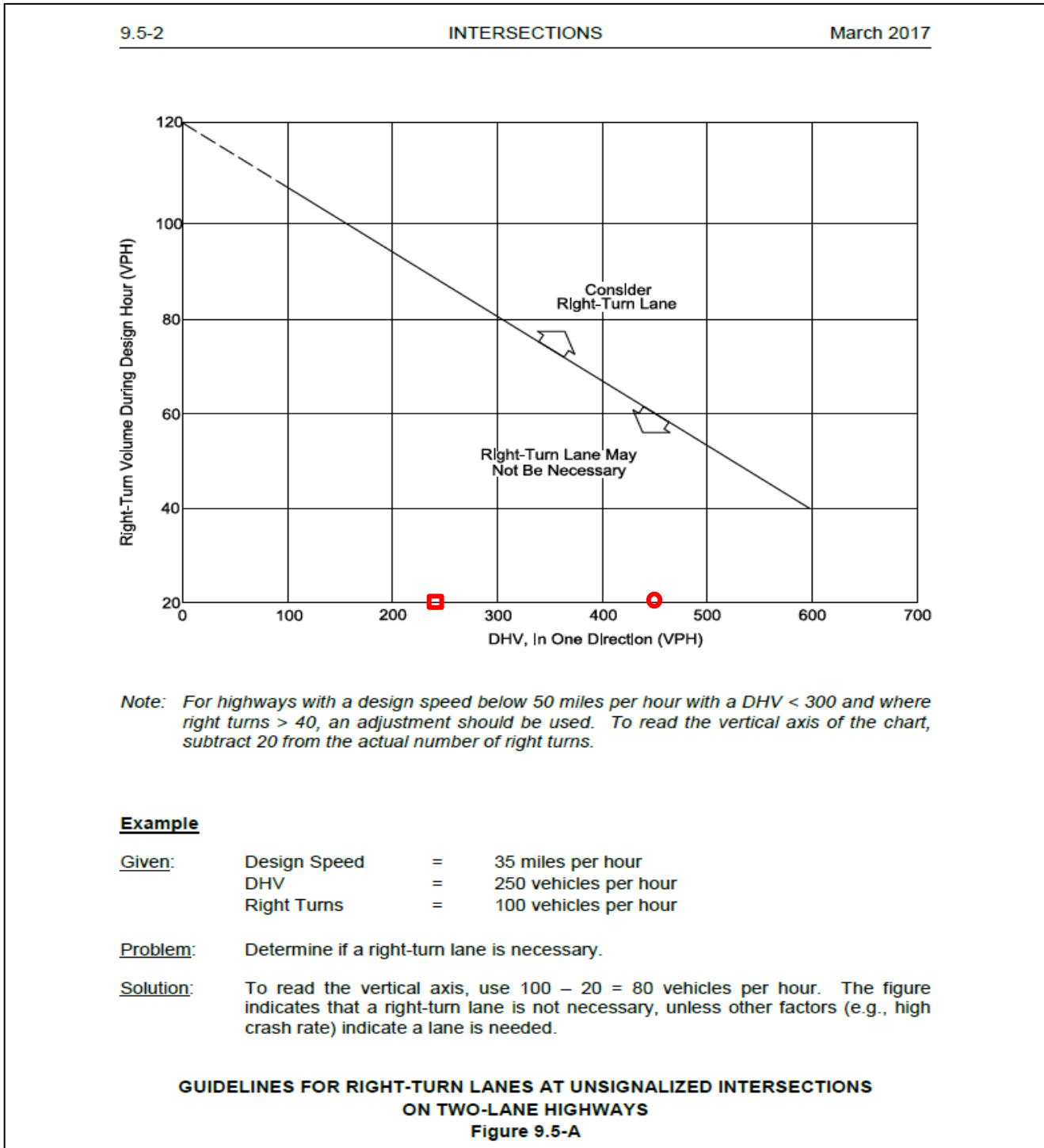
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)
Figure 9.5-F

