TRAFFIC IMPACT ANALYSIS

Murphy Oil Gas Station
St. Lucie County
Port St. Lucie, Florida

Prepared For:
HSQ Group, Inc
7975 NW 154th Street,
Miami Lakes, Florida 33016

Prepared By:
Langan Engineering & Environmental Services, LLC
1221 Brickell Avenue, Suite 1800
Miami, FL 33016
FL Certificate of Authorization No: 6601

Maximo G Polanco

Digitally signed by Maximo G Polanco
DN: CN=Maximo G Polanco, dnQualifier=A01410D000000186E085EAE8000103B9, O=LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES INC, C=US
Reason: I am approving this document
Date: 2024.12.18 10:44:38-05'00'

MAXIMO G. POLANCO
LICENSE
No. 91355
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Maximo Polanco, PE on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Maximo G. Polanco, P.E.
P.E. License No. 91355

Eric Schwarz, P.E., LEED AP
Principal/Vice President

December 2024

LANGAN

341021701

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EXECUTIVE SUMMARY

Langan Engineering & Environmental Services, LLC was retained by HSQ Group, Inc. to prepare a traffic-impact analysis for the Murphy Oil Gas Station – Gatlin Boulevard development that will be built at 1837 SW Gatlin Boulevard, Port St. Lucie, Florida. The 1.26-acre vacant site is located on the northwest corner of the intersection of SW Gatlin Boulevard and SW import Drive in Port St. Lucie, Florida. The development will comprise the construction of a gas station with 16 fueling positions and a 2,824 square-foot convenience store. The development is expected to be built by 2027 or sooner. We analyzed two signalized intersections and one stop-sign controlled intersections for the 2027 build conditions. The peak-hour traffic-impact analyses with the proposed development's impacts in 2027 yielded the following results:

- The signalized intersections are expected to operate within their adopted Level of Service (LOS) during the morning and afternoon peak-hours with and without the proposed project's impacts.
- We optimized the signal timing, without changing the cycle length, of the signalized intersections to demonstrate that the expected LOS and delays can improve with signal optimization.
- The stop-sign controlled approaches of the stop-sign controlled intersection are expected to operate within their adopted LOS during the morning and afternoon peak hours.
- The proposed driveways connections are expected to operate at LOS C or better during the morning and afternoon peak-hours.
- The expected volumes from the proposed development warrant the need for an exclusive right turn lane at the proposed driveway to Gatlin Boulevard, which the developer has agreed to construct.
- The proposed development will not have gate-controlled access at any of the proposed site driveways.

We conducted intersection-capacity analyses for the existing, no build (future without project) and build (future with project) conditions. The proposed development is expected to generate 3,383 daily, 63 morning peak-hour, and 76 afternoon new peak-hour trips.

1.0 INTRODUCTION

Langan was retained by HSQ Group, Inc to prepare this impact-analysis report for the Murphy Oil Gas Station (development) to be built in Port St. Lucie, Florida. The 1.26-acre vacant site is located on the northwest corner of the intersection of SW Gatlin Boulevard and SW import Drive in Port St. Lucie, Florida. The development is proposing to construct a gas station with 16 fueling positions and a 2,824 square-foot convenience store expected to be built by 2027 or sooner.

We analyzed two signalized intersections and one stop sign controlled intersection during the morning and afternoon peak hours and found that all signalized intersections are expected to operate with their adopted LOS during the morning and afternoon peak hours with and without the proposed development's impacts. We optimized the signal timing, without changing the cycle length, of the intersections of SW Gatlin Boulevard at SW Import Drive and SW Rosser Boulevard to demonstrate that traffic operations can improve with signal timing optimizations. The stop-controlled intersection is expected to operate within its adopted LOS during the morning and afternoon peak hours. This report presents the traffic-data and traffic-impact analysis for this proposed development.

1.1 Project Description

The development will be built on one parcel (PCN No. 3420-650-0936-000-6). **Appendix A** contains the figures of this report. **Figure 1** illustrates the site location. **Appendix B** contains a copy of the site plan that shows the proposed development program and location of the development's driveways. The proposed development will have access through two driveway connections: one to each SW Import Drive and SW Gatlin Boulevard. Both driveways will operate as a right-turn only ingress and egress driveway restricted by the existing median on the road. St. Lucie County's and FDOT adopted maximum LOS for non-state local and major city/county roads is LOS D and for non-state arterials is LOS E within the study area.

1.2 Study Methodology and Study Area

Langan undertook the following steps to prepare this study in accordance with the standard methodology requirements from the St. Lucie County Traffic Engineering Division and the Florida Department of Transportation.

- Collected morning (7 to 9 AM) and afternoon (4 to 6 PM) peak-hour vehicle turning-movement volumes at the following study intersections:
    - SW Oakwood Road & SW Import Drive (unsignalized)
    - SW Gatlin Boulevard & SW Import Drive (signalized)
    - SW Gatlin Boulevard & SW Rosser Boulevard (signalized)
- Used Peak Season Conversion Factors (PSCF) from the Florida Department of Transportation (FDOT) to convert the traffic data into peak-season volumes.
- Prepared trip-generation estimates for the proposed development, based on accepted trip-generation rates developed by the Institute of Transportation Engineers (ITE), as well as from existing traffic data collected at the existing site's driveways.
- Calculated a growth rate for background traffic by using FDOT historical data from traffic-count stations near the project.
- Developed trip-distribution estimates for the proposed development based on census data Journey-to-Work (JTW) model.
- Prepared morning and afternoon peak-hour intersection-capacity analyses for the following conditions at the study intersections: 2024 existing, 2027 future no-build, and 2027 future build.
- Calculated the morning and afternoon peak-hour LOS intersection-capacity analyses of the development's driveways for the 2027 build conditions.

2.0 DESCRIPTION OF EXISTING CONDITIONS

Langan visited the study area to collect the lane-configuration and traffic-control data shown in **Figure 2**. **Appendix C** contains the county's signal-timing data.

2.1 Roadway Characteristics

SW Oakwood Road

SW Oakwood Road is a tow-lane, undivided, east-west, city-maintained, local roadway with a 25 MPH posted.

SW Gatlin Boulevard

SW Gatlin Boulevard is a six-lane, divided, east-west, county-maintained, principal arterial roadway with a 45 MPH posted speed limit.

SW Import Drive

SW Import Drive is a two-lane north of SW Gatlin Boulevard, undivided, north-south, county-maintained, major collector roadway with a 25 MPH posted speed limit. It transitions to three lanes south of SW Gatlin Boulevard, undivided, north-south, city-maintained, local roadway with a 30 MPH posted speed limit.

SW Rosser Boulevard

SW Rosser Boulevard is a four-lane, undivided, north-south, county-maintained, major collector roadway with a 40 MPH posted speed limit.

2.2 Traffic Counts and Volumes

Traffic-volume data was collected on Wednesday, October 16, 2024, from 7:00 to 9:00 AM and 4:00 to 6:00 PM. We applied FDOT's season adjustment factors (1.12) to convert the traffic data into peak-season volumes. We compared the data of each intersection and determined that the study area peak hour occurred between 7:30 AM and 8:30 AM and between 4:45 PM and 5:45 PM for the study area, but we analyzed the intersections based on the peak hour of each to provide a worst-case scenario. **Figure 3** illustrates the existing weekday morning and afternoon peak-hour traffic volumes. Appendix C contains the traffic data and seasonal-adjustment factors.

2.3 Intersection Capacity Analysis (Level of Service)

We conducted 2024 existing-conditions capacity analyses for the study intersections using Synchro software. We found that all signalized intersections are operating within their adopted

LOS during the morning and afternoon peak hour. The stop-sign controlled intersection is operating within its adopted LOS during the morning and afternoon peak hours. **Table 1** summarizes the results of the existing-conditions analysis. **Appendix D** contains intersection-volume tables; **Appendix E** contains the capacity-analyses worksheets.

Table 1 - 2024 Existing Intersection Capacity Analysis Summary

Location	Traffic Control	Approach	AM Peak Hour		PM Peak Hour	
			LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
(1) SW IMPORT DRIVE & SW OAKWOOD ROAD	Unsignalized	EB	A	9.3	A	9.9
		WB	A	9.8	B	10.7
(2) SW GATLIN BLVD & SW IMPORT DRIVE	Signalized	Overall	C	34.0	D	53.8
(3) SW GATLIN BLVD & SW ROSSER BLVD	Signalized	Overall	C	29.0	D	37.6

Capacity analyses for stop-sign controlled intersections are calculated for certain intersection approaches, not for the entire intersection. The stop-sign controlled approaches of stop-sign controlled intersections often exceed their adopted LOS during peak hours because all vehicles must stop and incur a delay before proceeding through the intersection. Capacity analysis provides an indication of the adequacy of intersection and roadway facilities to serve traffic demand. The evaluation criteria used to analyze the study intersections is based on the *7th Edition Highway Capacity Manual* published by the Transportation Research Board.

3.0 PLANNED AND PROGRAMMED ROADWAY IMPROVEMENTS

We reviewed the Transportation Planning Organization's 2024 Transportation Improvement Program (TIP 2024 through 2028), the county Long Range Transportation Plan (SmartMoves 2045) and the FDOT Five Year Work Program (2024 through 2028) and did not find any improvements in our study area.

4.0 NO BUILD CONDITIONS

This section of the report covers background traffic growth and future traffic volumes used to evaluate the no build conditions. The no-build conditions evaluate future traffic volumes without the impacts of the proposed development.

4.1 Background/No Build Traffic

Background, or no build traffic volumes, account for annual increases in traffic from approved and unbuilt land-development projects and historical increases in traffic volumes. Developing no build traffic operating conditions allows us to project what can be expected to exist in the study area without the proposed development.

We developed 2027 no-build traffic volumes by applying a compounded growth rate to the 2024 volumes. We reviewed FDOT Historical Data to review the traffic growth trends within the study area and used the ten-year linear-trend growth rate (1.61%) because it yielded the highest rate to develop future background volumes. The growth-rate factor accounts for increased background traffic volumes and was applied to the existing volumes to develop 2027 no-build traffic volumes.

4.2 Intersection Analysis No Build Conditions

We conducted intersection capacity analyses and found that the signalized intersections are expected to operate within their adopted LOS during the morning and afternoon peak hours. The stop-sign controlled intersection is expected to operate within its adopted LOS during the morning and afternoon peak hours. **Figure 4** illustrates the 2027 no-build traffic volumes. **Table 2** summarizes the results of the 2027 no-build conditions capacity analysis. Appendix E contains the capacity-analyses worksheets.

Table 2 - 2027 No Build Intersection Capacity Analysis Summary

Location	Traffic Control	Approach	AM Peak Hour		PM Peak Hour	
			LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
(1) SW IMPORT DRIVE & SW OAKWOOD ROAD	Unsignalized	EB	A	9.4	B	10.0
		WB	A	9.9	B	10.9
(2) SW GATLIN BLVD & SW IMPORT DRIVE	Signalized	Overall	D	36.2	E	58.0
(3) SW GATLIN BLVD & SW ROSSER BLVD	Signalized	Overall	C	30.0	D	39.7

5.0 BUILD CONDITIONS

This section of the report covers site-generated trips, trip distribution, and future traffic volumes used to evaluate the build conditions. The evaluation of the build conditions analyzes the future traffic volumes for the anticipated build-out year of the residential development by adding the development-generated traffic to the 2027 no-build peak hour traffic volumes.

5.1 Site-Generated Trips

The proposed development is expected to generate 3,383 daily, 63 morning peak-hour, and 76 afternoon new peak-hour of the generator trips. We prepared daily, morning peak-hour and afternoon peak-hour trip estimates for the proposed development using equations from the 11th Edition of the ITE *Trip Generation Manual* based on Land Use 945 – Convenience Store/Gas Station – GFA (2 – 4k). We applied a 76% and 75% pass-by rate to the gas station uses trip generation estimates during the morning and afternoon peak hours, respectively, based on rates of the 11th Edition of the ITE *Trip Generation Manual* and the ITE Trip Generation Handbook 3rd Edition. **Table 3** summarizes the trip-generation estimates for the proposed development. **Appendix F** contains the trip-generation data.

Table 3 - Trip Generation Estimates

Use	Size	Daily	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Gasoline-Service Station with Convenience Store	16 Fuel Pumps	3,383	32	31	63	38	38	76

5.2 Trip Distribution

We used census data and the Journey to Work (JTW) Model to determine the directional distribution of site-generated trips. The OnTheMap website, created by the United States Census Bureau, was used to produce a work destination report based on census blocks. The report produces the number of people who commute to the selected work census blocks from home census blocks. Work census blocks were designated as census blocks that are within a 2-mile radius of the project site. A distribution was developed based on the direction of the home census blocks from the work census blocks and the number of employees in each home census block. Preferred routes were then assigned to the existing roadway, originating from the project site that follows the JTW distribution. Accordingly, for accessing the gas station development, 31% of the project traffic is expected to derive from the west, 9% from the north, 40% from the east and 20% from the south. **Figures 5** shows the proposed development's traffic distributions to the study intersections. **Figures 6** illustrate the morning and afternoon development-traffic assignments at the study intersections.

5.3 Intersection Analysis Build Conditions

We conducted capacity analyses for the study intersections and determined that the signalized intersections are expected to operate within their adopted LOS during the morning and afternoon peak hours. We optimized the signal timing, without changing the cycle length, of the signalized intersections of SW Gatlin Boulevard at SW Import Drive and SW Rosser Boulevard to demonstrate that the expected LOS and delays can improve the traffic conditions through signal optimization. However, even without optimizing the signal timing, the intersections are expected to operate within their adopted LOS.

The stop-sign controlled intersection is also expected to operate within its adopted LOS during the morning and afternoon peak hours with and without the developments' impacts. The 2027 build traffic volumes were derived by adding the total site-generated trips to the 2027 no-build traffic volumes. **Figure 7** illustrates the 2027 build morning and afternoon peak-hour traffic volumes. **Table** 4 summarizes the 2027 build LOS for the morning and afternoon peak hours.

Table 4 - 2027 Build Intersection Capacity Analysis Summary

Location	Traffic Control	Approach	AM Peak Hour		PM Peak Hour	
			LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
(1) SW IMPORT DRIVE & SW OAKWOOD ROAD	Unsignalized	EB	A	9.4	B	10.1
		WB	A	9.9	B	10.9
(2) SW GATLIN BLVD & SW IMPORT DRIVE	Signalized	Overall	D	40.7	E	61.4
		Overall[1]	D	41.0	E	59.1
(3) SW GATLIN BLVD & SW ROSSER BLVD	Signalized	Overall	C	29.9	D	39.2
		Overall[1]	C	29.8	D	37.6
(4) SW IMPORT DRIVE & EAST DRIVEWAY	Unsignalized	EB	A	9.7	A	10.0
(5) SOUTH DRIVEWAY & SW GATLIN BLVD	Unsignalized	SB	C	17.3	B	14.2

[1] Optimized signal timing without changing cycle length.

5.4 Driveway Volumes and Turn Lane Analysis

We analyzed the development's proposed driveway connections to SW Gatlin Boulevard and SW Import Drive and found that they will operate at LOS C or better during the morning and afternoon peak hours for the 2027 build conditions. Both project driveways will operate as right-turn only ingress/egress driveways. We analyzed the need for exclusive right-turn lanes at the proposed driveway connections based on the 2023 FDOT Access Management Guidebook and determined that the development warrants the need for an exclusive right turn lane at the driveway connection to Gatlin Boulevard. **Figure 8** shows the project site generated trips at the driveway connections to public roadways; Appendix E contains the capacity analysis worksheets.

6.0 CONCLUSIONS

Langan performed a traffic-impact analysis for the Murphy Oil Gas Station – Gatlin Boulevard development expected to be completed by 2027. The analysis shows the following results for the 2027 build conditions:

- The signalized intersections are expected to operate within their adopted Level of Service (LOS) during the morning and afternoon peak-hours with the proposed project's impacts.
- We optimized the signal timing, without changing the cycle length, of the signalized intersections to demonstrate that the expected LOS and delays can improve with signal optimization.
- The stop-sign controlled approaches of the stop-sign controlled intersection are expected to operate within their adopted LOS during the morning and afternoon peak hours.
- The proposed driveways connections are expected to operate at LOS C or better during the morning and afternoon peak-hours.
- The expected volumes from the proposed development warrant the need for an exclusive right turn lane at the proposed driveway to Gatlin Boulevard, which the developer has agreed to construct.
- The proposed development will not have gate-controlled access at any of the proposed site driveways.

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APPENDIX A
FIGURES

LANGAN

Project No. 341021701

LANGAN Langan Engineering and Environmental Services, Inc. 1221 Brickell Ave, Suite 1800 Miami, FL 33131 P: 786.264.7200 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project MURPHY OIL - SW GATLIN BLVD PORT ST. LUCIE ST. LUCIE FLORIDA	Drawing Title SITE LOCATION MAP	Project No. 341021701 Date OCTOBER 2024 Drawn By LTA Checked By JCG	Figure 1

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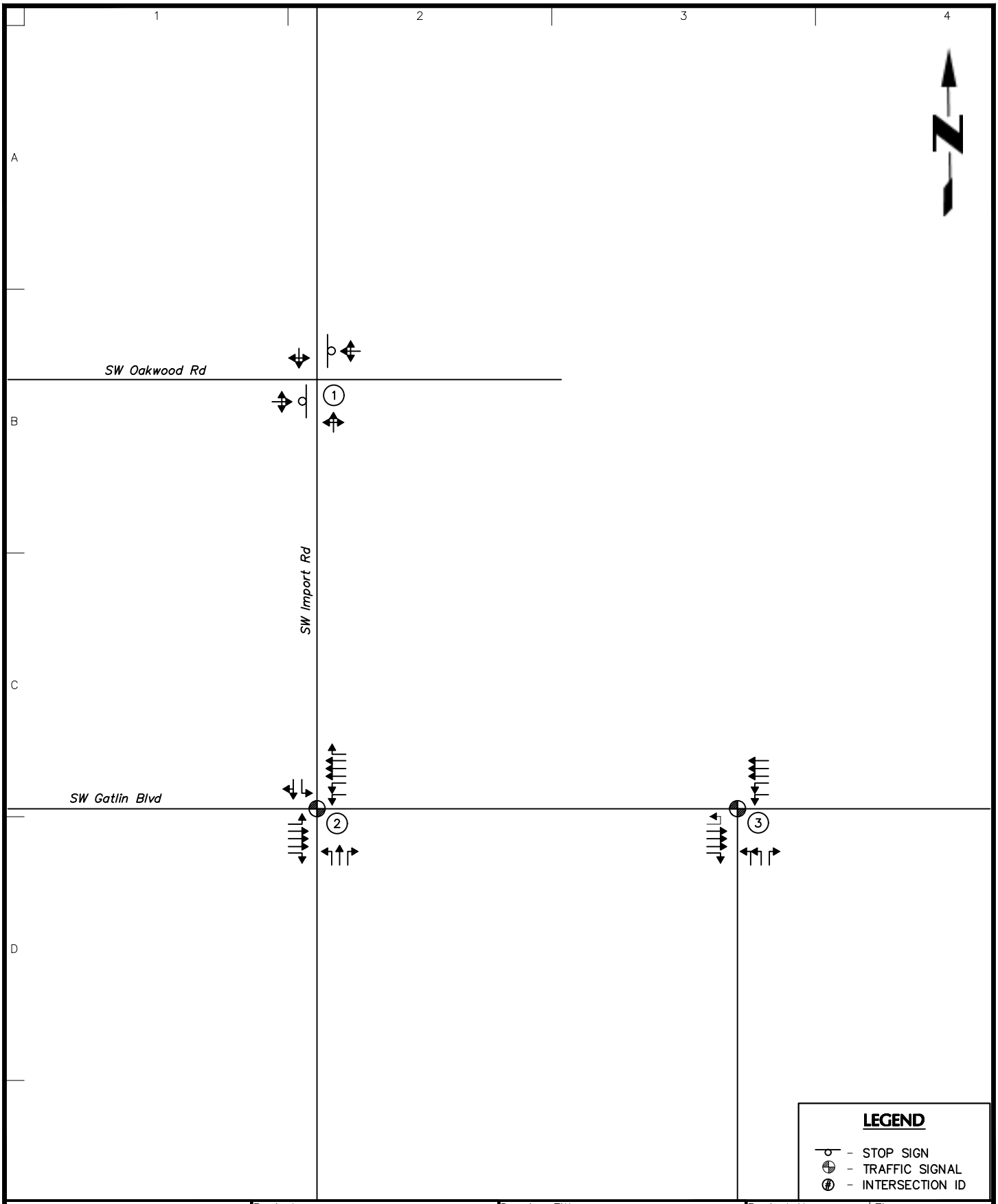

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FL CERTIFICATE OF AUTHORIZATION No. 00006601

Project
MURPHY OIL - SW GATLIN BLVD
PORT ST. LUCIE
ST. LUCIE FLORIDA

Drawing Title
LANE CONFIGURATION

Project No.	341021701
Date	OCTOBER 2024
Drawn By	LTA
Checked By	JCG

Figure
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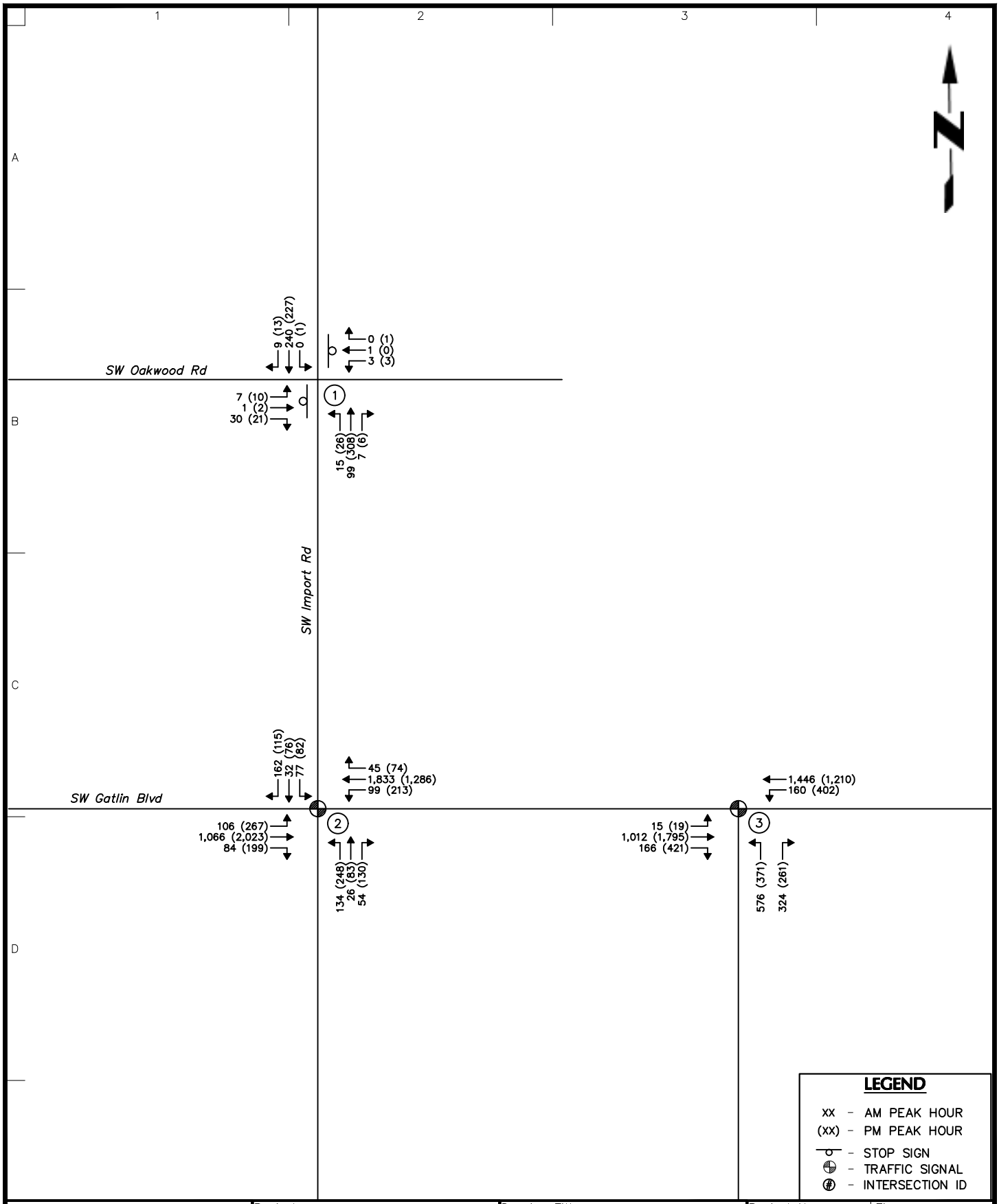

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Project
MURPHY OIL - SW GATLIN BLVD
PORT ST. LUCIE
ST. LUCIE FLORIDA

Drawing Title
2024 EXISTING VOLUMES

Project No. 341021701
Date OCTOBER 2024
Drawn By LTA
Checked By JCG

Figure 3

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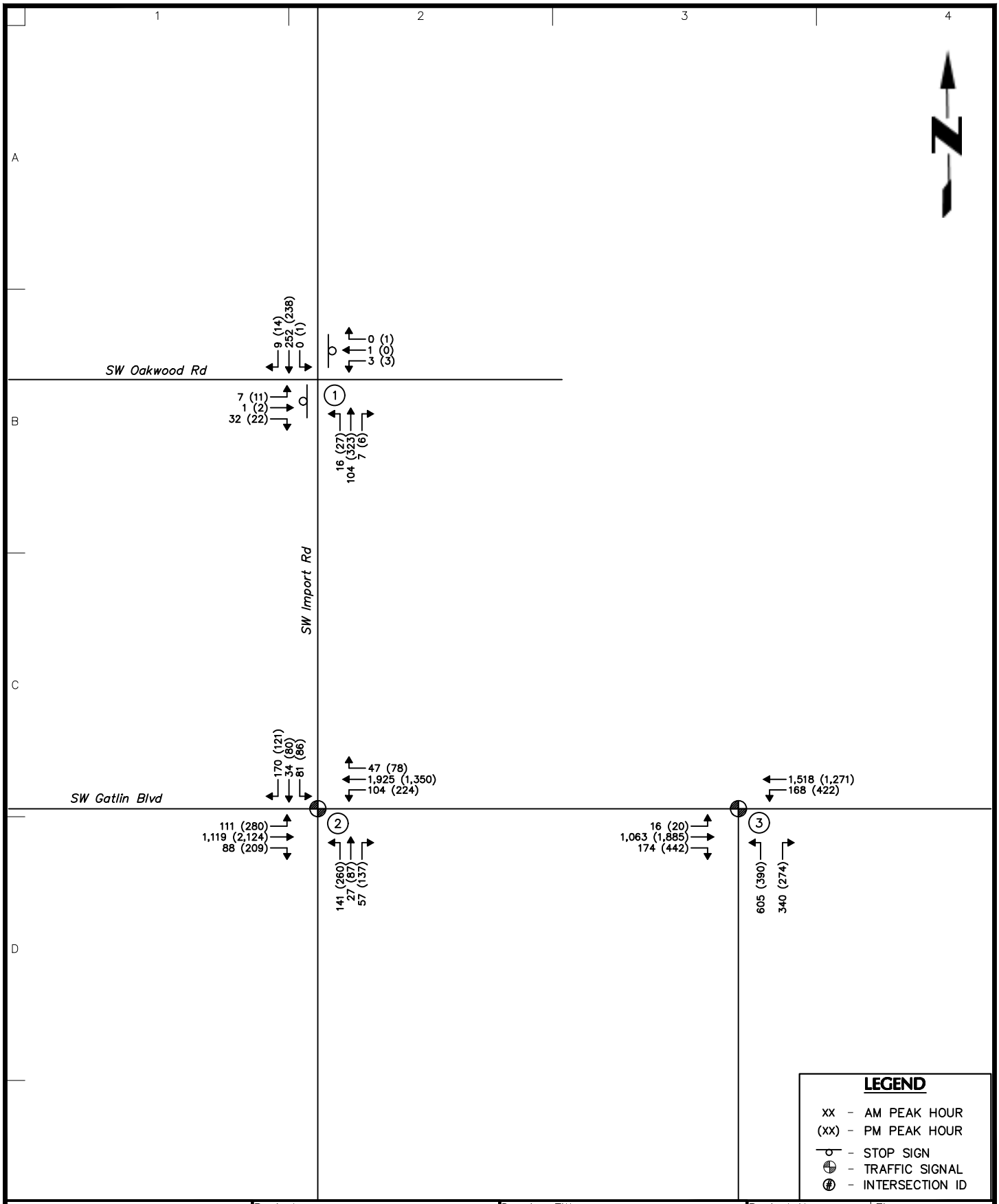

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Project
MURPHY OIL - SW GATLIN BLVD
PORT ST. LUCIE
ST. LUCIE FLORIDA

Drawing Title
2027 NO BUILD VOLUMES

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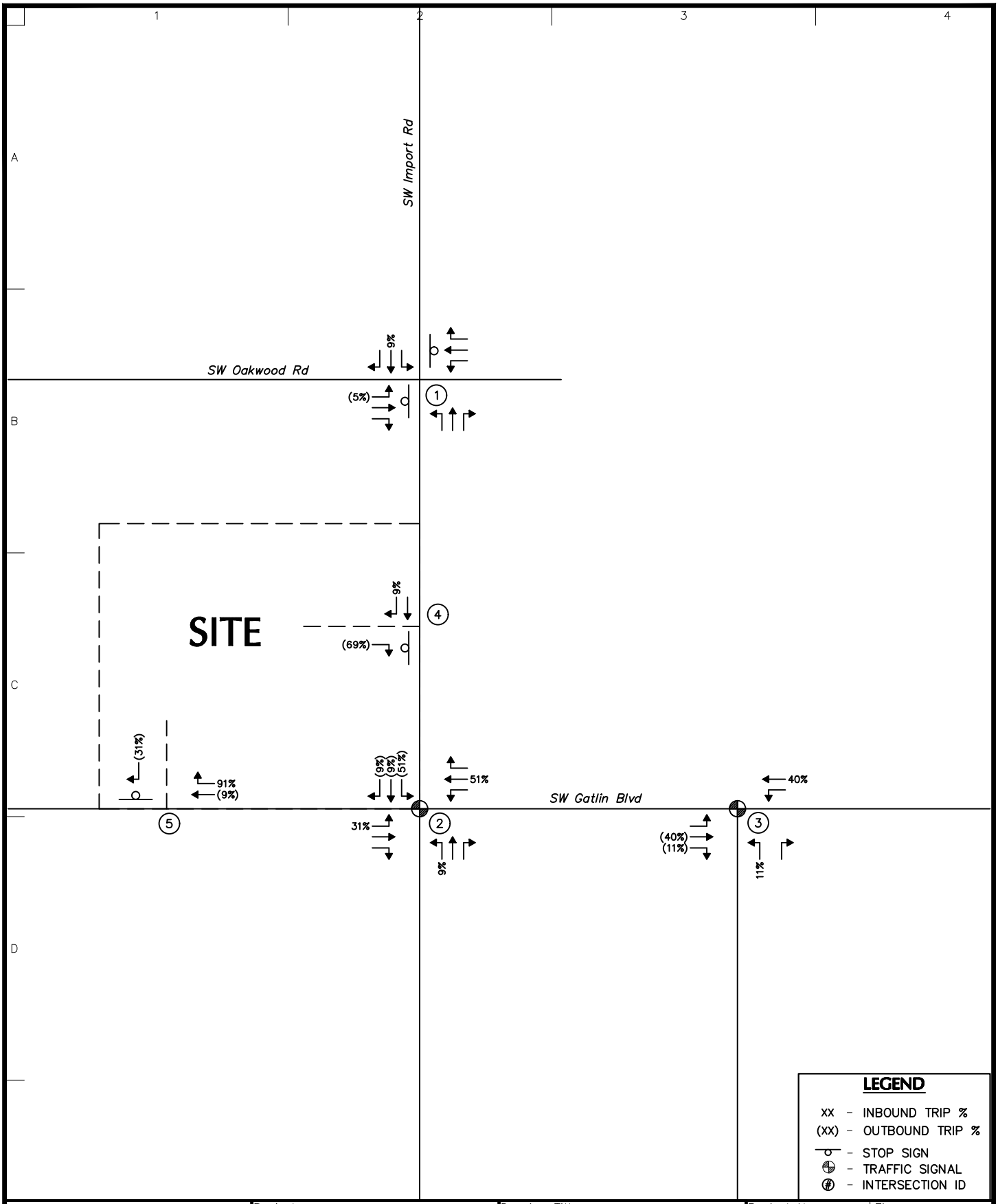

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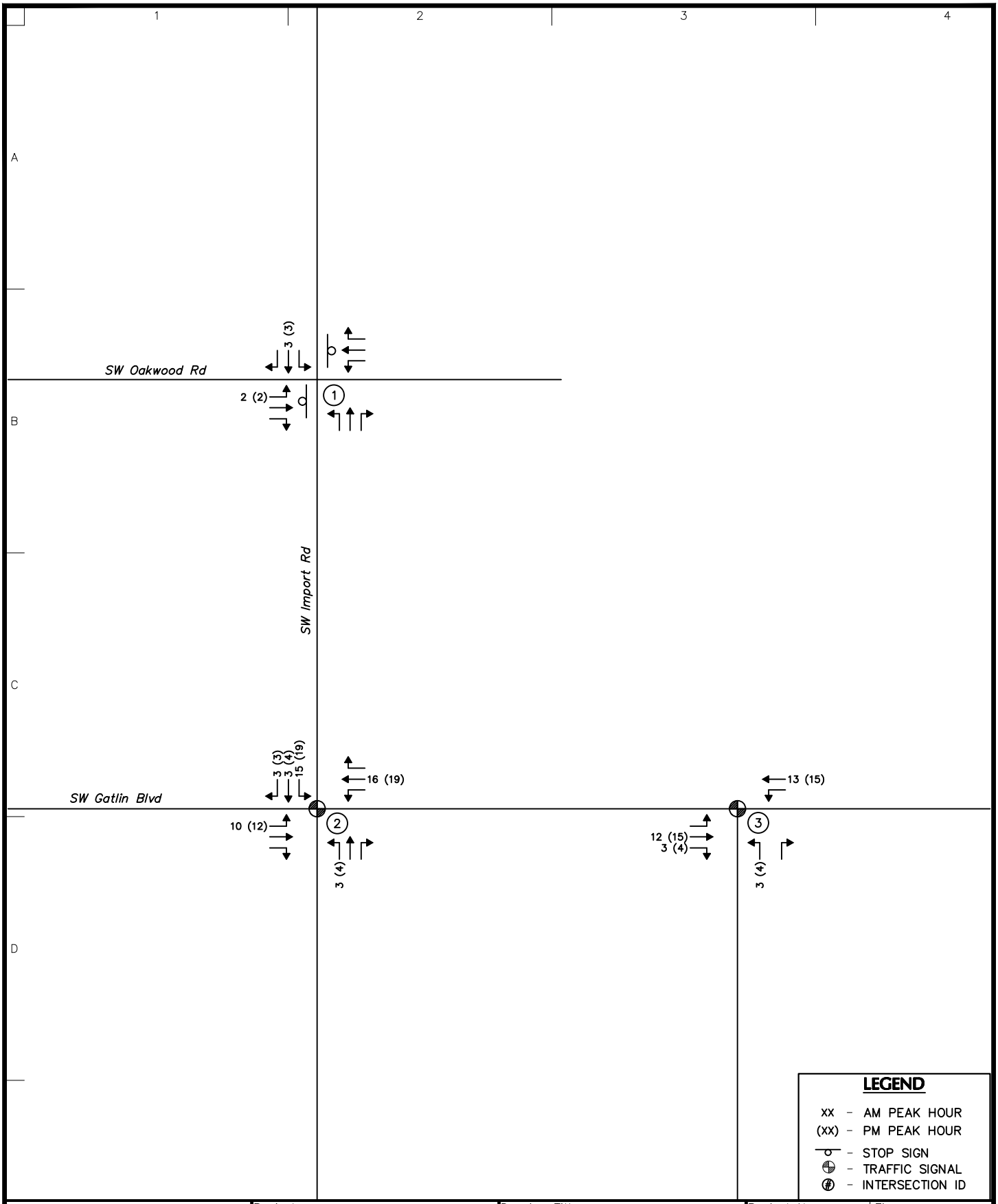
Project
MURPHY OIL - SW GATLIN BLVD
PORT ST. LUCIE
ST. LUCIE FLORIDA

Drawing Title
SITE TRIP DISTRIBUTION

Project No. 341021701
Date OCTOBER 2024
Drawn By LTA
Checked By JCG

Figure 5



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Project
MURPHY OIL - SW GATLIN BLVD
PORT ST. LUCIE
ST. LUCIE FLORIDA

Drawing Title
SITE TRIPS

Project No. 341021701
Date OCTOBER 2024
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Figure 6

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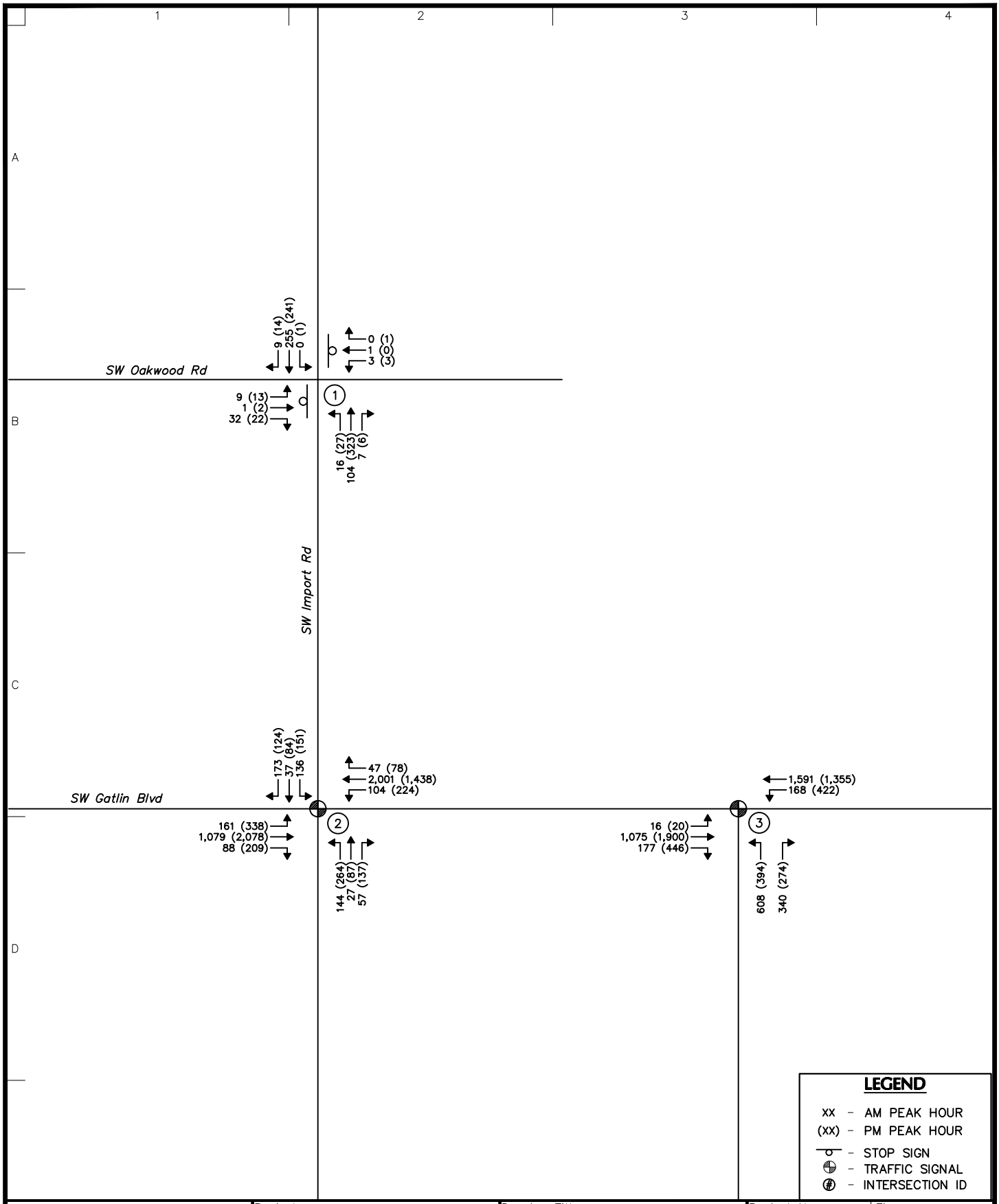

LEGEND

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- STOP SIGN
- TRAFFIC SIGNAL
- INTERSECTION ID

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Project
MURPHY OIL - SW GATLIN BLVD
PORT ST. LUCIE
ST. LUCIE FLORIDA

Drawing Title
2027 BUILD VOLUMES

Project No. 341021701
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Figure 7

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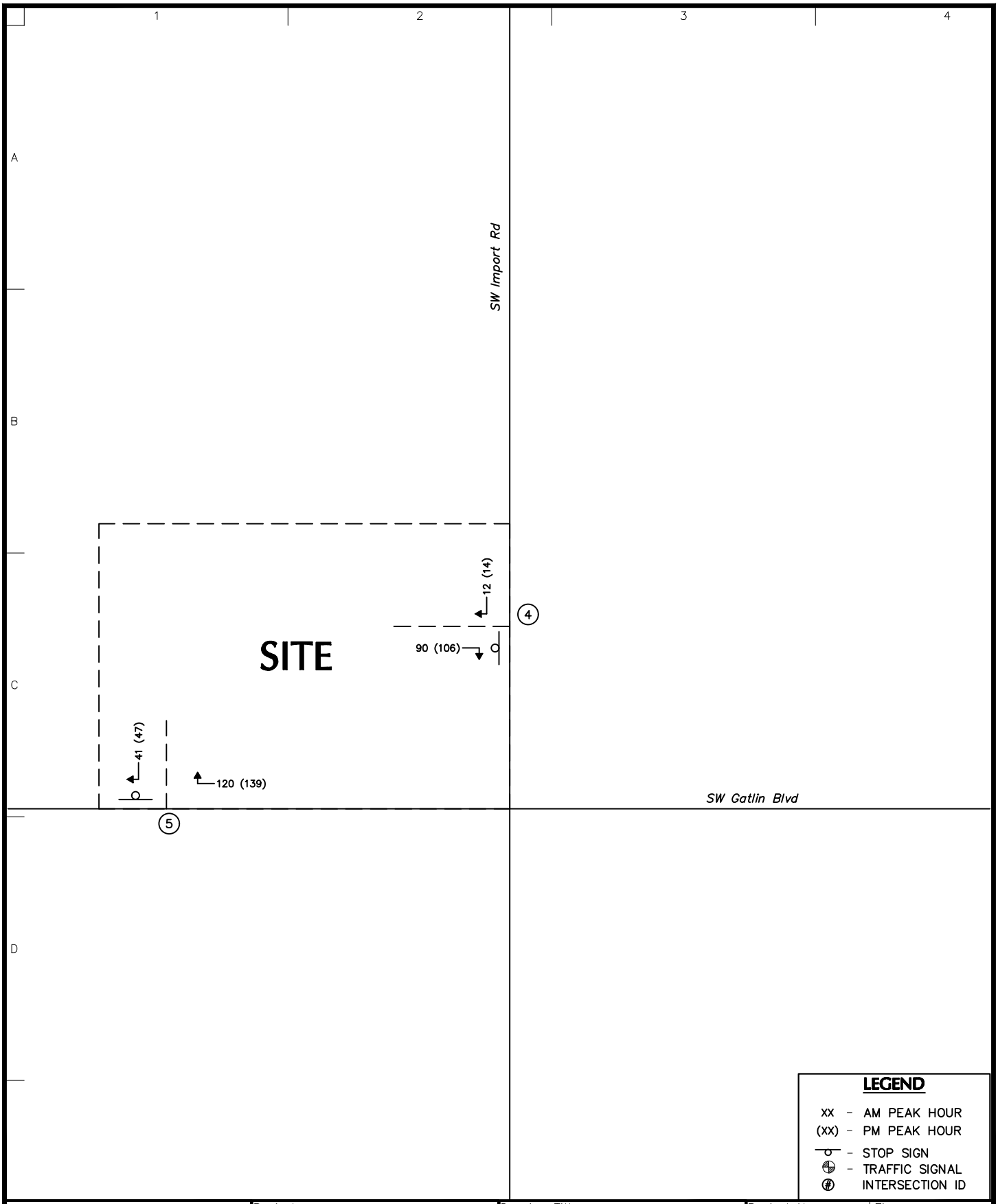

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- – STOP SIGN
- – TRAFFIC SIGNAL
- – INTERSECTION ID

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Project
MURPHY OIL - SW GATLIN BLVD
PORT ST. LUCIE
ST. LUCIE FLORIDA

Drawing Title
DRIVEWAY VOLUMES

Project No. 341021701
Date OCTOBER 2024
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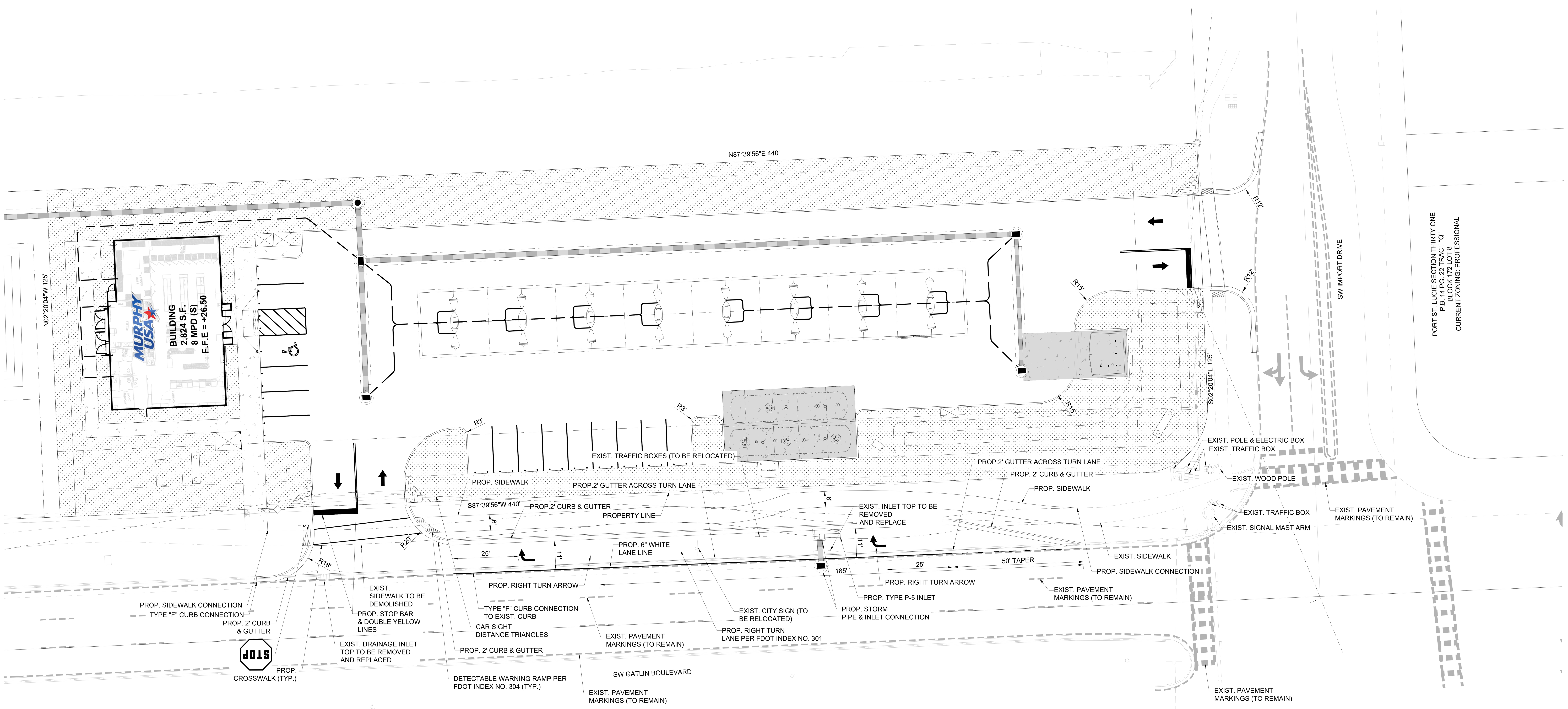
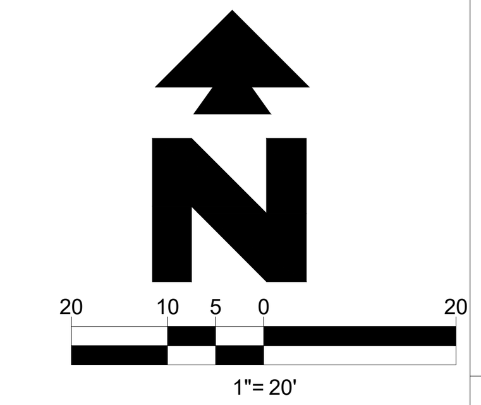
Checked By JCG