2025 Build Conditions	V_A	EBL	V_O	V_A LT %	Symbol
AM Peak Hour	225	37	541	16.4%	○
PM Peak Hour	686	123	282	17.9%	□

RIGHT-TURN LANE WARRANT REVIEW

INTERSECTION: County Line Road & Project Driveway 4

MOVEMENT: Eastbound Right-Turn Lane



2025 Build Conditions	Major Road Volume (Direction of Right Turn Ingress)	Right Turn Volume	Speed along Right Turn Ingress	Symbol
AM Peak Hour	454	3	45	○
PM Peak Hour	242	8	45	□

LEFT-TURN LANE WARRANT REVIEW

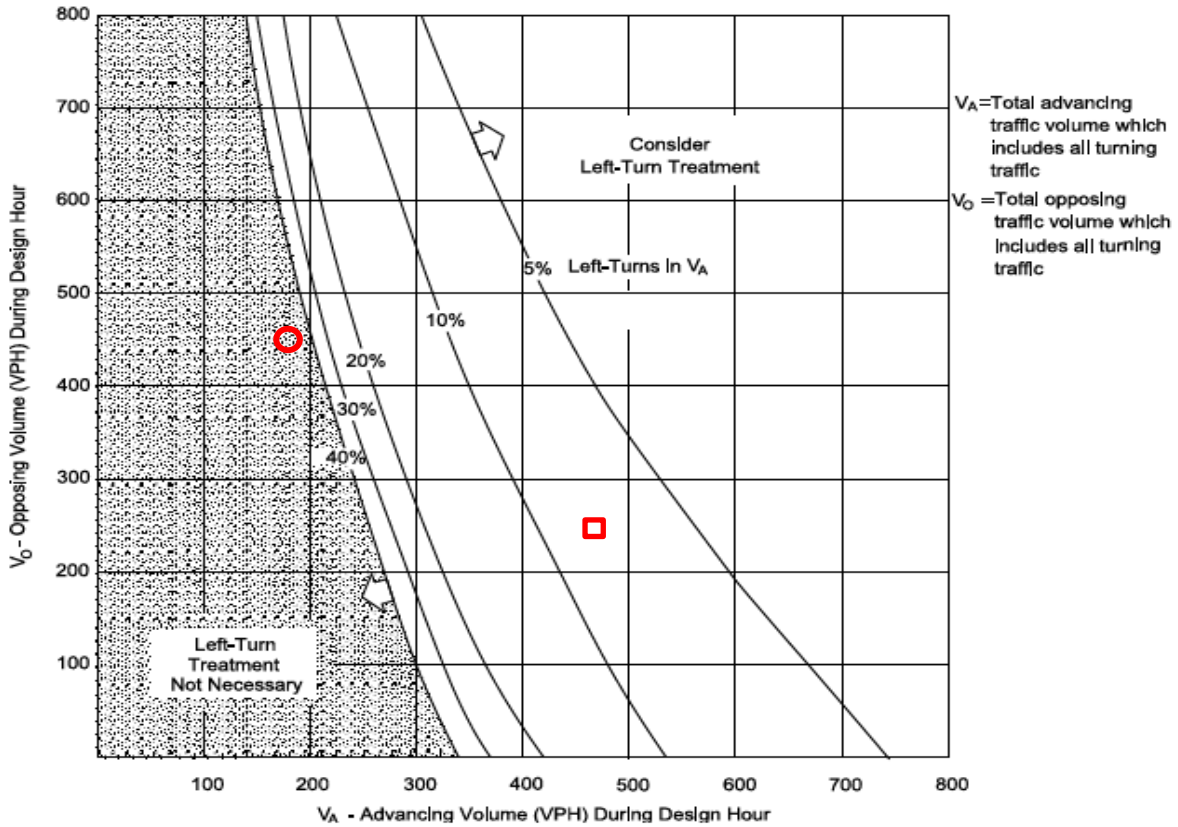
INTERSECTION: County Line Road & Project Driveway 4

MOVEMENT: Westbound Left-Turn Lane

9.5-8

INTERSECTIONS

March 2017



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.