Figure 8

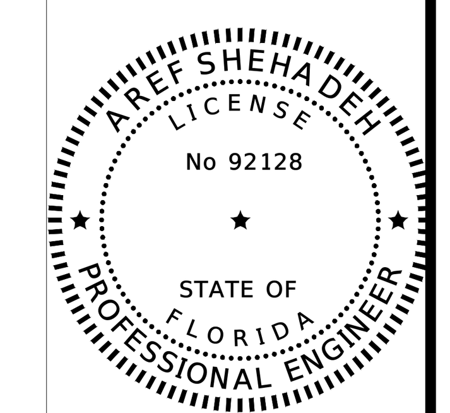
Project No. 341021701

APPENDIX B
SITE PLAN





811
Know what's **below.**
Call before you dig.



DATE: 12\18\24
AREF SHEHADEH, P.E.
FLORIDA REGISTRATION NO. - 92128

SHEET NO.
C-SPM-1

REV-1	12/18/2024				
	DATE	PRN	PM	DES	DRW

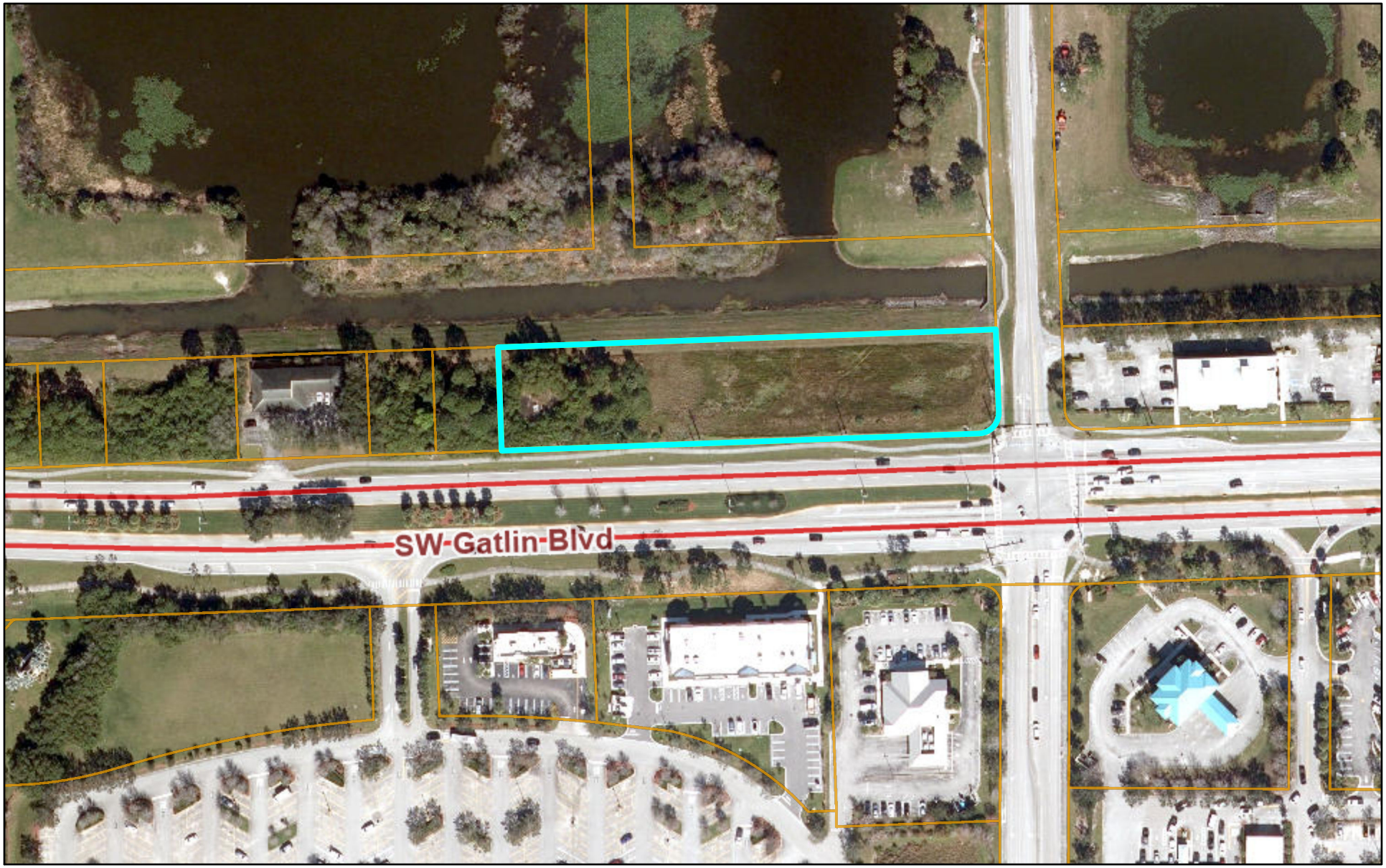
CONCEPTUAL SIGNAGE AND PAVEMENT MARKINGS PLAN
MURPHY USA
1837 SW GATLIN BLVD
PORT ST. LUCIE FLORIDA

HSQ GROUP
Engineers · Planners · Surveyors
7975 NW 154th Street, Suite 360
Miami Lakes, Florida 33016 · 786.534.7361
C26258 · LB7924
Contact: Aref Shehadeh, P.E.

MURPHY OIL USA, INC.
MURPHY USA
200 PEACH STREET
EL DORADO, AR 71730

City Project #: P24-165
PSLUSD Project #: 11-651-00

Saint Lucie County Property Appraiser



10/18/2024

1:2,257

0 90 180 360 ft

0 25 50 100 m

Property Identification

Site Address: 1837 SW GATLIN BLVD
Sec/Town/Range: 11/37S/39E
Parcel ID: 3420-650-0936-000-6
Jurisdiction: Port Saint Lucie

Use Type: 1000
Account #: 84272
Map ID: 43/11S
Zoning:

Ownership

PS LUCIE SR CGP LLC
361 Summit BLVD Ste 110
Birmingham, AL 35243-3168

Legal Description

PORT ST LUCIE-SECTION 31- BLK 1702 LOTS 9 AND 10 AND TRACT P (MAP 43/11S) (1.74 AC- 75,625 SF)

Current Values

Just/Market Value:	$1,091,500
Assessed Value:	$1,091,500
Exemptions:	$0
Taxable Value:	$1,091,500

Property taxes are subject to change upon change of ownership.

- **Past taxes are not a reliable projection of future taxes.**
- **The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.**

Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	1.73
Land Size (SF):	75,490

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

APPENDIX C
TRAFFIC, SIGNAL TIMING DATA, CENSUS DATA & FDOT TABLES

National Data & Surveying Services

Intersection Turning Movement Count

Location: SW Import Dr & SW Oakwood Rd/SW Beverly St
City: Port St. Lucie
Control: 2-Way Stop(EB/WB)

Project ID: 24-140304-001
Date: 10/16/2024

Data - Total

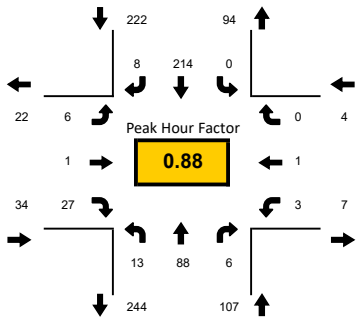
NS/EW Streets:	SW Import Dr				SW Import Dr				SW Oakwood Rd/SW Beverly St				SW Oakwood Rd/SW Beverly St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	15	0	0	0	40	0	0	1	0	4	0	1	0	0	0	62
7:15 AM	2	15	0	0	0	44	2	0	0	0	6	0	1	0	0	0	70
7:30 AM	2	17	0	0	0	73	2	0	1	1	8	0	0	0	0	0	104
7:45 AM	2	29	1	1	0	48	1	0	1	0	6	0	2	0	0	0	91
8:00 AM	5	20	2	0	0	51	2	0	2	0	9	0	0	1	0	0	92
8:15 AM	3	22	3	0	0	42	3	0	2	0	4	0	1	0	0	0	80
8:30 AM	1	22	0	0	0	50	1	0	1	0	3	0	0	0	0	0	78
8:45 AM	6	23	2	0	1	54	1	0	1	1	14	0	2	0	0	0	105
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	22	163	8	1	1	402	12	0	9	2	54	0	7	1	0	0	682
APPROACH %'s :	11.34%	84.02%	4.12%	0.52%	0.24%	96.87%	2.89%	0.00%	13.85%	3.08%	83.08%	0.00%	87.50%	12.50%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	12	88	6	1	0	214	8	0	6	1	27	0	3	1	0	0	367
PEAK HR FACTOR :	0.600	0.759	0.500	0.250	0.000	0.733	0.667	0.000	0.750	0.250	0.750	0.000	0.375	0.250	0.000	0.000	0.882
	0.811				0.740				0.773				0.500				

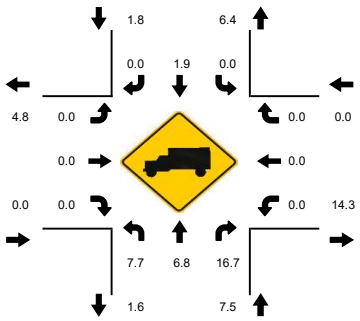
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	55	1	0	1	52	5	1	0	1	3	0	1	0	0	0	121
4:15 PM	6	59	1	0	0	41	0	0	1	0	3	0	0	0	0	0	111
4:30 PM	4	81	0	0	1	57	2	0	0	0	5	0	0	0	0	0	150
4:45 PM	8	77	4	0	0	54	1	0	5	0	2	0	1	0	1	0	153
5:00 PM	4	64	1	0	0	50	7	0	1	0	4	0	0	0	0	0	131
5:15 PM	7	53	0	0	0	42	2	0	3	2	8	0	2	0	0	0	119
5:30 PM	4	73	3	0	0	41	3	0	3	1	3	0	0	0	0	0	131
5:45 PM	2	66	0	0	0	43	1	0	3	1	1	0	0	1	0	0	118
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	36	528	10	0	2	380	21	1	16	5	29	0	4	1	1	0	1034
APPROACH %'s :	6.27%	91.99%	1.74%	0.00%	0.50%	94.06%	5.20%	0.25%	32.00%	10.00%	58.00%	0.00%	66.67%	16.67%	16.67%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	23	275	5	0	1	203	12	0	9	2	19	0	3	0	1	0	553
PEAK HR FACTOR :	0.719	0.849	0.313	0.000	0.250	0.890	0.429	0.000	0.450	0.250	0.594	0.000	0.375	0.000	0.250	0.000	0.904
	0.851				0.900				0.577				0.500				

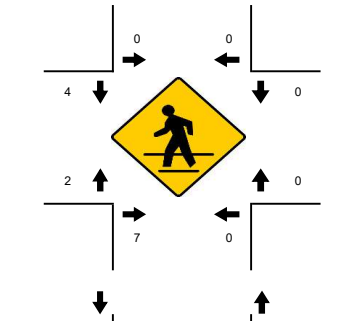
LOCATION: SW Import Dr & SW Oakwood Rd/SW Beverly St
CITY/STATE: Port St. Lucie, FL

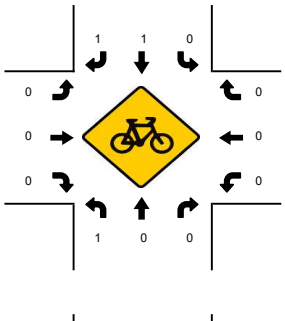
PROJECT ID: 24-140304-001
DATE: Wed, Oct 16, 2024

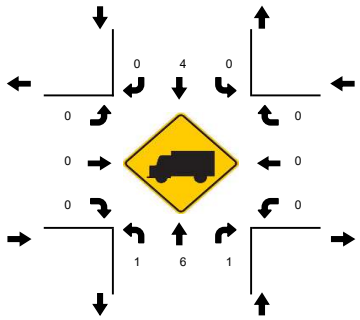
Peak-Hour: 07:30 AM - 08:30 AM
Peak 15-Minute: 07:30 AM - 07:45 AM

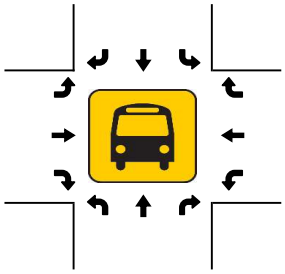


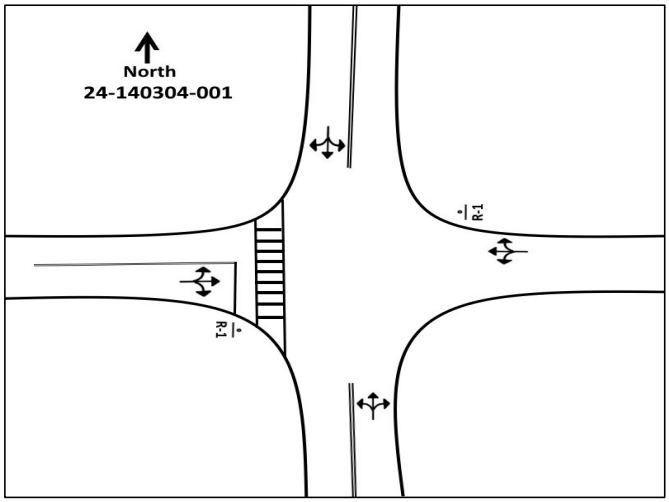










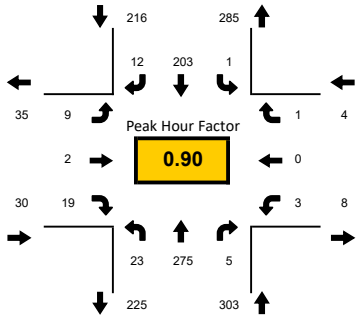


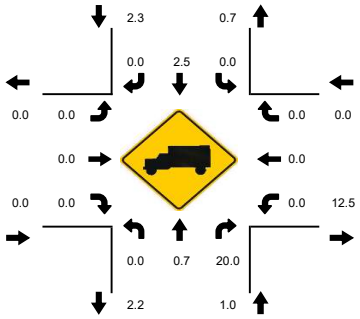
15-Min Count Period Beginning At	SW Import Dr Northbound					SW Import Dr Southbound					SW Oakwood Rd/SW Beverly St Eastbound					SW Oakwood Rd/SW Beverly St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	1	15	0	0		0	40	0	0		1	0	4	0		1	0	0	0		62	327
7:15 AM	2	15	0	0		0	44	2	0		0	0	6	0		1	0	0	0		70	357
7:30 AM	2	17	0	0		0	73	2	0		1	1	8	0		0	0	0	0		104	367
7:45 AM	2	29	1	1		0	48	1	0		1	0	6	0		2	0	0	0		91	341
8:00 AM	5	20	2	0		0	51	2	0		2	0	9	0		0	1	0	0		92	355
8:15 AM	3	22	3	0		0	42	3	0		2	0	4	0		1	0	0	0		80	263
8:30 AM	1	22	0	0		0	50	1	0		1	0	3	0		0	0	0	0		78	183
8:45 AM	6	23	2	0		1	54	1	0		1	1	14	0		2	0	0	0		105	105
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	20	116	12	4		0	292	12	0		8	4	36	0		8	4	0	0		**516**	
Heavy Trucks	4	12	4	0		0	8	0	0		0	0	0	0		0	0	0	0		**28**	
Pedestrians		28					0					8					0				**36**	
Bicycles	4	0	0	0		0	4	4	0		0	0	0	0		0	0	0	0		**12**	
Buses																						
Stopped Buses																						

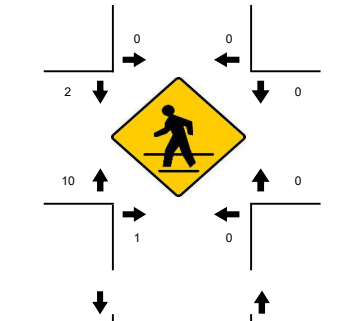
LOCATION: SW Import Dr & SW Oakwood Rd/SW Beverly St
CITY/STATE: Port St. Lucie, FL

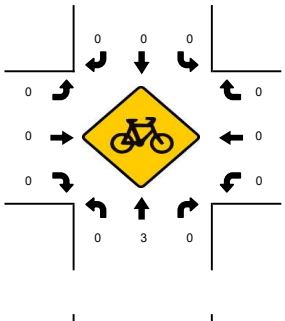
PROJECT ID: 24-140304-001
DATE: Wed, Oct 16, 2024

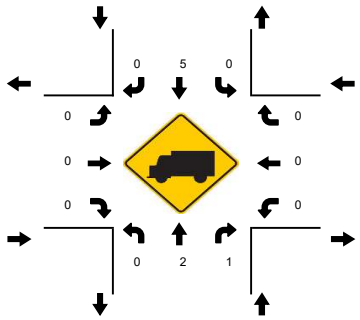
Peak-Hour: 04:30 PM - 05:30 PM
Peak 15-Minute: 04:45 PM - 05:00 PM

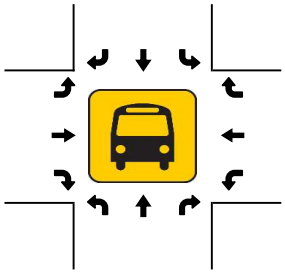


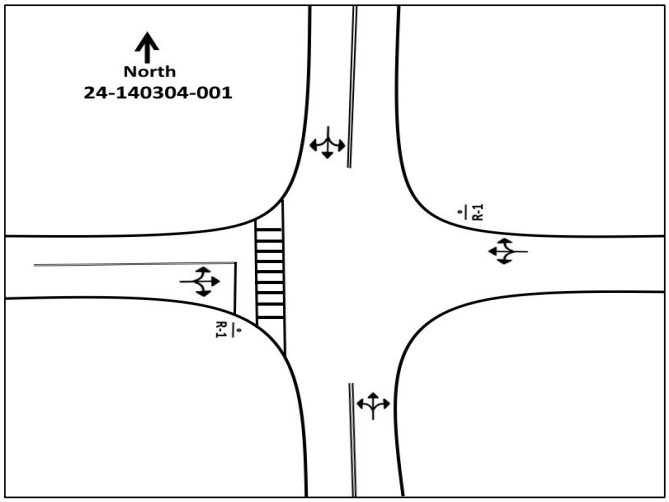












15-Min Count Period Beginning At	SW Import Dr Northbound					SW Import Dr Southbound					SW Oakwood Rd/SW Beverly St Eastbound					SW Oakwood Rd/SW Beverly St Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	1	55	1	0		1	52	5	1		0	1	3	0		1	0	0	0		121	535
4:15 PM	6	59	1	0		0	41	0	0		1	0	3	0		0	0	0	0		111	545
4:30 PM	4	81	0	0		1	57	2	0		0	0	5	0		0	0	0	0		150	553
4:45 PM	8	77	4	0		0	54	1	0		5	0	2	0		1	0	1	0		153	534
5:00 PM	4	64	1	0		0	50	7	0		1	0	4	0		0	0	0	0		131	499
5:15 PM	7	53	0	0		0	42	2	0		3	2	8	0		2	0	0	0		119	368
5:30 PM	4	73	3	0		0	41	3	0		3	1	3	0		0	0	0	0		131	249
5:45 PM	2	66	0	0		0	43	1	0		3	1	1	0		0	1	0	0		118	118
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	32	324	16	0		4	228	28	0		20	8	32	0		8	0	4	0		**704**	
Heavy Trucks	0	8	4	0		0	8	0	0		0	0	0	0		0	0	0	0		**20**	
Pedestrians		4					0					32					0				**36**	
Bicycles	0	8	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**8**	
Buses																						
Stopped Buses																						

National Data & Surveying Services

Intersection Turning Movement Count

Location: SW Import Dr & SW Gatlin Blvd
City: Port St. Lucie
Control: Signalized

Project ID: 24-140304-002
Date: 10/16/2024

Data - Total

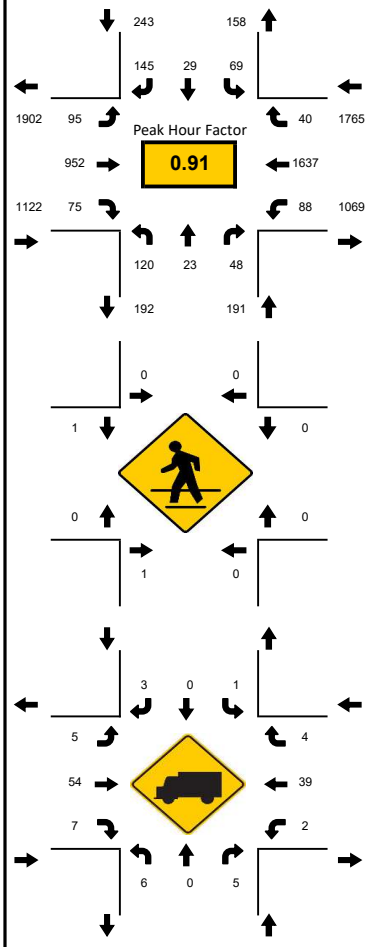
NS/EW Streets:	SW Import Dr				SW Import Dr				SW Gatlin Blvd				SW Gatlin Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	43	3	10	0	13	2	31	0	8	180	12	6	17	388	6	2	721
7:15 AM	43	3	16	0	13	2	38	0	9	200	17	13	13	365	5	4	741
7:30 AM	27	2	12	0	18	6	49	0	9	242	15	10	15	491	11	2	909
7:45 AM	34	8	8	0	14	10	41	0	16	254	27	15	20	400	11	3	861
8:00 AM	22	6	18	0	22	7	26	0	17	242	17	7	16	371	6	1	778
8:15 AM	37	7	10	0	15	6	29	0	12	214	16	9	27	375	12	4	773
8:30 AM	60	6	11	0	19	6	27	0	10	255	27	7	21	340	6	8	803
8:45 AM	36	9	6	0	19	11	31	0	10	209	20	19	33	371	12	11	797
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	302	44	91	0	133	50	272	0	91	1796	151	86	162	3101	69	35	6383
APPROACH %'s :	69.11%	10.07%	20.82%	0.00%	29.23%	10.99%	59.78%	0.00%	4.28%	84.56%	7.11%	4.05%	4.81%	92.10%	2.05%	1.04%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	120	23	48	0	69	29	145	0	54	952	75	41	78	1637	40	10	3321
PEAK HR FACTOR :	0.811	0.719	0.667	0.000	0.784	0.725	0.740	0.000	0.794	0.937	0.694	0.683	0.722	0.834	0.833	0.625	0.913
	0.884				0.832				0.899				0.850				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	54	14	25	0	24	25	32	0	28	417	49	17	43	302	13	6	1049
4:15 PM	59	14	29	0	15	12	17	0	28	400	52	37	42	284	24	5	1018
4:30 PM	48	25	25	0	14	14	18	0	44	489	43	20	39	276	14	6	1075
4:45 PM	60	21	37	0	20	17	36	0	46	500	34	18	45	286	15	4	1139
5:00 PM	59	14	27	0	20	11	21	0	40	394	34	24	42	288	17	8	999
5:15 PM	50	14	18	0	15	21	20	0	32	464	40	14	33	282	12	8	1023
5:30 PM	46	21	22	0	19	7	17	0	51	491	47	16	39	287	11	3	1077
5:45 PM	55	21	18	0	14	13	22	0	29	417	45	22	34	278	15	7	990
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	431	144	201	0	141	120	183	0	298	3572	344	168	317	2283	121	47	8370
APPROACH %'s :	55.54%	18.56%	25.90%	0.00%	31.76%	27.03%	41.22%	0.00%	6.80%	81.52%	7.85%	3.83%	11.45%	82.48%	4.37%	1.70%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	221	74	116	0	73	68	103	0	146	1806	178	92	169	1148	66	21	4281
PEAK HR FACTOR :	0.921	0.740	0.784	0.000	0.760	0.680	0.715	0.000	0.793	0.903	0.856	0.622	0.939	0.950	0.688	0.875	0.940
	0.871				0.753				0.929				0.964				

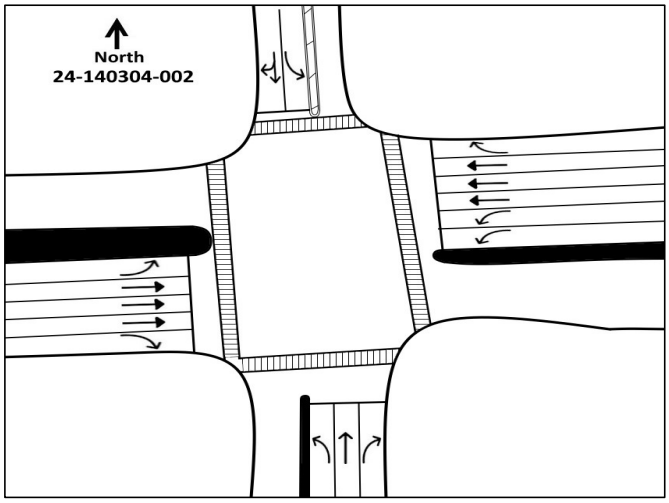
LOCATION: SW Import Dr & SW Gatlin Blvd
CITY/STATE: Port St. Lucie, FL

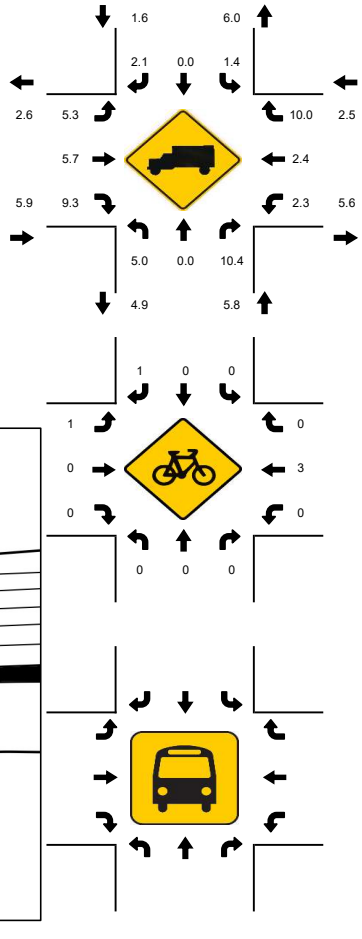
PROJECT ID: 24-140304-002
DATE: Wed, Oct 16, 2024

Peak-Hour: 07:30 AM - 08:30 AM
Peak 15-Minute: 07:30 AM - 07:45 AM



National Data & Surveying Services



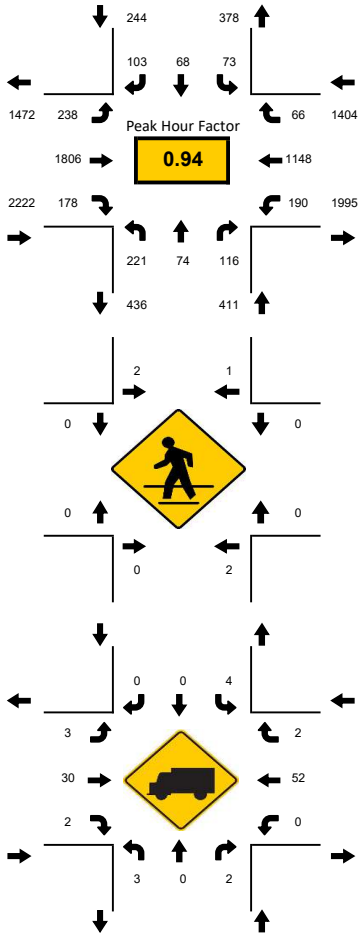


15-Min Count Period Beginning At	SW Import Dr Northbound					SW Import Dr Southbound					SW Gatlin Blvd Eastbound					SW Gatlin Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	43	3	10	0		13	2	31	0		8	180	12	6		17	388	6	2		721	3232
7:15 AM	43	3	16	0		13	2	38	0		9	200	17	13		13	365	5	4		741	3289
7:30 AM	27	2	12	0		18	6	49	0		9	242	15	10		15	491	11	2		909	3321
7:45 AM	34	8	8	0		14	10	41	0		16	254	27	15		20	400	11	3		861	3215
8:00 AM	22	6	18	0		22	7	26	0		17	242	17	7		16	371	6	1		778	3151
8:15 AM	37	7	10	0		15	6	29	0		12	214	16	9		27	375	12	4		773	2373
8:30 AM	60	6	11	0		19	6	27	0		10	255	27	7		21	340	6	8		803	1600
8:45 AM	36	9	6	0		19	11	31	0		10	209	20	19		33	371	12	11		797	797
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	148	32	72	0		88	40	196	0		68	1016	108	60		108	1964	48	16		**3964**	
Heavy Trucks	8	0	16	0		4	0	8	0		8	72	12	8		4	48	12	0		**192**	
Pedestrians		4					0					4					0				**8**	
Bicycles	0	0	0	0		0	0	4	0		4	0	0	0		0	4	0	0		**12**	
Buses																						
Stopped Buses																						

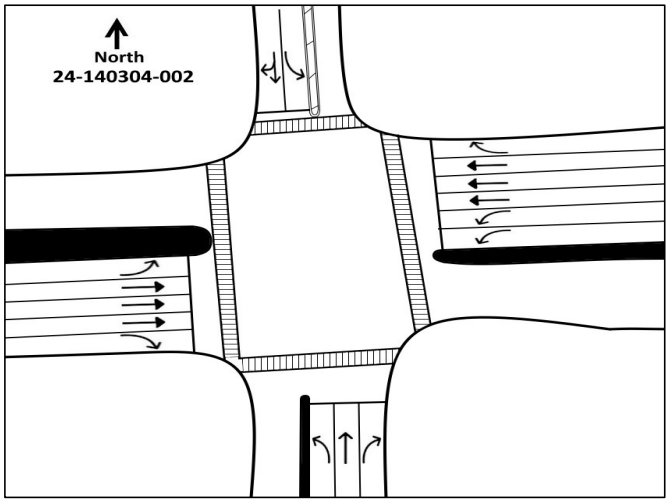
LOCATION: SW Import Dr & SW Gatlin Blvd
CITY/STATE: Port St. Lucie, FL

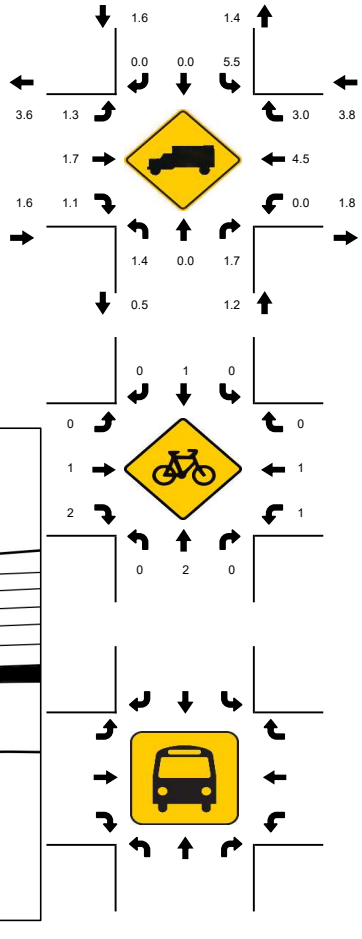
PROJECT ID: 24-140304-002
DATE: Wed, Oct 16, 2024

Peak-Hour: 04:00 PM - 05:00 PM
Peak 15-Minute: 04:45 PM - 05:00 PM



National Data & Surveying Services





15-Min Count Period Beginning At	SW Import Dr Northbound					SW Import Dr Southbound					SW Gatlin Blvd Eastbound					SW Gatlin Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	54	14	25	0		24	25	32	0		28	417	49	17		43	302	13	6		1049	4281
4:15 PM	59	14	29	0		15	12	17	0		28	400	52	37		42	284	24	5		1018	4231
4:30 PM	48	25	25	0		14	14	18	0		44	489	43	20		39	276	14	6		1075	4236
4:45 PM	60	21	37	0		20	17	36	0		46	500	34	18		45	286	15	4		1139	4238
5:00 PM	59	14	27	0		20	11	21	0		40	394	34	24		42	288	17	8		999	4089
5:15 PM	50	14	18	0		15	21	20	0		32	464	40	14		33	282	12	8		1023	3090
5:30 PM	46	21	22	0		19	7	17	0		51	491	47	16		39	287	11	3		1077	2067
5:45 PM	55	21	18	0		14	13	22	0		29	417	45	22		34	278	15	7		990	990
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	240	100	148	0		96	100	144	0		184	2000	208	148		180	1208	96	24		**4876**	
Heavy Trucks	8	0	4	0		4	0	0	0		8	36	4	4		0	64	4	0		**132**	
Pedestrians		4					8					0					0				**12**	
Bicycles	0	8	0	0		0	4	0	0		0	4	4	0		4	4	0	0		**28**	
Buses																						
Stopped Buses																						

National Data & Surveying Services

Intersection Turning Movement Count

Location: SW Rosser Blvd & SW Gatlin Blvd
City: Port St. Lucie
Control: Signalized

Project ID: 24-140304-003
Date: 10/16/2024

Data - Total

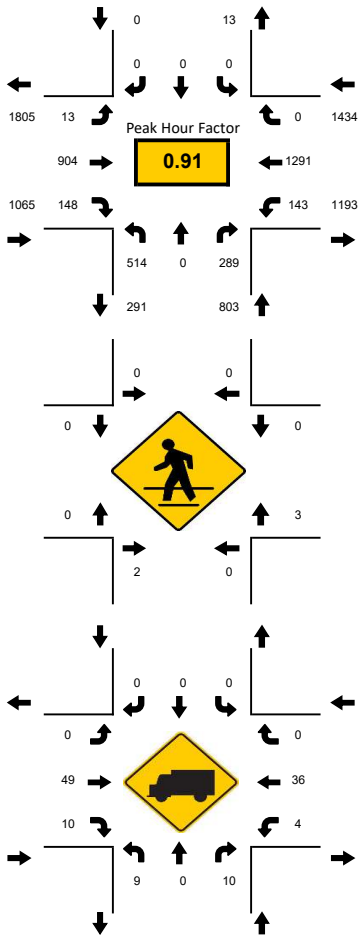
NS/EW Streets:	SW Rosser Blvd				SW Rosser Blvd				SW Gatlin Blvd				SW Gatlin Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	123	0	55	3	0	0	0	0	0	168	31	3	14	291	0	1	689
7:15 AM	121	0	68	2	0	0	0	0	0	184	27	2	41	302	0	0	747
7:30 AM	136	0	81	0	0	0	0	0	0	242	36	1	37	370	0	0	903
7:45 AM	126	0	82	3	0	0	0	0	0	207	51	3	39	356	0	0	867
8:00 AM	120	0	55	0	0	0	0	0	0	256	29	2	34	281	0	4	781
8:15 AM	128	0	71	1	0	0	0	0	0	199	32	7	28	284	0	1	751
8:30 AM	100	0	64	1	0	0	0	0	0	212	55	4	68	298	0	4	806
8:45 AM	86	0	62	1	0	0	0	0	0	182	49	6	48	327	0	1	762
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	940	0	538	11	0	0	0	0	0	1650	310	28	309	2509	0	11	6306
APPROACH %'s :	63.13%	0.00%	36.13%	0.74%					0.00%	83.00%	15.59%	1.41%	10.92%	88.69%	0.00%	0.39%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	510	0	289	4	0	0	0	0	0	904	148	13	138	1291	0	5	3302
PEAK HR FACTOR :	0.938	0.000	0.881	0.333	0.000	0.000	0.000	0.000	0.000	0.883	0.725	0.464	0.885	0.872	0.000	0.313	0.914
	0.925								0.928				0.881				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	79	0	58	4	0	0	0	0	0	366	87	7	59	278	0	2	940
4:15 PM	64	0	64	2	0	0	0	0	0	345	92	5	76	289	0	3	940
4:30 PM	77	0	65	2	0	0	0	0	0	418	94	7	64	269	0	6	1002
4:45 PM	77	0	51	1	0	0	0	0	0	436	98	2	101	281	0	4	1051
5:00 PM	84	0	57	4	0	0	0	0	0	352	82	5	75	280	0	3	942
5:15 PM	81	0	59	1	0	0	0	0	0	390	101	5	86	252	0	1	976
5:30 PM	80	0	66	3	0	0	0	0	0	425	95	5	87	267	0	2	1030
5:45 PM	70	0	64	1	0	0	0	0	0	364	76	4	83	273	0	4	939
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	612	0	484	18	0	0	0	0	0	3096	725	40	631	2189	0	25	7820
APPROACH %'s :	54.94%	0.00%	43.45%	1.62%					0.00%	80.19%	18.78%	1.04%	22.18%	76.94%	0.00%	0.88%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	322	0	233	9	0	0	0	0	0	1603	376	17	349	1080	0	10	3999
PEAK HR FACTOR :	0.958	0.000	0.883	0.563	0.000	0.000	0.000	0.000	0.000	0.919	0.931	0.850	0.864	0.961	0.000	0.625	0.951
	0.946								0.931				0.932				

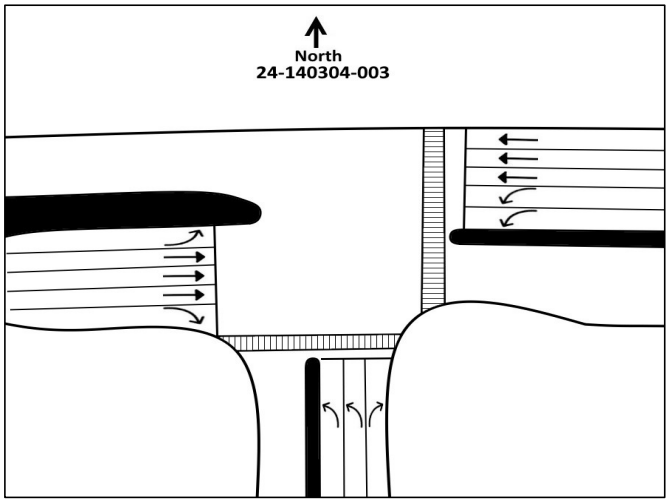
LOCATION: SW Rosser Blvd & SW Gatlin Blvd
CITY/STATE: Port St. Lucie, FL

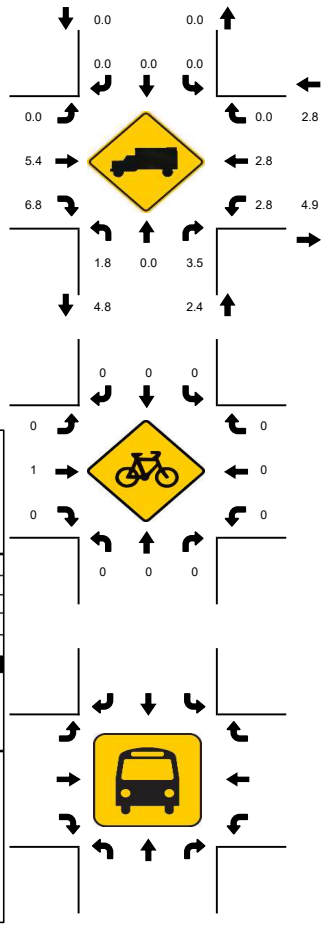
PROJECT ID: 24-140304-003
DATE: Wed, Oct 16, 2024

Peak-Hour: 07:30 AM - 08:30 AM
Peak 15-Minute: 07:30 AM - 07:45 AM



National Data & Surveying Services



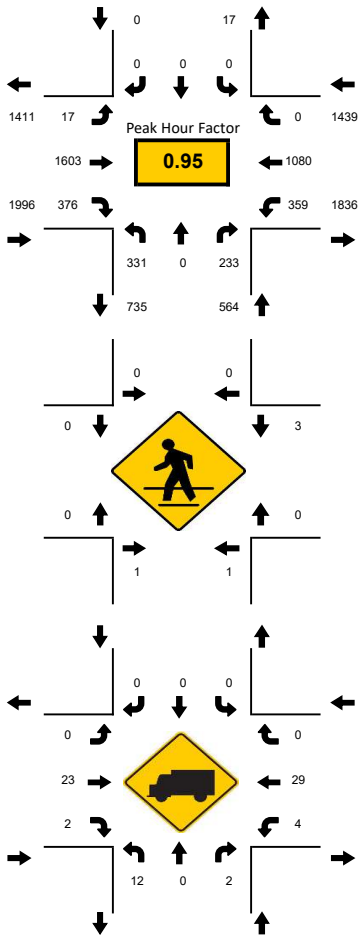


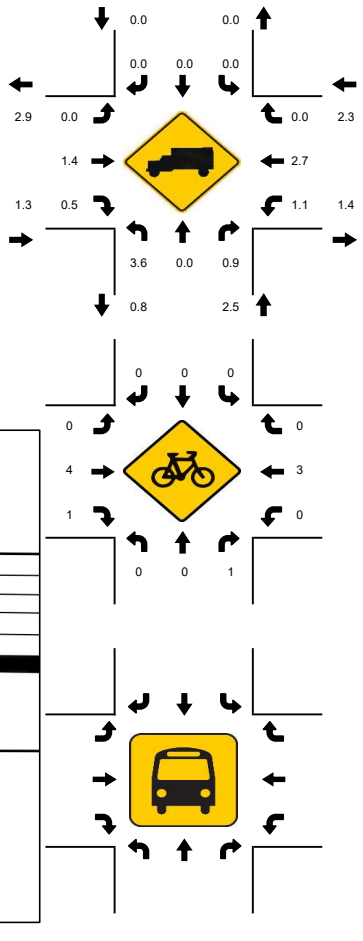
15-Min Count Period Beginning At	SW Rosser Blvd Northbound					SW Rosser Blvd Southbound					SW Gatlin Blvd Eastbound					SW Gatlin Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	123	0	55	3		0	0	0	0		0	168	31	3		14	291	0	1		689	3206
7:15 AM	121	0	68	2		0	0	0	0		0	184	27	2		41	302	0	0		747	3298
7:30 AM	136	0	81	0		0	0	0	0		0	242	36	1		37	370	0	0		903	3302
7:45 AM	126	0	82	3		0	0	0	0		0	207	51	3		39	356	0	0		867	3205
8:00 AM	120	0	55	0		0	0	0	0		0	256	29	2		34	281	0	4		781	3100
8:15 AM	128	0	71	1		0	0	0	0		0	199	32	7		28	284	0	1		751	2319
8:30 AM	100	0	64	1		0	0	0	0		0	212	55	4		68	298	0	4		806	1568
8:45 AM	86	0	62	1		0	0	0	0		0	182	49	6		48	327	0	1		762	762
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	544	0	328	12		0	0	0	0		0	1024	204	28		156	1480	0	16		**3792**	
Heavy Trucks	12	0	20	0		0	0	0	0		0	56	20	0		8	48	0	0		**164**	
Pedestrians		4					0					0					8				**12**	
Bicycles	0	0	0	0		0	0	0	0		0	4	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

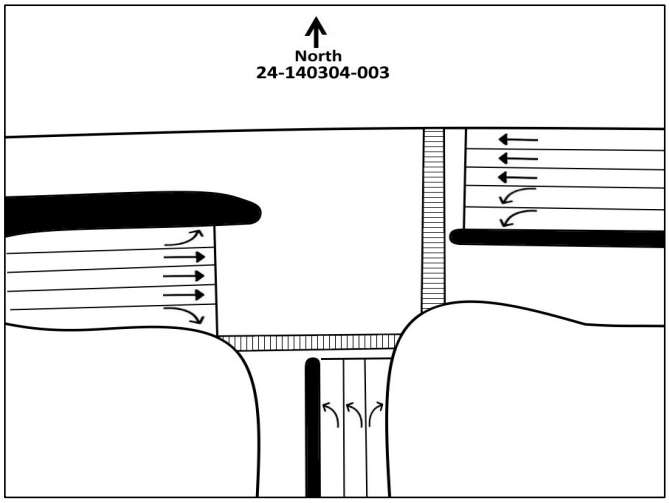
LOCATION: SW Rosser Blvd & SW Gatlin Blvd
CITY/STATE: Port St. Lucie, FL

PROJECT ID: 24-140304-003
DATE: Wed, Oct 16, 2024

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 04:45 PM - 05:00 PM







15-Min Count Period Beginning At	SW Rosser Blvd Northbound					SW Rosser Blvd Southbound					SW Gatlin Blvd Eastbound					SW Gatlin Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	79	0	58	4		0	0	0	0		0	366	87	7		59	278	0	2		940	3933
4:15 PM	64	0	64	2		0	0	0	0		0	345	92	5		76	289	0	3		940	3935
4:30 PM	77	0	65	2		0	0	0	0		0	418	94	7		64	269	0	6		1002	3971
4:45 PM	77	0	51	1		0	0	0	0		0	436	98	2		101	281	0	4		1051	3999
5:00 PM	84	0	57	4		0	0	0	0		0	352	82	5		75	280	0	3		942	3887
5:15 PM	81	0	59	1		0	0	0	0		0	390	101	5		86	252	0	1		976	2945
5:30 PM	80	0	66	3		0	0	0	0		0	425	95	5		87	267	0	2		1030	1969
5:45 PM	70	0	64	1		0	0	0	0		0	364	76	4		83	273	0	4		939	939
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	336	0	264	16		0	0	0	0		0	1744	404	20		404	1124	0	16		**4328**	
Heavy Trucks	24	0	4	0		0	0	0	0		0	40	4	0		8	40	0	0		**120**	
Pedestrians		4					0					0					8				**12**	
Bicycles	0	0	4	0		0	0	0	0		0	8	4	0		0	8	0	0		**24**	
Buses																						
Stopped Buses																						