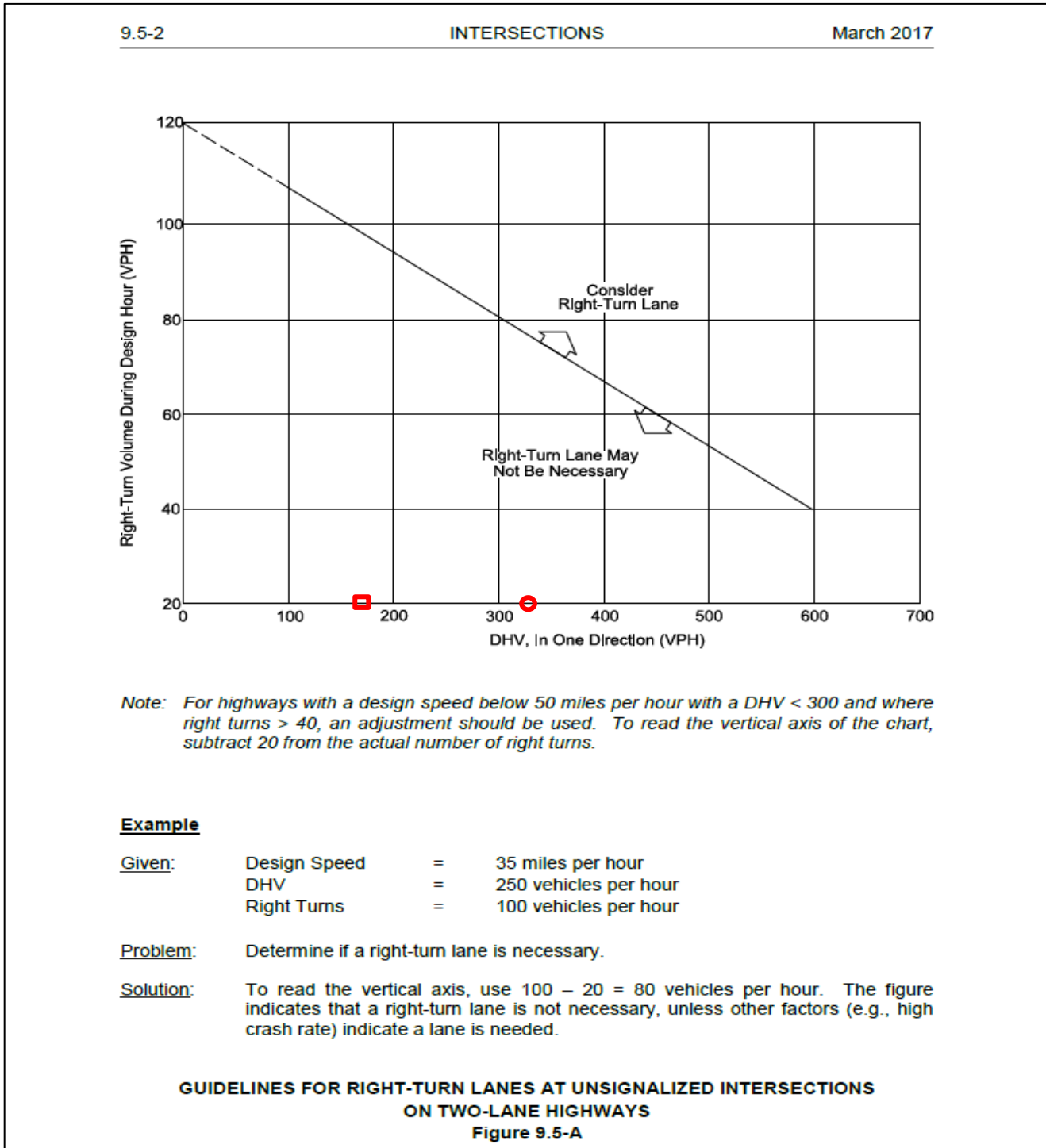
VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)
Figure 9.5-F