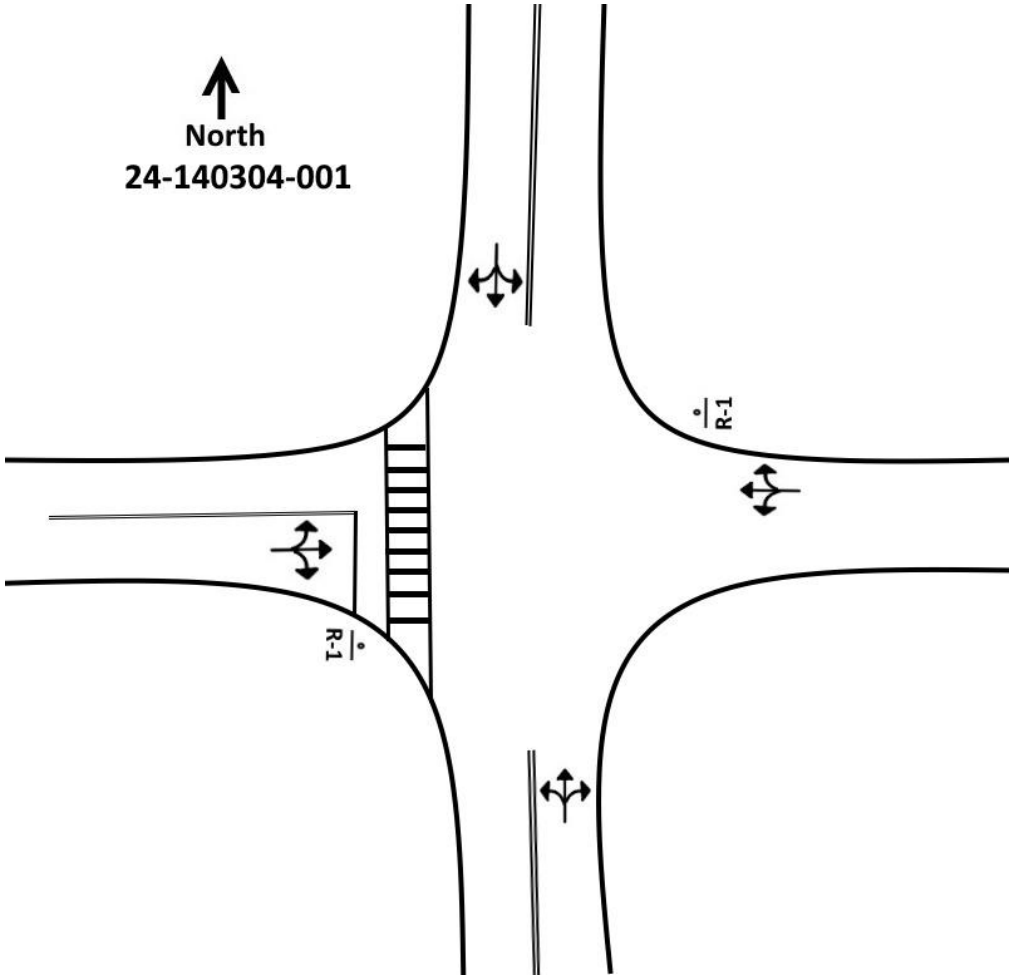
National Data & Surveying Services

Site Code:	**24-140304-001**
Date:	**10/16/2024**
Weather:	**Sunny**
City:	**Port St. Lucie**
County:	**St. Lucie**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**2-Way Stop(EB/WB)**

N

N/S Street: **SW Import Dr**

Speed: **30 MPH**



E/W Street: **SW Oakwood Rd/SW Beverly St**

Speed: **25 MPH**

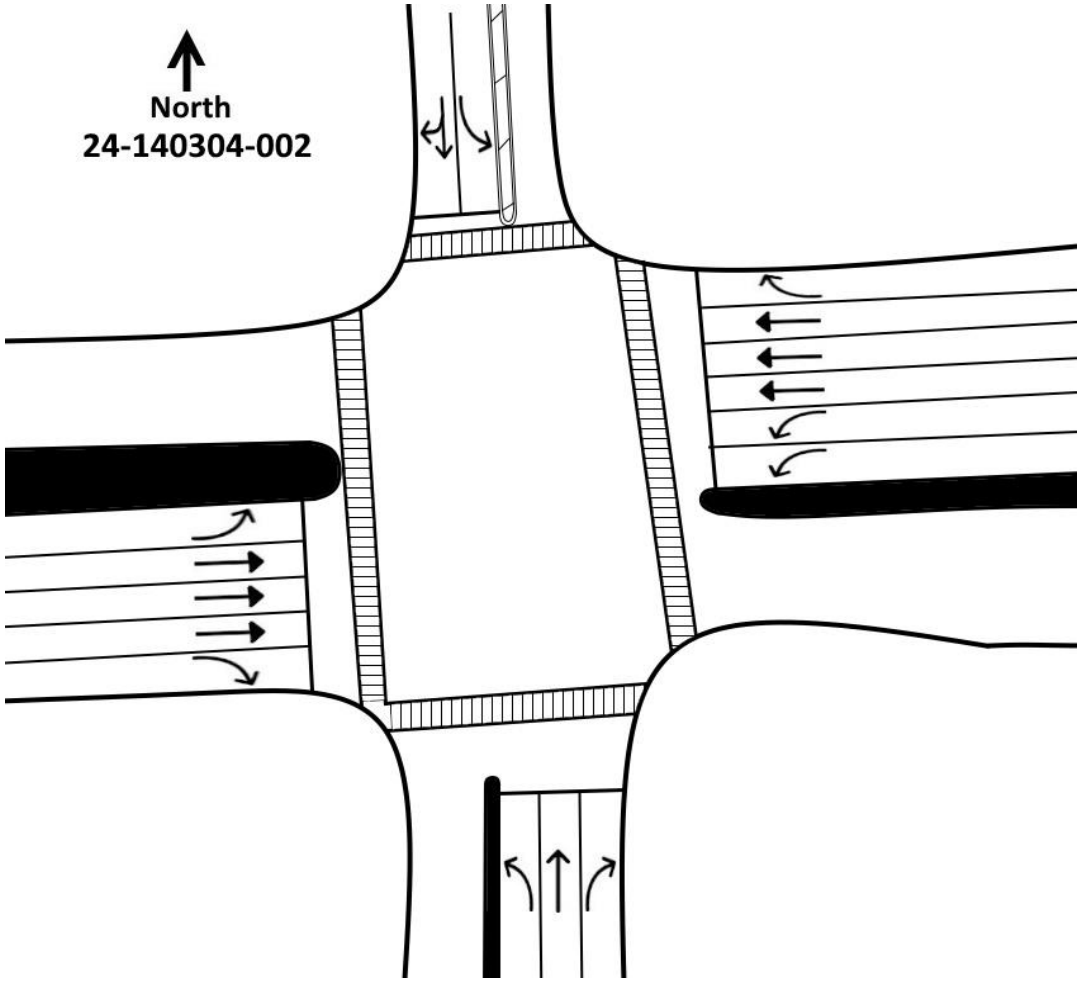
National Data & Surveying Services

Site Code:	**24-140304-002**
Date:	**10/16/2024**
Weather:	**Sunny**
City:	**Port St. Lucie**
County:	**St. Lucie**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**Signalized**

N

N/S Street: **SW Import Dr**

Speed: **30 MPH**



E/W Street: **SW Gatlin Blvd**

Speed: **45 MPH**

SIGNAL TIMING

	Cycle	Phase	BOG	EOY	Signal Timing
AM	1	NL/SL	8:06:10	8:06:29	0:00:19
		NT/ST	8:06:29	8:06:49	0:00:20
		EL/ET	8:06:49	8:07:13	0:00:24
		ET/WT	8:07:13	8:08:09	0:00:56
		WL/WT	8:08:09	8:08:30	0:00:21
	2	NL/SL	8:08:30	8:08:49	0:00:19
		NT/ST	8:08:49	8:09:21	0:00:32
		EL/ET	8:09:21	8:09:36	0:00:15
		ET/WT	8:09:36	8:10:41	0:01:05
		WL/WT	8:10:41	8:10:58	0:00:17
PM	1	NL/SL	16:39:43	16:39:57	0:00:14
		NL/NT	16:39:57	16:40:08	0:00:11
		NT/ST	16:40:08	16:40:37	0:00:29
		WL/WT	16:40:37	16:41:03	0:00:26
		ET/WT	16:41:03	16:41:46	0:00:43
		EL/ET	16:41:46	16:42:45	0:00:59
	2	NL/SL	16:42:45	16:43:03	0:00:18
		NL/NT	16:43:03	16:43:09	0:00:06
		NT/ST	16:43:09	16:43:38	0:00:29
		WL/WT	16:43:38	16:44:04	0:00:26
		ET/WT	16:44:04	16:44:59	0:00:55
		EL/ET	16:44:59	16:45:44	0:00:45

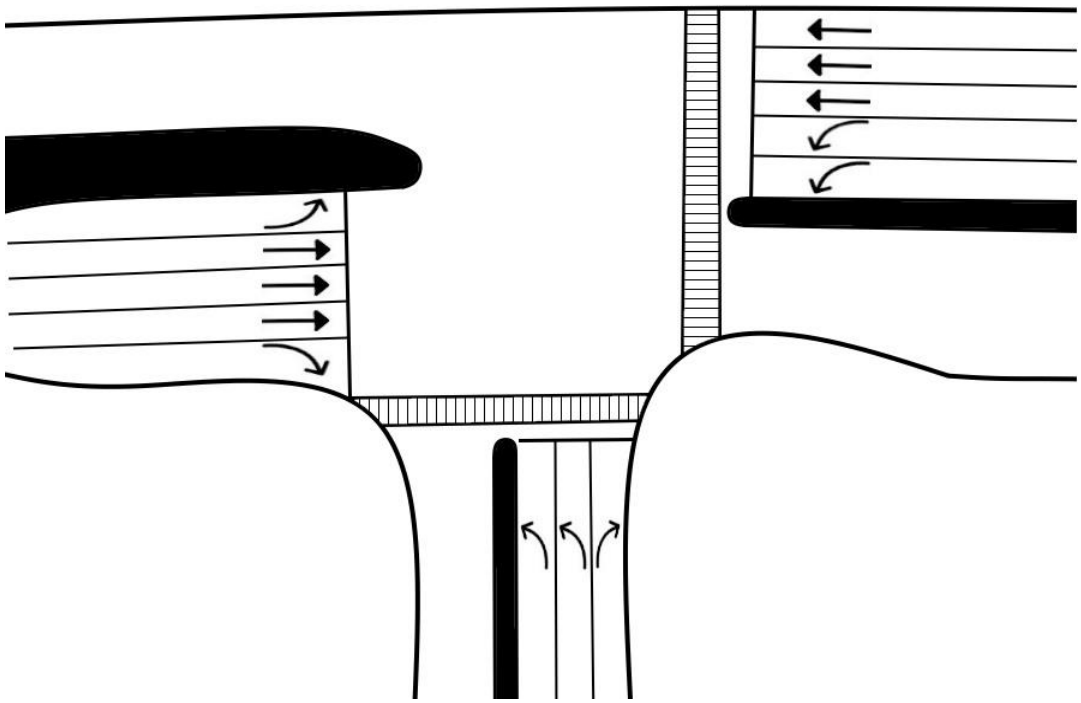
National Data & Surveying Services

N/S Street: **SW Rosser Blvd**	Speed: **40 MPH**

E/W Street: **SW Gatlin Blvd**

Speed: **45 MPH**

North
24-140304-003



Site Code:	**24-140304-003**
Date:	**10/16/2024**
Weather:	**Sunny**
City:	**Port St. Lucie**
County:	**St. Lucie**
Count Times:	**07:00 - 09:00**
	16:00 - 18:00
Control:	**Signalized**

SIGNAL TIMING

	Cycle	Phase	BOG	EOY	Signal Timing
AM	1	NL	8:15:18	8:16:11	0:00:53
		EL/WL	8:16:11	8:16:24	0:00:13
		ET/WT	8:16:24	8:17:41	0:01:17
	2	NL	8:17:41	8:18:26	0:00:45
		EL/WL	8:18:26	8:18:43	0:00:17
		ET/WT	8:18:43	8:20:01	0:01:18
PM	1	NL	16:51:55	16:52:30	0:00:35
		WL/WT	16:52:30	16:53:08	0:00:38
		ET/WT	16:53:08	16:54:55	0:01:47
	2	NL	16:54:55	16:55:27	0:00:32
		WL/WT	16:55:27	16:56:11	0:00:44
		ET/WT	16:56:11	16:57:55	0:01:44

2023 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL

CATEGORY: 9401 CEN.-W OF US1 TO I95

MOCF: 0.93

WEEK	DATES	SF	PSCF
1	01/01/2023 - 01/07/2023	1.00	1.08
2	01/08/2023 - 01/14/2023	0.98	1.05
* 3	01/15/2023 - 01/21/2023	0.95	1.02
* 4	01/22/2023 - 01/28/2023	0.94	1.01
* 5	01/29/2023 - 02/04/2023	0.93	1.00
* 6	02/05/2023 - 02/11/2023	0.92	0.99
* 7	02/12/2023 - 02/18/2023	0.91	0.98
* 8	02/19/2023 - 02/25/2023	0.91	0.98
* 9	02/26/2023 - 03/04/2023	0.92	0.99
*10	03/05/2023 - 03/11/2023	0.92	0.99
*11	03/12/2023 - 03/18/2023	0.92	0.99
*12	03/19/2023 - 03/25/2023	0.93	1.00
*13	03/26/2023 - 04/01/2023	0.94	1.01
*14	04/02/2023 - 04/08/2023	0.95	1.02
*15	04/09/2023 - 04/15/2023	0.96	1.03
16	04/16/2023 - 04/22/2023	0.97	1.04
17	04/23/2023 - 04/29/2023	0.98	1.05
18	04/30/2023 - 05/06/2023	0.98	1.05
19	05/07/2023 - 05/13/2023	0.99	1.06
20	05/14/2023 - 05/20/2023	1.00	1.08
21	05/21/2023 - 05/27/2023	1.01	1.09
22	05/28/2023 - 06/03/2023	1.02	1.10
23	06/04/2023 - 06/10/2023	1.03	1.11
24	06/11/2023 - 06/17/2023	1.04	1.12
25	06/18/2023 - 06/24/2023	1.05	1.13
26	06/25/2023 - 07/01/2023	1.06	1.14
27	07/02/2023 - 07/08/2023	1.06	1.14
28	07/09/2023 - 07/15/2023	1.07	1.15
29	07/16/2023 - 07/22/2023	1.07	1.15
30	07/23/2023 - 07/29/2023	1.07	1.15
31	07/30/2023 - 08/05/2023	1.06	1.14
32	08/06/2023 - 08/12/2023	1.06	1.14
33	08/13/2023 - 08/19/2023	1.06	1.14
34	08/20/2023 - 08/26/2023	1.06	1.14
35	08/27/2023 - 09/02/2023	1.07	1.15
36	09/03/2023 - 09/09/2023	1.07	1.15
37	09/10/2023 - 09/16/2023	1.07	1.15
38	09/17/2023 - 09/23/2023	1.06	1.14
39	09/24/2023 - 09/30/2023	1.06	1.14
40	10/01/2023 - 10/07/2023	1.05	1.13
41	10/08/2023 - 10/14/2023	1.05	1.13
42	10/15/2023 - 10/21/2023	1.04	1.12
43	10/22/2023 - 10/28/2023	1.04	1.12
44	10/29/2023 - 11/04/2023	1.03	1.11
45	11/05/2023 - 11/11/2023	1.03	1.11
46	11/12/2023 - 11/18/2023	1.02	1.10
47	11/19/2023 - 11/25/2023	1.02	1.10
48	11/26/2023 - 12/02/2023	1.01	1.09
49	12/03/2023 - 12/09/2023	1.01	1.09
50	12/10/2023 - 12/16/2023	1.00	1.08
51	12/17/2023 - 12/23/2023	0.98	1.05
52	12/24/2023 - 12/30/2023	0.97	1.04
53	12/31/2023 - 12/31/2023	0.95	1.02

* PEAK SEASON

GROWTH RATE CALCULATION
MURPHY OIL GAS STATION

Roadway	FDOT Site	10 Year Linear Trend	10 Year Exponential Trend	10 Year Decaying Trend
GATLIN BLVD -- E OF I-95 IN PORT ST LUCIE	5075	8.52%	6.54%	7.21%
SW ROSSER BLVD -- FROM PAAR DR TO DREYFUSS BLVD	8510	2.84%	1.18%	2.83%
ON SAVAGE BLVD -- N. OF GATLIN BLVD	7053	-6.54%	-9.13%	-7.84%
Average Annual Growth Rate		**1.61%**	**-0.47%**	**0.73%**

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2023 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 5075 - GATLIN BLVD - E OF I-95 IN PORT ST LUCIE (COUNTY 5075)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2023	53000 C	E 26500	W 26500	9.00	51.60	8.70
2022	47500 C	E 23000	W 24500	9.00	51.40	8.70
2021	46000 C	E 21000	W 25000	9.00	50.90	4.80
2020	48500 F	E 23000	W 25500	9.00	51.30	4.80
2019	50500 C	E 24000	W 26500	9.00	51.00	4.80
2018	38000 C	E 17500	W 20500	9.00	51.30	4.60
2017	34000 C	E 16000	W 18000	9.00	50.90	4.60
2016	36500 C	E 18000	W 18500	9.00	50.90	4.60
2015	28500 C	E 13000	W 15500	9.00	51.00	11.90
2014	32500 C	E 16500	W 16000	9.00	50.80	11.90
2013	32500 C	E 16000	W 16500	9.00	50.80	11.90
2012	30500 C	E 14500	W 16000	9.00	56.80	4.90
2011	31500 C	E 15500	W 16000	9.00	57.20	4.90
2010	32500 C	E 15500	W 17000	10.32	55.40	4.90
2009	38500 F	E 19000	W 19500	10.27	57.35	5.50
2008	38500 C	E 19000	W 19500	10.45	58.06	5.50

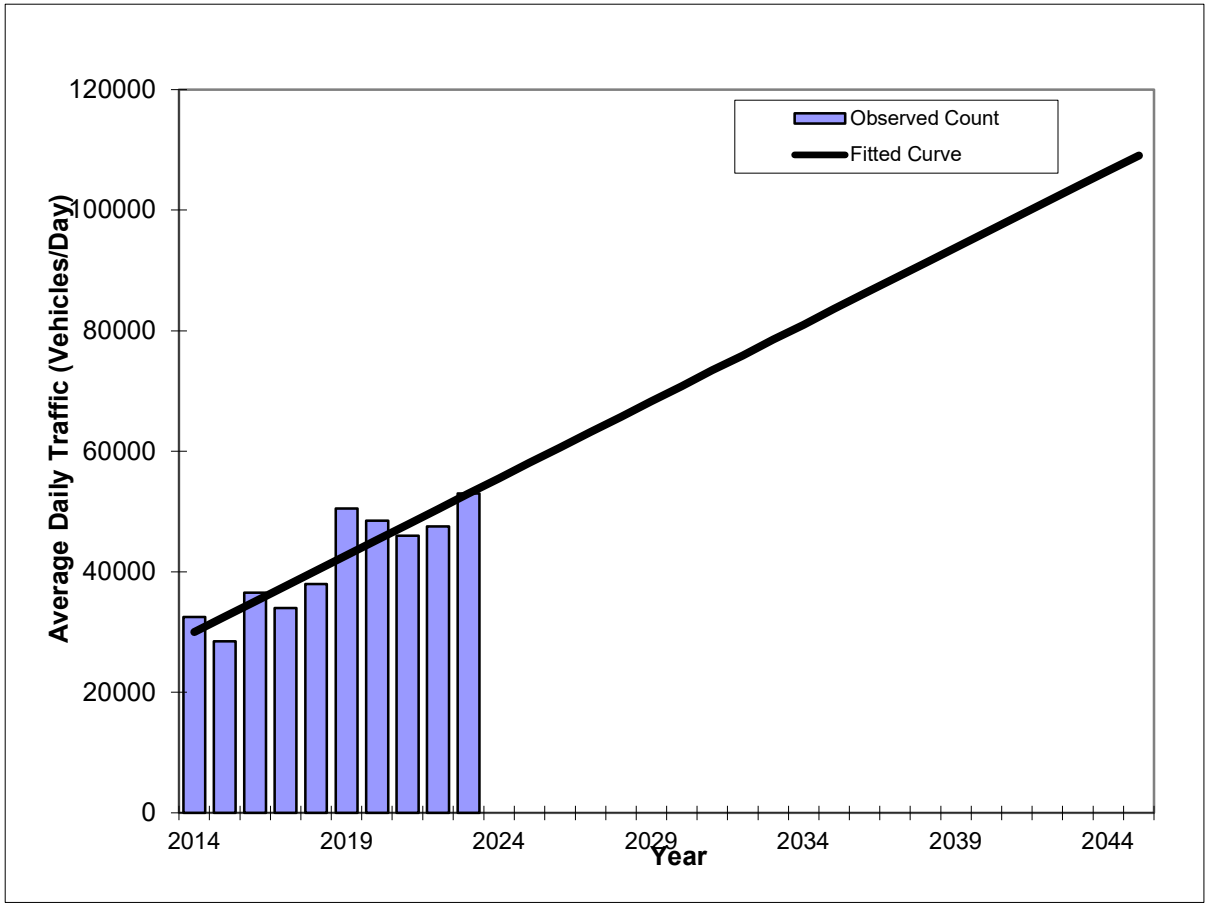
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V3.0

GATLIN BLVD -- E OF I-95 IN PORT ST LUCIE

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	5075
Highway:	GATLIN BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	32500	30000
2015	28500	32600
2016	36500	35100
2017	34000	37700
2018	38000	40200
2019	50500	42800
2020	48500	45300
2021	46000	47900
2022	47500	50400
2023	53000	53000
2027 Opening Year Trend		
2027	N/A	63200
2035 Mid-Year Trend		
2035	N/A	83600
2045 Design Year Trend		
2045	N/A	109100
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	2,552
Trend R-squared:	81.13%
Trend Annual Historic Growth Rate:	8.52%
Trend Growth Rate (2023 to Design Year):	4.81%
Printed:	8-Oct-24

Straight Line Growth Option

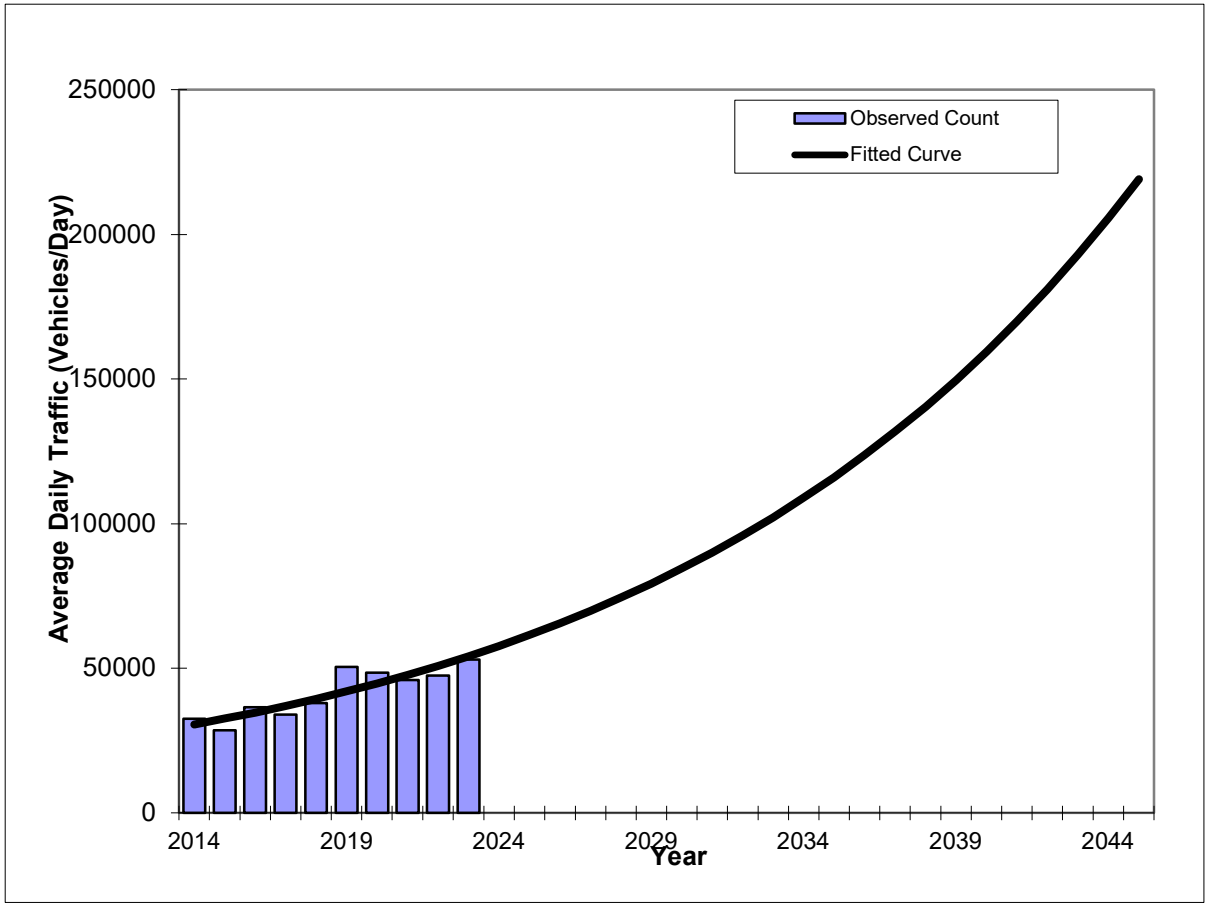
***Axle-Adjusted**

Traffic Trends - V3.0

GATLIN BLVD -- E OF I-95 IN PORT ST LUCIE

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	5075
Highway:	GATLIN BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	32500	30600
2015	28500	32600
2016	36500	34700
2017	34000	37000
2018	38000	39400
2019	50500	42000
2020	48500	44700
2021	46000	47700
2022	47500	50800
2023	53000	54100
2027 Opening Year Trend		
2027	N/A	69800
2035 Mid-Year Trend		
2035	N/A	116000
2045 Design Year Trend		
2045	N/A	219100
TRANPLAN Forecasts/Trends		

Trend R-squared:	80.77%
Compounded Annual Historic Growth Rate:	6.54%
Compounded Growth Rate (2023 to Design Year):	6.56%
Printed:	8-Oct-24

Exponential Growth Option

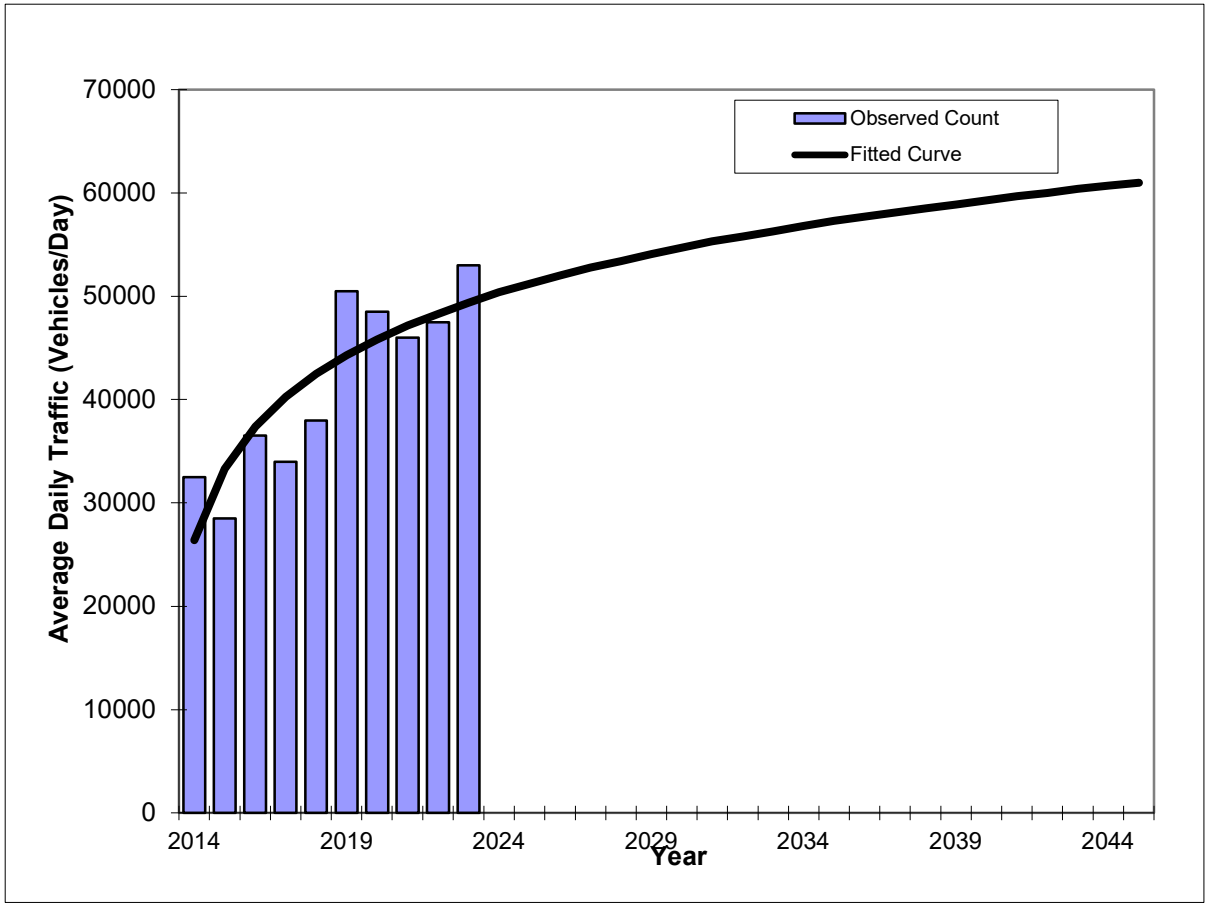
***Axle-Adjusted**

Traffic Trends - V3.0

GATLIN BLVD -- E OF I-95 IN PORT ST LUCIE

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	5075
Highway:	GATLIN BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	32500	26400
2015	28500	33300
2016	36500	37400
2017	34000	40300
2018	38000	42500
2019	50500	44300
2020	48500	45800
2021	46000	47200
2022	47500	48300
2023	53000	49400
2027 Opening Year Trend		
2027	N/A	52800
2035 Mid-Year Trend		
2035	N/A	57300
2045 Design Year Trend		
2045	N/A	61000
TRANPLAN Forecasts/Trends		

Trend R-squared:	72.67%
Compounded Annual Historic Growth Rate:	7.21%
Compounded Growth Rate (2023 to Design Year):	0.96%
Printed:	8-Oct-24

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2023 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 7053 - ON SAVAGE BLVD - N. OF GATLIN BLVD (COUNTY 168)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2023	3300 R	N 1600	S 1700	9.00	51.60	7.10
2022	3300 T	N 1600	S 1700	9.00	51.40	5.00
2021	3300 S	N 1600	S 1700	9.00	50.90	7.20
2020	3300 F	N 1600	S 1700	9.00	51.30	31.50
2019	3500 C	N 1700	S 1800	9.00	51.00	7.80
2018	6400 V	N 3200	S 3200	9.00	51.30	5.80
2017	6400 R	N 3200	S 3200	9.00	50.90	10.00
2016	6200 T	N 3100	S 3100	9.00	50.90	6.20
2015	6200 S	N 3100	S 3100	9.00	51.00	41.80
2014	6200 F	N 3100	S 3100	9.00	50.80	49.50
2013	6200 C	N 3100	S 3100	9.00	50.80	11.90
2012	3100 C	N 1500	S 1600	9.00	56.80	7.10
2011	4300 S	N 1700	S 2600	9.00	57.20	3.60
2010	4300 F	N 1700	S 2600	10.32	55.40	3.60
2009	4300 C	N 1700	S 2600	10.27	57.35	3.60
2008	3300 C	N 2100	S 1200	10.45	58.06	4.90

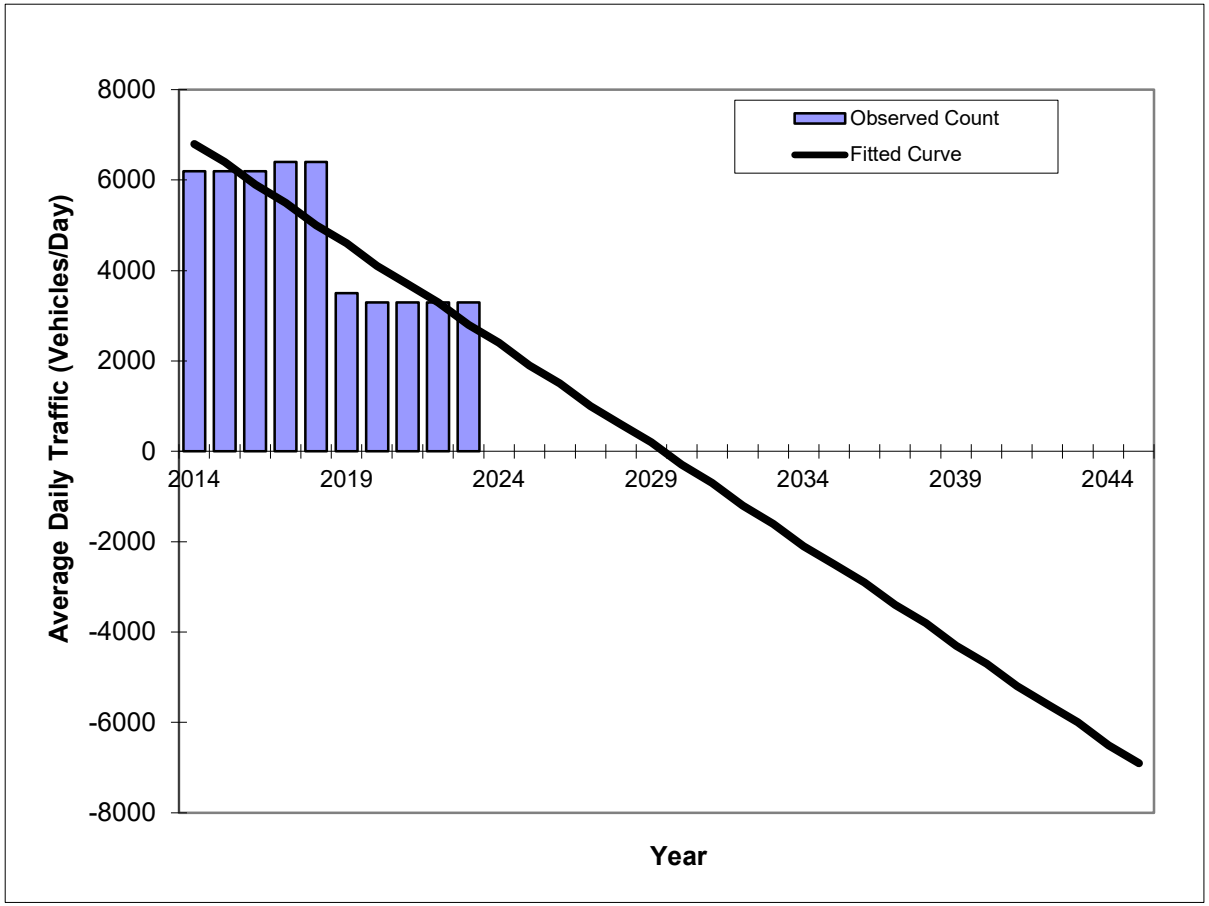
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V3.0

ON SAVAGE BLVD -- N. OF GATLIN BLVD

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	7053
Highway:	ON SAVAGE BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	6200	6800
2015	6200	6400
2016	6200	5900
2017	6400	5500
2018	6400	5000
2019	3500	4600
2020	3300	4100
2021	3300	3700
2022	3300	3300
2023	3300	2800
2027 Opening Year Trend		
2027	N/A	1000
2035 Mid-Year Trend		
2035	N/A	-2500
2045 Design Year Trend		
2045	N/A	-6900
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

**** Annual Trend Increase:**	-443
Trend R-squared:	74.66%
Trend Annual Historic Growth Rate:	-6.54%
Trend Growth Rate (2023 to Design Year):	-15.75%
Printed:	9-Oct-24

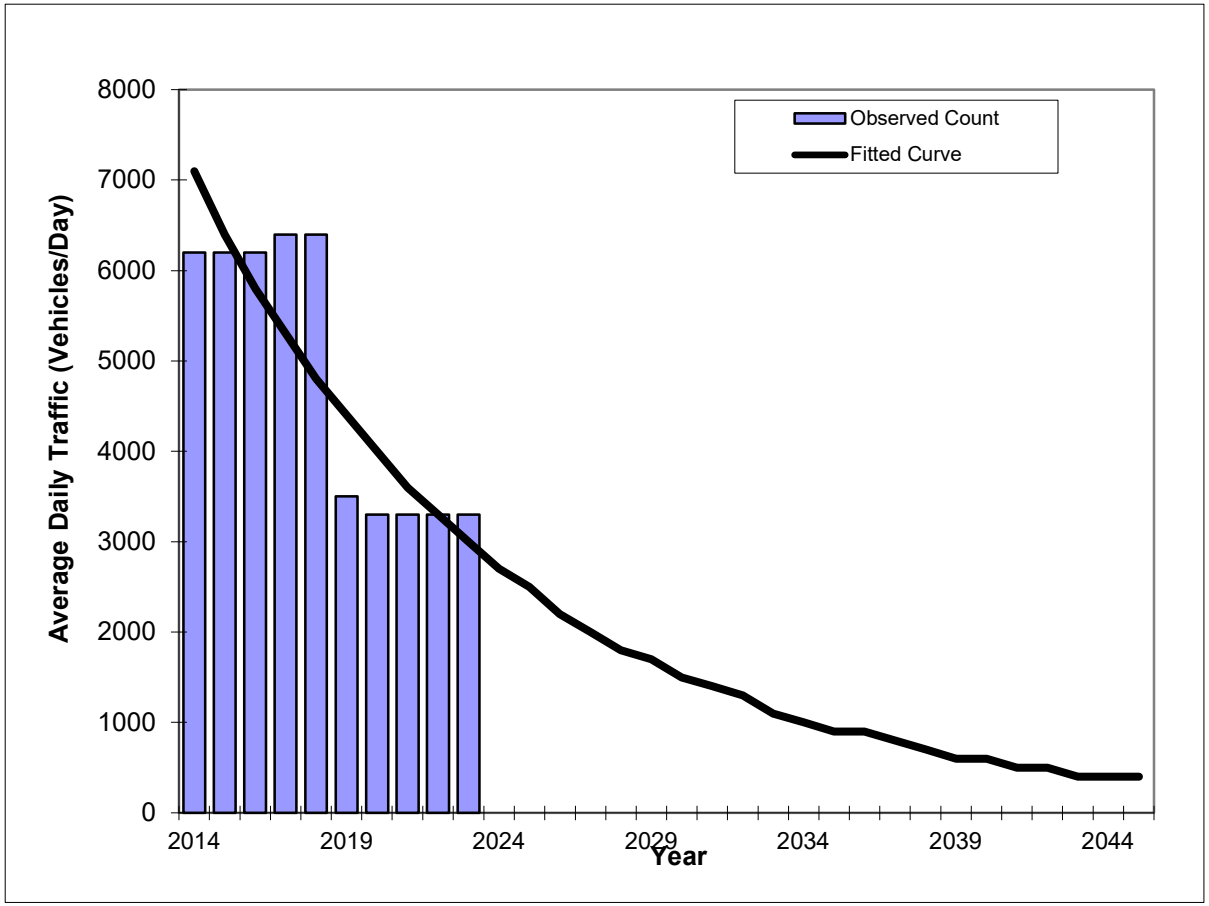
Straight Line Growth Option

Traffic Trends - V3.0

ON SAVAGE BLVD -- N. OF GATLIN BLVD

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	7053
Highway:	ON SAVAGE BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	6200	7100
2015	6200	6400
2016	6200	5800
2017	6400	5300
2018	6400	4800
2019	3500	4400
2020	3300	4000
2021	3300	3600
2022	3300	3300
2023	3300	3000
2027 Opening Year Trend		
2027	N/A	2000
2035 Mid-Year Trend		
2035	N/A	900
2045 Design Year Trend		
2045	N/A	400
TRANPLAN Forecasts/Trends		

Trend R-squared:	75.89%
Compounded Annual Historic Growth Rate:	-9.13%
Compounded Growth Rate (2023 to Design Year):	-8.75%
Printed:	9-Oct-24

Exponential Growth Option

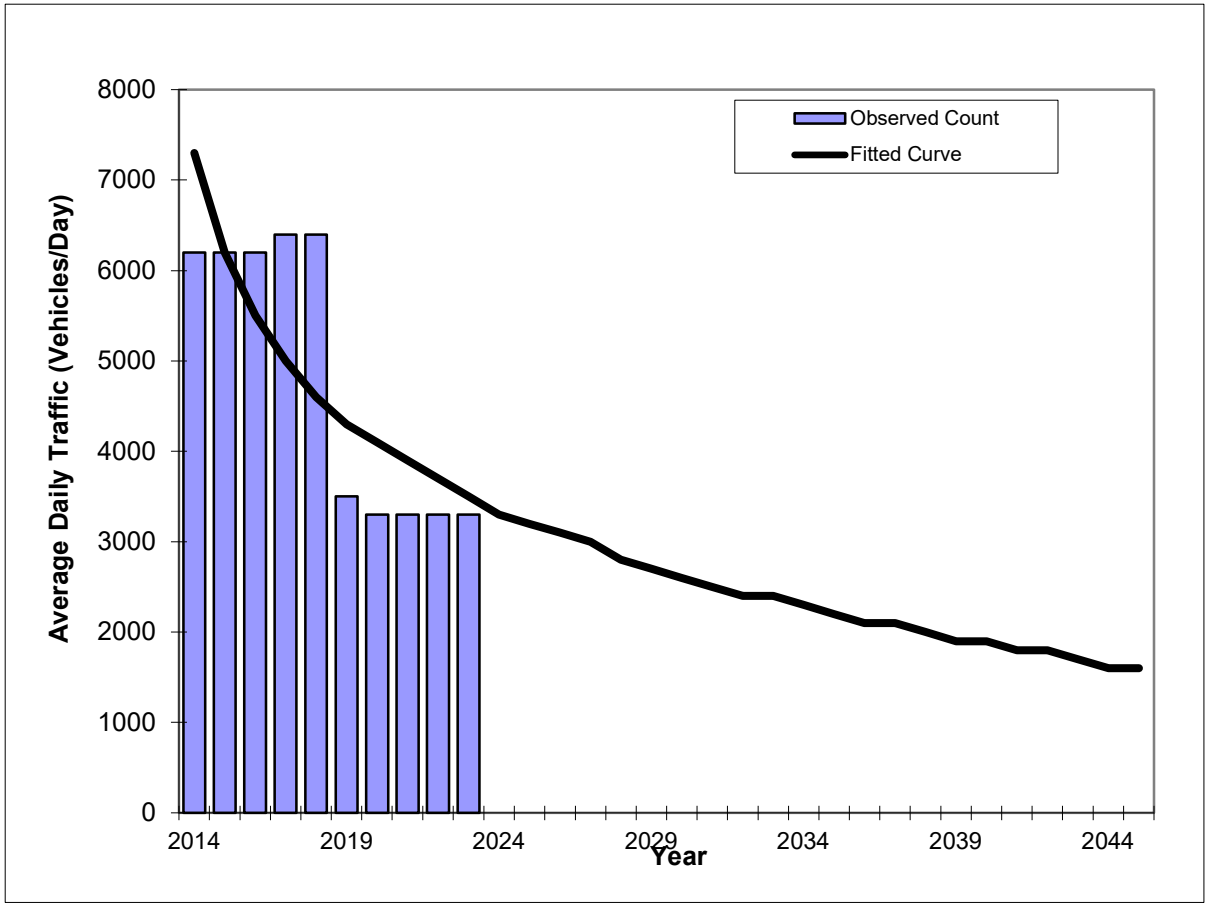
***Axle-Adjusted**

Traffic Trends - V3.0

ON SAVAGE BLVD -- N. OF GATLIN BLVD

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	7053
Highway:	ON SAVAGE BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	6200	7300
2015	6200	6200
2016	6200	5500
2017	6400	5000
2018	6400	4600
2019	3500	4300
2020	3300	4100
2021	3300	3900
2022	3300	3700
2023	3300	3500
2027 Opening Year Trend		
2027	N/A	3000
2035 Mid-Year Trend		
2035	N/A	2200
2045 Design Year Trend		
2045	N/A	1600
TRANPLAN Forecasts/Trends		

Trend R-squared:	60.51%
Compounded Annual Historic Growth Rate:	-7.84%
Compounded Growth Rate (2023 to Design Year):	-3.50%
Printed:	9-Oct-24

Decaying Exponential Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2023 HISTORICAL AADT REPORT

COUNTY: 94 - ST.LUCIE

SITE: 8510 - SW ROSSER BLVD FROM PAAR DR TO DREYFUSS BLVD (HPMS)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2023	5800 S	N 2800	S 3000	9.00	51.60	7.40
2022	5600 F	N 2700	S 2900	9.00	51.40	7.40
2021	5600 C	N 2700	S 2900	9.00	50.90	7.40
2020	4400 S	N 2100	S 2300	9.00	51.30	6.80
2019	4600 F	N 2200	S 2400	9.00	51.00	6.80
2018	4600 C	N 2200	S 2400	9.00	51.30	6.80
2017	3900 S	N 1800	S 2100	9.00	50.90	7.10
2016	3900 F	N 1800	S 2100	9.00	50.90	7.10
2015	3900 C	N 1800	S 2100	9.00	51.00	7.10
2014	6000 F	N 2400	S 3600	9.00	50.80	2.80
2013	6000 C	N 2400	S 3600	9.00	50.80	2.80
2012	4100 C	N 2000	S 2100	9.00	56.80	2.80
2011	3900 T	0	0	9.00	57.20	4.60
2010	3900 S	N 1900	S 2000	10.32	55.40	7.60
2009	3900 F	N 1900	S 2000	10.27	57.35	7.60
2008	3900 C	N 1900	S 2000	10.45	58.06	7.60