2025 Build Conditions	V_A	EBL	V_O	V_A LT %	Symbol
AM Peak Hour	190	12	454	6.3%	○
PM Peak Hour	479	41	242	8.6%	□

RIGHT-TURN LANE WARRANT REVIEW

INTERSECTION: County Line Road & Project Driveway 5

MOVEMENT: Eastbound Right-Turn Lane



2025 Build Conditions	Major Road Volume (Direction of Right Turn Ingress)	Right Turn Volume	Speed along Right Turn Ingress	Symbol
AM Peak Hour	321	3	45	○
PM Peak Hour	179	8	45	□

LEFT-TURN LANE WARRANT REVIEW

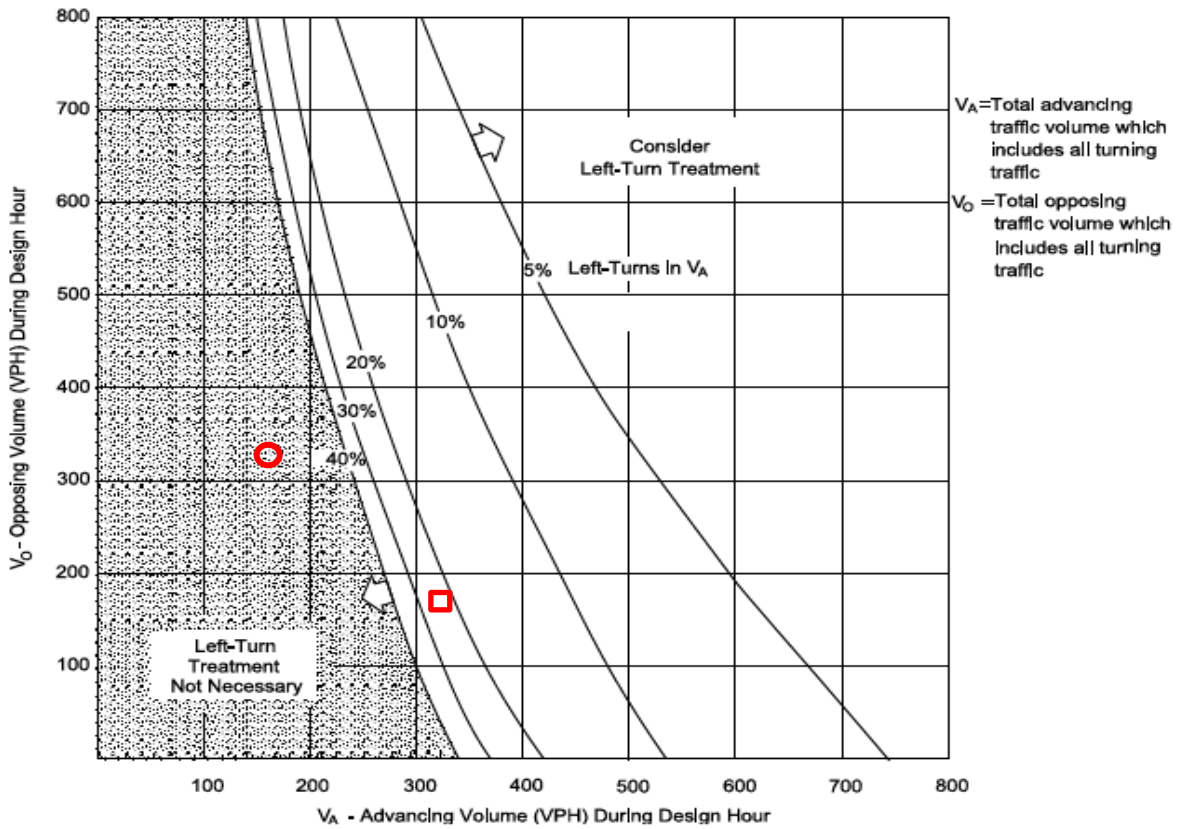
INTERSECTION: County Line Road & Project Driveway 5

MOVEMENT: Westbound Left-Turn Lane

9.5-8

INTERSECTIONS

March 2017



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 (45 mph)
Figure 9.5-F

2025 Build Conditions	V_A	EBL	V_O	V_A LT %	Symbol
AM Peak Hour	159	4	321	3%	○
PM Peak Hour	313	14	179	4%	□