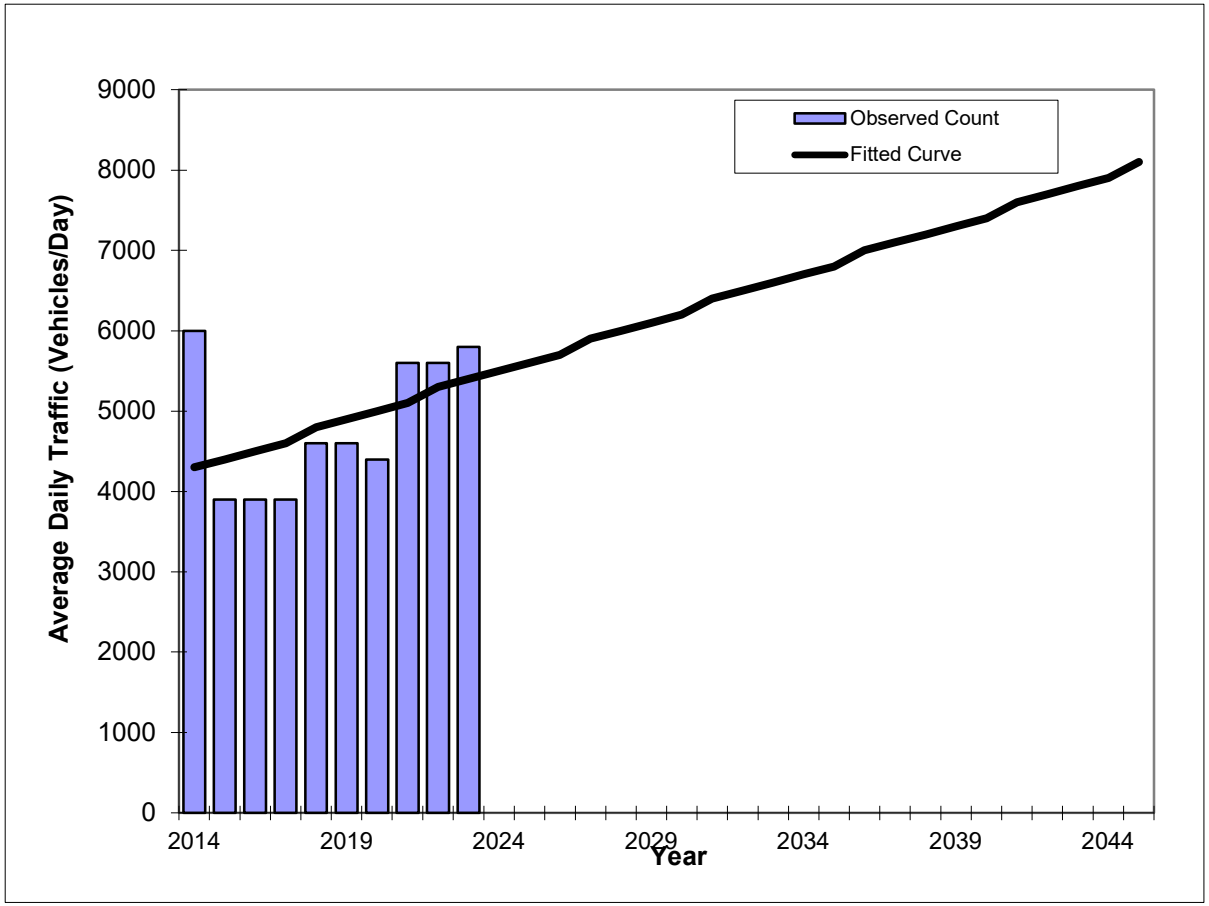
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V3.0

SW ROSSER BLVD -- FROM PAAR DR TO DREYFUSS BLVD

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	8510
Highway:	SW ROSSER BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	6000	4300
2015	3900	4400
2016	3900	4500
2017	3900	4600
2018	4600	4800
2019	4600	4900
2020	4400	5000
2021	5600	5100
2022	5600	5300
2023	5800	5400
2027 Opening Year Trend		
2027	N/A	5900
2035 Mid-Year Trend		
2035	N/A	6800
2045 Design Year Trend		
2045	N/A	8100
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	122
Trend R-squared:	19.19%
Trend Annual Historic Growth Rate:	2.84%
Trend Growth Rate (2023 to Design Year):	2.27%
Printed:	8-Oct-24

Straight Line Growth Option

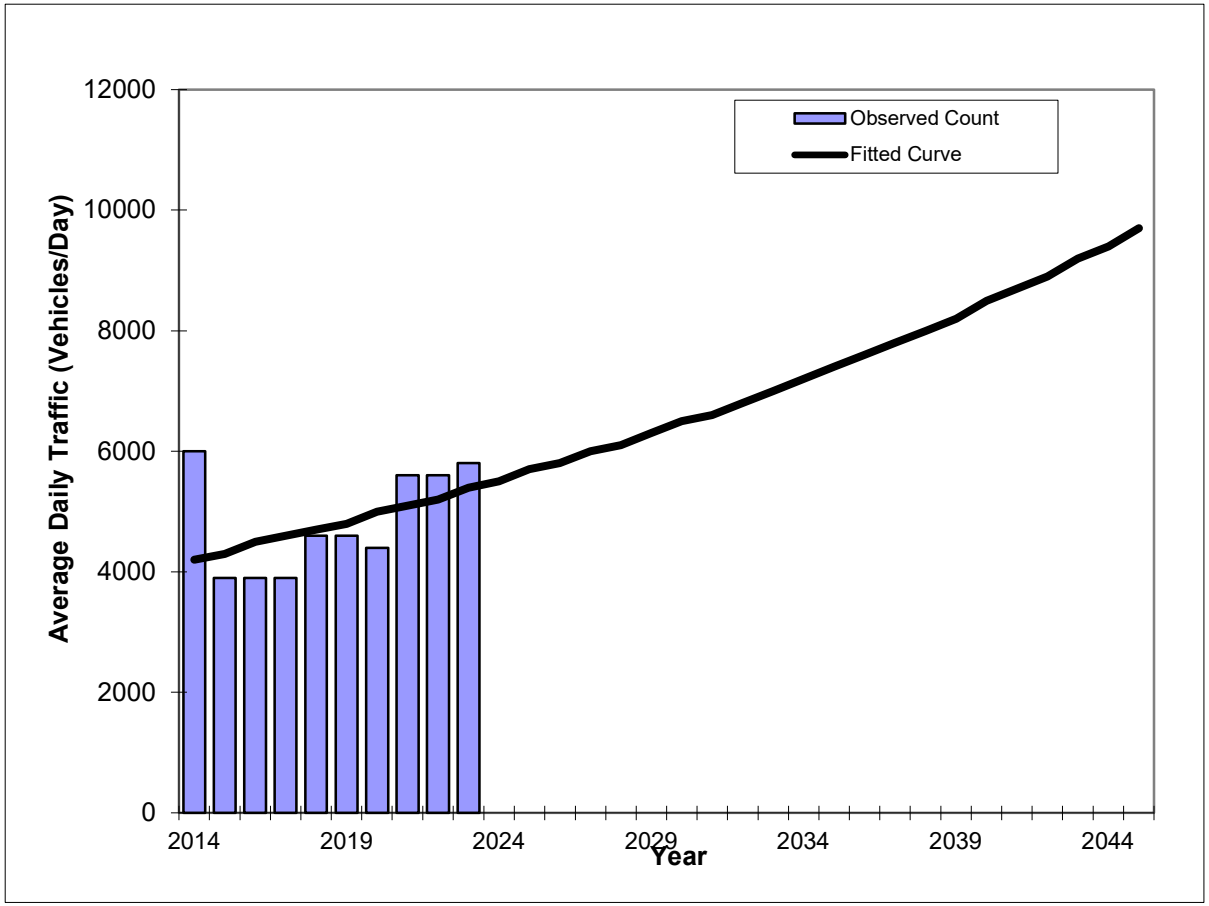
***Axle-Adjusted**

Traffic Trends - V3.0

SW ROSSER BLVD -- FROM PAAR DR TO DREYFUSS BLVD

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	8510
Highway:	SW ROSSER BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	6000	4200
2015	3900	4300
2016	3900	4500
2017	3900	4600
2018	4600	4700
2019	4600	4800
2020	4400	5000
2021	5600	5100
2022	5600	5200
2023	5800	5400
2027 Opening Year Trend		
2027	N/A	6000
2035 Mid-Year Trend		
2035	N/A	7400
2045 Design Year Trend		
2045	N/A	9700
TRANPLAN Forecasts/Trends		

Trend R-squared:	21.46%
Compounded Annual Historic Growth Rate:	2.83%
Compounded Growth Rate (2023 to Design Year):	2.70%
Printed:	8-Oct-24

Exponential Growth Option

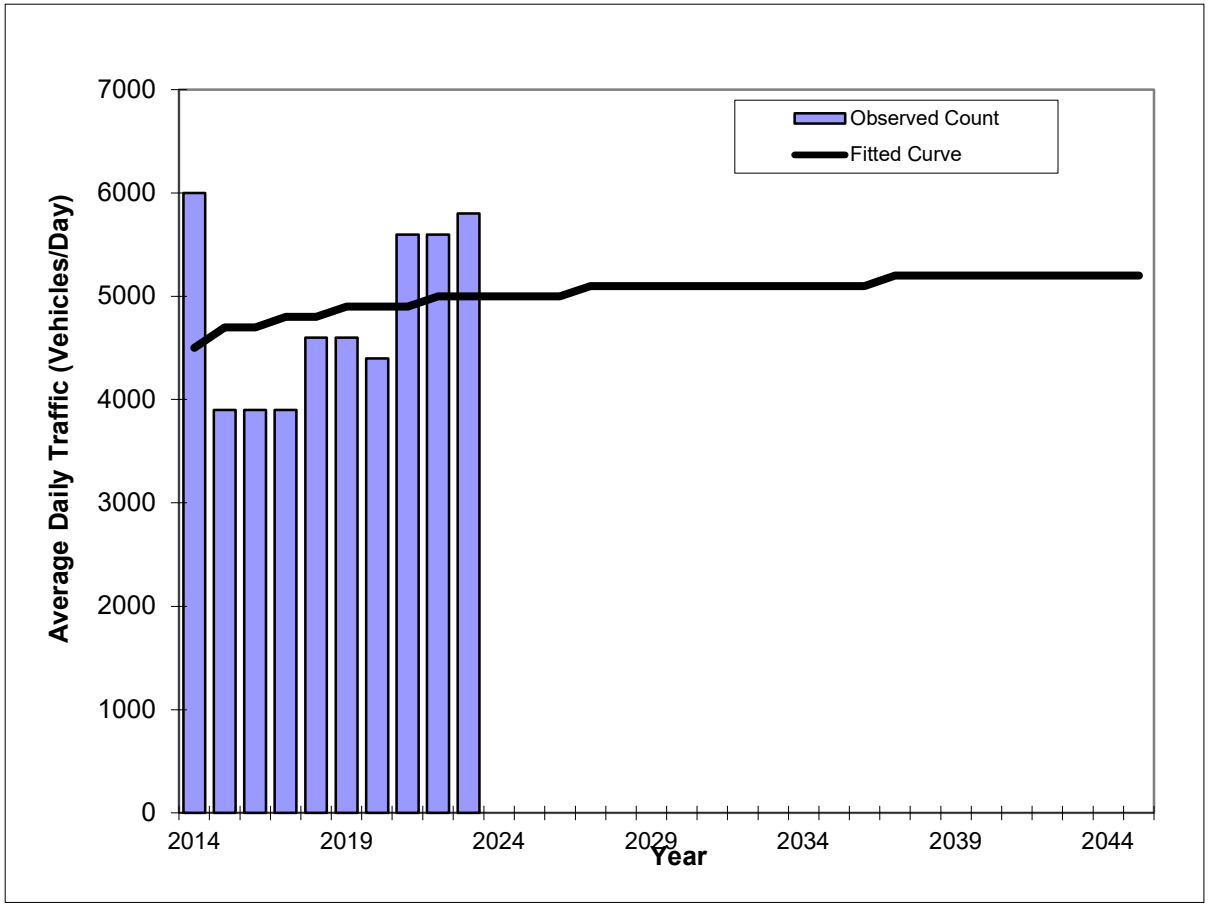
***Axle-Adjusted**

Traffic Trends - V3.0

SW ROSSER BLVD -- FROM PAAR DR TO DREYFUSS BLVD

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	8510
Highway:	SW ROSSER BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2014	6000	4500
2015	3900	4700
2016	3900	4700
2017	3900	4800
2018	4600	4800
2019	4600	4900
2020	4400	4900
2021	5600	4900
2022	5600	5000
2023	5800	5000
2027 Opening Year Trend		
2027	N/A	5100
2035 Mid-Year Trend		
2035	N/A	5100
2045 Design Year Trend		
2045	N/A	5200
TRANPLAN Forecasts/Trends		

Trend R-squared:	2.94%
Compounded Annual Historic Growth Rate:	1.18%
Compounded Growth Rate (2023 to Design Year):	0.18%
Printed:	8-Oct-24

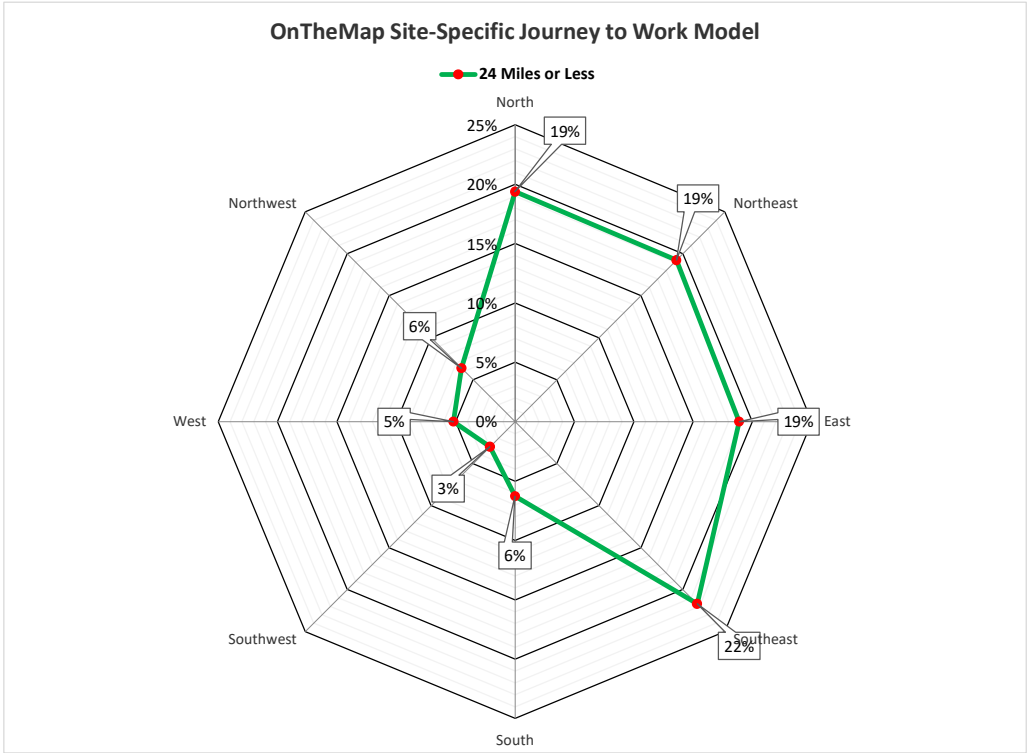
Decaying Exponential Growth Option

***Axle-Adjusted**

Distance/Direction Report - Home Census Block to Work Census Block

Job Counts in Home Blocks by Distance Only

	All		North		Northeast		East		Southeast		South		Southwest		West		Northwest	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Total All Private Jobs	5,472	100.0%	948	17.3%	601	11.0%	590	10.8%	878	16.0%	962	17.6%	267	4.9%	518	9.5%	708	12.9%
Less than 10 miles	2,410	100.0%	303	12.6%	535	22.2%	531	22.0%	446	18.5%	178	7.4%	91	3.8%	127	5.3%	199	8.3%
10 to 24 miles	714	100.0%	302	42.3%	66	9.2%	59	8.3%	232	32.5%	18	2.5%	2	0.3%	35	4.9%	0	0.0%
25 to 50 miles	547	100.0%	139	25.4%	0	0.0%	0	0.0%	170	31.1%	177	32.4%	23	4.2%	36	6.6%	2	0.4%
Greater than 50 miles	1,801	100.0%	204	11.3%	0	0.0%	0	0.0%	30	1.7%	589	32.7%	151	8.4%	320	17.8%	507	28.2%
Include:																		
24 Miles or Less	3,124	**100%**	605	**19%**	601	**19%**	590	**19%**	678	**22%**	196	**6%**	93	**3%**	162	**5%**	199	**6%**



APPENDIX D
INTERSECTION VOLUME SPREADSHEETS

AM Peak Hour Volumes

Intersection	Road	Direction	Movement	AM PEAK 2024 Existing Volumes	AM PEAK 2027 No Build Volumes	AM PEAK Site Trip Distribution	AM PEAK Site Trips	AM PEAK Pass-by Site Trip Distributions	AM PEAK Pass-by Site Trips	AM PEAK 2027 Build Volumes	
(1) SW IMPORT DRIVE & SW OAKWOOD ROAD	SW OAKWOOD ROAD	Eastbound	EBL	7	7	(5%)	2		0	9	Int 1
			EBT	1	1		0		0	1	
			EBR	30	32		0		0	32	
			Approach	38	40	(5%)	2		0	42	
		Westbound	WBL	3	3		0		0	3	
			WBT	1	1		0		0	1	
			WBR	0	0		0		0	0	
			Approach	4	4		0		0	4	
	SW IMPORT DRIVE	Northbound	NBL	15	16		0		0	16	
			NBT	99	104		0		0	104	
			NBR	7	7		0		0	7	
			Approach	121	127		0		0	127	
		Southbound	SBL	0	0		0		0	0	
			SBT	240	252	9%	3		0	255	
			SBR	9	9		0		0	9	
			Approach	249	261	9%	3		0	264	
(2) SW GATLIN BLVD & SW IMPORT DRIVE	SW GATLIN BLVD	Eastbound	EBL	106	111	31%	10	40%	40	161	Int 2
			EBT	1066	1119		0	-40%	-40	1079	
			EBR	84	88		0		0	88	
			Approach	1256	1318	31%	10		0	1328	
		Westbound	WBL	99	104		0		0	104	
			WBT	1833	1925	51%	16	60%	60	2001	
			WBR	45	47		0		0	47	
			Approach	1977	2076	51%	16	60%	60	2152	
	SW IMPORT DRIVE	Northbound	NBL	134	141	9%	3		0	144	
			NBT	26	27		0		0	27	
			NBR	54	57		0		0	57	
			Approach	214	225	9%	3		0	228	
		Southbound	SBL	77	81	(51%)	15	(40%)	40	136	
			SBT	32	34	(9%)	3		0	37	
			SBR	162	170	(9%)	3		0	173	
			Approach	271	285	(69%)	21	(40%)	40	346	
(3) SW GATLIN BLVD & SW ROSSER BLVD	SW GATLIN BLVD	Eastbound	EBL	15	16		0		0	16	Int 3
			EBT	1012	1063	(40%)	12	-40% (40%)	0	1075	
			EBR	166	174	(11%)	3		0	177	
			Approach	1193	1253	(51%)	15	-40% (40%)	0	1268	
		Westbound	WBL	160	168		0		0	168	
			WBT	1446	1518	40%	13	60%	60	1591	
			WBR	0	0		0		0	0	
			Approach	1606	1686	40%	13	60%	60	1759	
	SW ROSSER BLVD	Northbound	NBL	576	605	11%	3		0	608	
			NBT	0	0		0		0	0	
			NBR	324	340		0		0	340	
			Approach	900	945	11%	3		0	948	
		Southbound	SBL	0	0		0		0	0	
			SBT	0	0		0		0	0	
			SBR	0	0		0		0	0	
			Approach	0	0		0		0	0	

AM Peak Hour Volumes

Intersection	Road	Direction	Movement	AM PEAK 2024 Existing Volumes	AM PEAK 2027 No Build Volumes	AM PEAK Site Trip Distribution	AM PEAK Site Trips	AM PEAK Pass-by Site Trip Distributions	AM PEAK Pass-by Site Trips	AM PEAK 2027 Build Volumes	
(4) SW IMPORT DRIVE & EAST DRIVEWAY	EAST DRIVEWAY	Eastbound	EBL	0	0		0		0	0	Int 4
			EBT	0	0		0		0	0	
			EBR	0	0	(69%)	21		0	21	
			Approach	0	0	(69%)	21		0	21	
		Westbound	WBL	0	0		0		0	0	
			WBT	0	0		0		0	0	
			WBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
	SW IMPORT DRIVE	Northbound	NBL	0	0		0		0	0	
			NBT	0	0		0		0	0	
			NBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
		Southbound	SBL	0	0		0		0	0	
			SBT	0	0		0		0	0	
			SBR	0	0	9%	3		0	3	
			Approach	0	0	9%	3		0	3	
(5) SOUTH DRIVEWAY & SW GATLIN BLVD	SOUTH DRIVEWAY	Eastbound	EBL	0	0		0		0	0	Int 5
			EBT	0	0		0		0	0	
			EBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
		Westbound	WBL	0	0		0		0	0	
			WBT	0	0	(9%)	3		0	3	
			WBR	0	0	91%	29		0	29	
			Approach	0	0	91% (9%)	32		0	32	
	SW GATLIN BLVD	Northbound	NBL	0	0		0		0	0	
			NBT	0	0		0		0	0	
			NBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
		Southbound	SBL	0	0		0		0	0	
			SBT	0	0		0		0	0	
			SBR	0	0	(31%)	10	(60%)	60	70	
			Approach	0	0	(31%)	10	(60%)	60	70	

PM Peak Hour Volumes

Intersection	Road	Direction	Movement	PM PEAK 2024 Existing Volumes	PM PEAK 2027 No Build Volumes	PM PEAK Site Trip Distribution	PM PEAK Site Trips	PM PEAK Pass-by Site Trip Distributions	PM PEAK Pass-by Site Trips	PM PEAK 2027 Build Volumes	
(1) SW IMPORT DRIVE & SW OAKWOOD ROAD	SW OAKWOOD ROAD	Eastbound	EBL	10	11	(5%)	2		0	13	Int 1
			EBT	2	2		0		0	2	
			EBR	21	22		0		0	22	
			Approach	33	35	(5%)	2		0	37	
		Westbound	WBL	3	3		0		0	3	
			WBT	0	0		0		0	0	
			WBR	1	1		0		0	1	
			Approach	4	4		0		0	4	
	SW IMPORT DRIVE	Northbound	NBL	26	27		0		0	27	
			NBT	308	323		0		0	323	
			NBR	6	6		0		0	6	
			Approach	340	356		0		0	356	
		Southbound	SBL	1	1		0		0	1	
			SBT	227	238	9%	3		0	241	
			SBR	13	14		0		0	14	
			Approach	241	253	9%	3		0	256	
(2) SW GATLIN BLVD & SW IMPORT DRIVE	SW GATLIN BLVD	Eastbound	EBL	267	280	31%	12	40%	46	338	Int 2
			EBT	2023	2124		0	-40%	-46	2078	
			EBR	199	209		0		0	209	
			Approach	2489	2613	31%	12		0	2625	
		Westbound	WBL	213	224		0		0	224	
			WBT	1286	1350	51%	19	60%	69	1438	
			WBR	74	78		0		0	78	
			Approach	1573	1652	51%	19	60%	69	1740	
	SW IMPORT DRIVE	Northbound	NBL	248	260	9%	4		0	264	
			NBT	83	87		0		0	87	
			NBR	130	137		0		0	137	
			Approach	461	484	9%	4		0	488	
		Southbound	SBL	82	86	(51%)	19	(40%)	46	151	
			SBT	76	80	(9%)	4		0	84	
			SBR	115	121	(9%)	3		0	124	
			Approach	273	287	(69%)	26	(40%)	46	359	
(3) SW GATLIN BLVD & SW ROSSER BLVD	SW GATLIN BLVD	Eastbound	EBL	19	20		0		0	20	Int 3
			EBT	1795	1885	(40%)	15	-40% (40%)	0	1900	
			EBR	421	442	(11%)	4		0	446	
			Approach	2235	2347	(51%)	19	-40% (40%)	0	2366	
		Westbound	WBL	402	422		0		0	422	
			WBT	1210	1271	40%	15	60%	69	1355	
			WBR	0	0		0		0	0	
			Approach	1612	1693	40%	15	60%	69	1777	
	SW ROSSER BLVD	Northbound	NBL	371	390	11%	4		0	394	
			NBT	0	0		0		0	0	
			NBR	261	274		0		0	274	
			Approach	632	664	11%	4		0	668	
		Southbound	SBL	0	0		0		0	0	
			SBT	0	0		0		0	0	
			SBR	0	0		0		0	0	
			Approach	0	0		0		0	0	

PM Peak Hour Volumes

Intersection	Road	Direction	Movement	PM PEAK 2024 Existing Volumes	PM PEAK 2027 No Build Volumes	PM PEAK Site Trip Distribution	PM PEAK Site Trips	PM PEAK Pass-by Site Trip Distributions	PM PEAK Pass-by Site Trips	PM PEAK 2027 Build Volumes	
(4) SW IMPORT DRIVE & EAST DRIVEWAY	EAST DRIVEWAY	Eastbound	EBL	0	0		0		0	0	Int 4
			EBT	0	0		0		0	0	
			EBR	0	0	(69%)	26		0	26	
			Approach	0	0	(69%)	26		0	26	
		Westbound	WBL	0	0		0		0	0	
			WBT	0	0		0		0	0	
			WBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
	SW IMPORT DRIVE	Northbound	NBL	0	0		0		0	0	
			NBT	0	0		0		0	0	
			NBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
		Southbound	SBL	0	0		0		0	0	
			SBT	0	0		0		0	0	
			SBR	0	0	9%	3		0	3	
			Approach	0	0	9%	3		0	3	
(5) SOUTH DRIVEWAY & SW GATLIN BLVD	SOUTH DRIVEWAY	Eastbound	EBL	0	0		0		0	0	Int 5
			EBT	0	0		0		0	0	
			EBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
		Westbound	WBL	0	0		0		0	0	
			WBT	0	0	(9%)	3		0	3	
			WBR	0	0	91%	35		0	35	
			Approach	0	0	91% (9%)	38		0	38	
	SW GATLIN BLVD	Northbound	NBL	0	0		0		0	0	
			NBT	0	0		0		0	0	
			NBR	0	0		0		0	0	
			Approach	0	0		0		0	0	
		Southbound	SBL	0	0		0		0	0	
			SBT	0	0		0		0	0	
			SBR	0	0	(31%)	12	(60%)	69	81	
			Approach	0	0	(31%)	12	(60%)	69	81	

APPENDIX E
INTERSECTION CAPACITY REPORTS

EXISTING CONDITIONS

Table 1.1 -2024 Existing Intersection Capacity Analysis Summary

Location	Time	Level of Service[1]					
		(1) SW IMPORT DRIVE & SW OAKWOOD ROAD		(2) SW GATLIN BLVD & SW IMPORT DRIVE		(3) SW GATLIN BLVD & SW ROSSER BLVD	
		Unsignalized		Signalized		Signalized	
		LOS	Delay	LOS	Delay	LOS	Delay
EBL	AM	N/A		F	91.1	C	22.6
	PM			F	95.0	C	22.8
EBT	AM			B	18.1	C	22.6
	PM			C	34.3	C	22.8
EBR	AM			B	14.7	C	20.1
	PM			C	22.1	C	20.4
EB Approach	AM	A	9.3	C	24.0	C	22.2
	PM	A	9.9	D	39.9	C	22.3
WBL	AM	N/A		E	72.7	F	85.7
	PM			F	94.2	F	87.5
WBT	AM			C	27.6	B	16.1
	PM			D	38.2	A	6.1
WBR	AM			B	16.3	N/A	
	PM			C	28.9		
WB Approach	AM	A	9.8	C	29.6	C	23.1
	PM	B	10.7	D	45.4	C	26.4
NBL	AM	[2]		E	59.0	D	45.0
	PM			F	219.0	F	81.8
NBT	AM			D	51.5	N/A	
	PM			E	64.6		
NBR	AM			D	54.0	D	54.9
	PM			E	70.7	F	173.9
NB Approach	AM			E	56.8	D	48.6
	PM			F	149.5	F	119.8
SBL	AM	[2]		D	50.2	N/A	
	PM			E	56.2		
SBT	AM			F	112.3		
	PM			E	72.4		
SBR	AM			F	112.3		
	PM			E	72.4		
SB Approach	AM			F	94.6		
	PM			E	67.5		
Overall	AM	N/A		C	34.0	C	29.0
	PM			D	53.8	D	37.6

[1] Delay is average delay per vehicle in seconds

[2] Approach operates under Free-flow conditions

Table 1.2 -2024 Existing Intersection Queue Lengths Summary

Location	Time	95th Percentile Queue Lenghts (ft)															
		EBL		EBR		WBL		WBR		NBL		NBR		SBL		SBR	
		Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile
(1) SW IMPORT DRIVE & SW OAKWOOD	AM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
	PM																
(2) SW GATLIN BLVD & SW IMPORT DRIVE	AM	193	#195	250	19	608	84	138	0	204	176	N/A		N/A		N/A	
	PM		425		109		187		4		#571						
(3) SW GATLIN BLVD & SW ROSSER BLVD	AM	93	40	93	78	420	#147	N/A		236	324	196	253	N/A		N/A	
	PM		57		306		308				295		94				

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

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

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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	7	1	30	3	1	0	15	99	7	0	240	9
Future Vol, veh/h	7	1	30	3	1	0	15	99	7	0	240	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	1	34	3	1	0	17	113	8	0	273	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	425	432	278	424	434	116	283	0	0	120	0	0
Stage 1	278	278	-	151	151	-	-	-	-	-	-	-
Stage 2	147	155	-	273	283	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	5	5	-	5	5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	5	-	5	5	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	790	784	914	791	783	1071	1274	-	-	1461	-	-
Stage 1	914	914	-	1036	1036	-	-	-	-	-	-	-
Stage 2	1039	1032	-	918	909	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	777	773	914	749	772	1071	1274	-	-	1461	-	-
Mov Cap-2 Maneuver	777	773	-	749	772	-	-	-	-	-	-	-
Stage 1	914	914	-	1021	1021	-	-	-	-	-	-	-
Stage 2	1023	1017	-	883	909	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.3	9.8	0.97	0
HCM LOS	A	A		

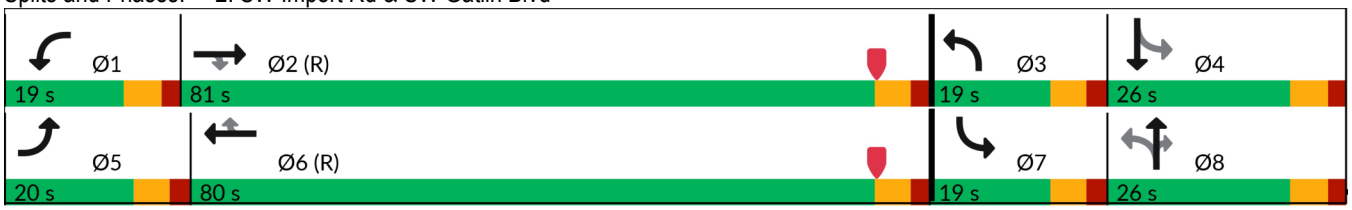
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	220	-	-	881	755	1461	-	-
HCM Lane V/C Ratio	0.013	-	-	0.049	0.006	-	-	-
HCM Control Delay (s/veh)	7.9	0	-	9.3	9.8	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

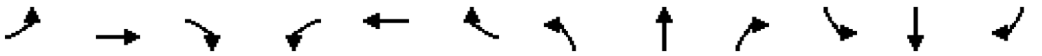
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	106	1066	84	99	1833	45	134	26	54	77	32
Future Volume (vph)	106	1066	84	99	1833	45	134	26	54	77	32
Lane Group Flow (vph)	116	1171	92	109	2014	49	147	29	59	85	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	20.0	81.0	81.0	19.0	80.0	80.0	19.0	26.0	26.0	19.0	26.0
Total Split (%)	13.8%	55.9%	55.9%	13.1%	55.2%	55.2%	13.1%	17.9%	17.9%	13.1%	17.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio	0.74	0.43	0.10	0.46	0.77	0.05	0.64	0.10	0.17	0.26	0.60
Control Delay (s/veh)	91.7	21.0	1.8	71.0	30.8	0.1	56.9	55.1	1.1	43.4	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	91.7	21.0	1.8	71.0	30.8	0.1	56.9	55.1	1.1	43.4	27.1
Queue Length 50th (ft)	108	236	0	52	554	0	112	24	0	62	58
Queue Length 95th (ft)	#195	286	19	84	617	0	176	57	0	110	149
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	169	2709	895	304	2608	866	235	285	338	350	354
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.43	0.10	0.36	0.77	0.06	0.63	0.10	0.17	0.24	0.60

Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1066	84	99	1833	45	134	26	54	77	32	162
Future Volume (veh/h)	106	1066	84	99	1833	45	134	26	54	77	32	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	116	1171	92	109	2014	49	147	29	59	85	35	178
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	138	2872	892	156	2706	840	206	313	265	323	37	186
Arrive On Green	0.08	0.57	0.57	0.05	0.53	0.53	0.08	0.17	0.17	0.05	0.14	0.14
Sat Flow, veh/h	1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	265	1348
Grp Volume(v), veh/h	116	1171	92	109	2014	49	147	29	59	85	0	213
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0	1613
Q Serve(g_s), s	9.4	18.9	3.9	4.5	44.6	2.2	10.2	1.9	4.7	5.9	0.0	19.0
Cycle Q Clear(g_c), s	9.4	18.9	3.9	4.5	44.6	2.2	10.2	1.9	4.7	5.9	0.0	19.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.84
Lane Grp Cap(c), veh/h	138	2872	892	156	2706	840	206	313	265	323	0	222
V/C Ratio(X)	0.84	0.41	0.10	0.70	0.74	0.06	0.71	0.09	0.22	0.26	0.00	0.96
Avail Cap(c_a), veh/h	171	2872	892	307	2706	840	216	313	265	387	0	222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.9	17.7	14.4	68.2	26.1	16.2	48.9	50.9	52.1	49.8	0.0	62.1
Incr Delay (d2), s/veh	25.1	0.4	0.2	4.5	1.5	0.1	10.1	0.6	1.9	0.4	0.0	50.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	7.2	1.5	2.1	17.3	0.8	5.1	1.0	2.0	2.7	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	91.1	18.1	14.7	72.7	27.6	16.3	59.0	51.5	54.0	50.2	0.0	112.3
LnGrp LOS	F	B	B	E	C	B	E	D	D	D		F
Approach Vol, veh/h		1379			2172			235			298	
Approach Delay, s/veh		24.0			29.6			56.8			94.6	
Approach LOS		C			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	88.2	18.2	26.0	17.3	83.5	13.7	30.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	75.0	13.0	20.0	14.0	74.0	13.0	20.0
Max Q Clear Time (g_c+I1), s	6.5	20.9	12.2	21.0	11.4	46.6	7.9	6.7
Green Ext Time (p_c), s	0.1	10.5	0.0	0.0	0.1	17.5	0.1	0.2

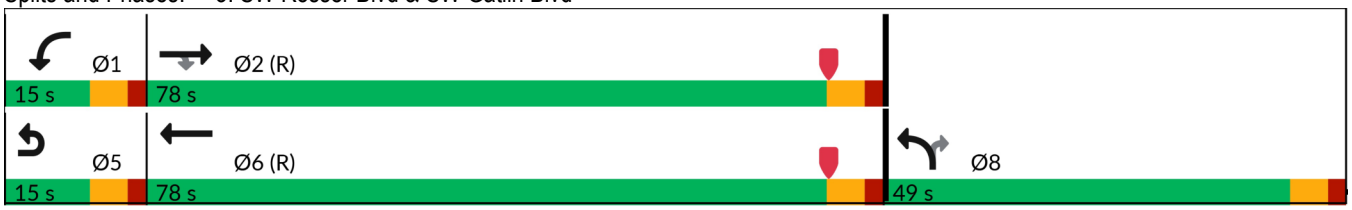
Intersection Summary	
HCM 7th Control Delay, s/veh	34.0
HCM 7th LOS	C

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	15	1012	166	160	1446	576	324
Future Volume (vph)	15	1012	166	160	1446	576	324
Lane Group Flow (vph)	16	1112	182	176	1589	633	356
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	15.0	78.0	78.0	15.0	78.0	49.0	49.0
Total Split (%)	10.6%	54.9%	54.9%	10.6%	54.9%	34.5%	34.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.19	0.43	0.21	0.81	0.55	0.61	0.59
Control Delay (s/veh)	69.4	22.8	8.3	93.5	20.7	45.5	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	69.4	22.8	8.3	93.5	20.7	45.5	25.5
Queue Length 50th (ft)	15	232	34	84	289	258	144
Queue Length 95th (ft)	40	270	78	#147	426	324	253
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	111	2553	848	215	2884	1029	595
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.44	0.21	0.82	0.55	0.62	0.60

Intersection Summary

Cycle Length: 142
Actuated Cycle Length: 142
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	15	1012	166	160	1446	576	324
Future Volume (veh/h)	15	1012	166	160	1446	576	324
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		1112	182	176	1589	633	356
Peak Hour Factor		0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		2568	797	217	3104	1038	476
Arrive On Green		0.51	0.51	0.06	0.61	0.30	0.30
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		1112	182	176	1589	633	356
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		19.7	9.2	7.2	25.1	22.4	29.0
Cycle Q Clear(g_c), s		19.7	9.2	7.2	25.1	22.4	29.0
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		2568	797	217	3104	1038	476
V/C Ratio(X)		0.43	0.23	0.81	0.51	0.61	0.75
Avail Cap(c_a), veh/h		2568	797	217	3104	1038	476
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.92	0.92	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.1	19.5	65.7	15.5	42.3	44.6
Incr Delay (d2), s/veh		0.5	0.6	20.1	0.6	2.7	10.3
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		7.6	3.4	3.7	9.2	9.8	12.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		22.6	20.1	85.7	16.1	45.0	54.9
LnGrp LOS		C	C	F	B	D	D
Approach Vol, veh/h		1294			1765	989	
Approach Delay, s/veh		22.2			23.1	48.6	
Approach LOS		C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.0	78.0				93.0	49.0
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	9.0	72.0				72.0	43.0
Max Q Clear Time (g_c+I1), s	9.2	21.7				27.1	31.0
Green Ext Time (p_c), s	0.0	10.2				15.6	3.1

Intersection Summary	
HCM 7th Control Delay, s/veh	29.0
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	2	21	3	0	1	26	308	6	1	227	13
Future Vol, veh/h	10	2	21	3	0	1	26	308	6	1	227	13
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	2	23	3	0	1	29	342	7	1	252	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	662	668	259	659	672	346	267	0	0	349	0	0
Stage 1	262	262	-	403	403	-	-	-	-	-	-	-
Stage 2	400	407	-	256	269	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	5	5	-	5	5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	5	-	5	5	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	623	619	931	625	616	855	1291	-	-	1204	-	-
Stage 1	929	929	-	807	807	-	-	-	-	-	-	-
Stage 2	810	804	-	934	922	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	604	601	931	589	598	855	1291	-	-	1204	-	-
Mov Cap-2 Maneuver	604	601	-	589	598	-	-	-	-	-	-	-
Stage 1	928	928	-	785	785	-	-	-	-	-	-	-
Stage 2	786	782	-	908	921	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.86	10.68	0.6	0.03
HCM LOS	A	B		

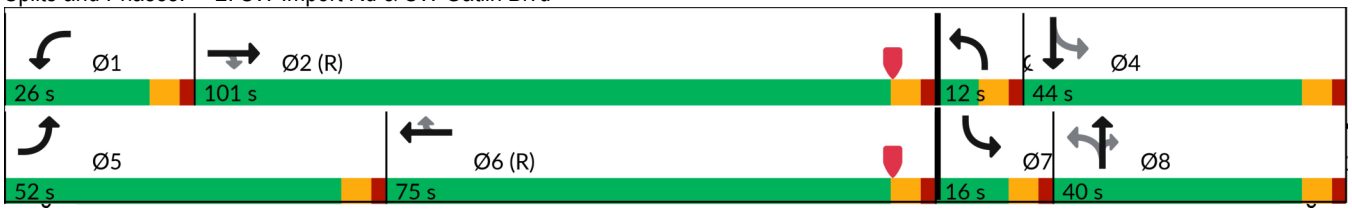
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	137	-	-	777	639	7	-	-
HCM Lane V/C Ratio	0.022	-	-	0.047	0.007	0.001	-	-
HCM Control Delay (s/veh)	7.9	0	-	9.9	10.7	8	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0	0	-	-

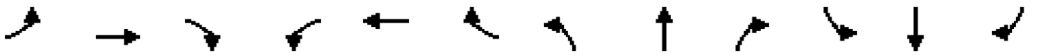
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	267	2023	199	213	1286	74	248	83	130	82	76
Future Volume (vph)	267	2023	199	213	1286	74	248	83	130	82	76
Lane Group Flow (vph)	284	2152	212	227	1368	79	264	88	138	87	203
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	52.0	101.0	101.0	26.0	75.0	75.0	12.0	40.0	40.0	16.0	44.0
Total Split (%)	28.4%	55.2%	55.2%	14.2%	41.0%	41.0%	6.6%	21.9%	21.9%	8.7%	24.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio	0.85	0.79	0.23	0.71	0.62	0.10	1.20	0.25	0.33	0.27	0.53
Control Delay (s/veh)	93.4	37.7	10.2	93.4	42.2	0.7	179.3	65.8	10.8	53.4	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	93.4	37.7	10.2	93.4	42.2	0.7	179.3	65.8	10.8	53.4	58.3
Queue Length 50th (ft)	334	760	53	138	464	0	~340	92	0	81	181
Queue Length 95th (ft)	425	842	109	187	564	4	#571	150	66	134	274
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	440	2695	895	371	2202	756	220	346	406	326	377
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.80	0.24	0.61	0.62	0.10	1.20	0.25	0.34	0.27	0.54

Intersection Summary

Cycle Length: 183
Actuated Cycle Length: 183
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	2023	199	213	1286	74	248	83	130	82	76	115
Future Volume (veh/h)	267	2023	199	213	1286	74	248	83	130	82	76	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	284	2152	212	227	1368	79	264	88	138	87	81	122
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	306	2787	865	268	2307	716	212	354	300	300	139	209
Arrive On Green	0.17	0.55	0.55	0.08	0.46	0.46	0.03	0.19	0.19	0.05	0.21	0.21
Sat Flow, veh/h	1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	668	1006
Grp Volume(v), veh/h	284	2152	212	227	1368	79	264	88	138	87	0	203
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0	1674
Q Serve(g_s), s	29.0	60.8	12.8	12.0	36.9	5.3	6.0	7.4	14.2	7.2	0.0	20.0
Cycle Q Clear(g_c), s	29.0	60.8	12.8	12.0	36.9	5.3	6.0	7.4	14.2	7.2	0.0	20.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	306	2787	865	268	2307	716	212	354	300	300	0	348
V/C Ratio(X)	0.93	0.77	0.25	0.85	0.59	0.11	1.24	0.25	0.46	0.29	0.00	0.58
Avail Cap(c_a), veh/h	444	2787	865	375	2307	716	212	354	300	308	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	74.6	32.2	21.4	83.3	37.2	28.6	76.3	62.9	65.7	55.7	0.0	65.4
Incr Delay (d2), s/veh	20.4	2.1	0.7	11.0	1.0	0.3	142.8	1.7	5.0	0.5	0.0	7.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	24.6	5.1	5.7	15.3	2.1	15.7	3.7	6.2	3.3	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	95.0	34.3	22.1	94.2	38.2	28.9	219.0	64.6	70.7	56.2	0.0	72.4
LnGrp LOS	F	C	C	F	D	C	F	E	E	E		E
Approach Vol, veh/h		2648			1674			490			290	
Approach Delay, s/veh		39.9			45.4			149.5			67.5	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.3	106.7	12.0	44.0	37.7	89.3	15.1	40.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	20.0	95.0	6.0	38.0	46.0	69.0	10.0	34.0
Max Q Clear Time (g_c+I1), s	14.0	62.8	8.0	22.0	31.0	38.9	9.2	16.2
Green Ext Time (p_c), s	0.4	21.8	0.0	1.0	0.7	11.4	0.0	0.8

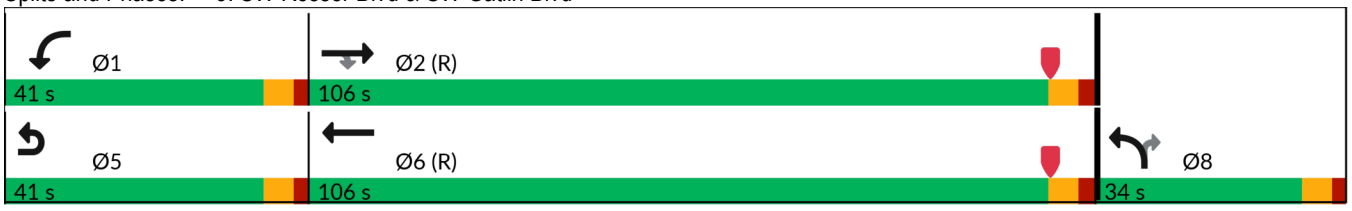
Intersection Summary	
HCM 7th Control Delay, s/veh	53.8
HCM 7th LOS	D

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	19	1795	421	402	1210	371	261
Future Volume (vph)	19	1795	421	402	1210	371	261
Lane Group Flow (vph)	20	1889	443	423	1274	391	275
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	41.0	106.0	106.0	41.0	106.0	34.0	34.0
Total Split (%)	22.7%	58.6%	58.6%	22.7%	58.6%	18.8%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.27	0.63	0.45	0.81	0.34	0.74	0.57
Control Delay (s/veh)	92.4	25.6	15.7	86.8	9.6	82.7	11.7
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.4	26.0	15.7	86.8	9.6	82.7	11.7
Queue Length 50th (ft)	24	520	195	254	206	232	0
Queue Length 95th (ft)	57	616	306	308	242	295	94
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	338	2985	984	657	3677	525	475
Starvation Cap Reductn	0	512	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.76	0.45	0.64	0.35	0.74	0.58

Intersection Summary

Cycle Length: 181
Actuated Cycle Length: 181
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	19	1795	421	402	1210	371	261
Future Volume (veh/h)	19	1795	421	402	1210	371	261
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		1889	443	423	1274	391	275
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		3076	955	475	3946	530	243
Arrive On Green		0.61	0.61	0.14	0.78	0.15	0.15
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		1889	443	423	1274	391	275
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		42.3	27.9	21.9	13.4	19.7	28.0
Cycle Q Clear(g_c), s		42.3	27.9	21.9	13.4	19.7	28.0
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		3076	955	475	3946	530	243
V/C Ratio(X)		0.61	0.46	0.89	0.32	0.74	1.13
Avail Cap(c_a), veh/h		3076	955	663	3946	530	243
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.58	0.58	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.3	19.4	76.6	5.9	73.0	76.5
Incr Delay (d2), s/veh		0.5	0.9	10.9	0.2	8.9	97.4
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		16.4	10.2	10.3	4.4	9.3	17.9
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		22.8	20.4	87.5	6.1	81.8	173.9
LnGrp LOS		C	C	F	A	F	F
Approach Vol, veh/h		2332			1697	666	
Approach Delay, s/veh		22.3			26.4	119.8	
Approach LOS		C			C	F	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.1	115.9				147.0		34.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	35.0	100.0				100.0		28.0
Max Q Clear Time (g_c+I1), s	23.9	44.3				15.4		30.0
Green Ext Time (p_c), s	1.1	27.0				11.6		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	37.6
HCM 7th LOS	D

Notes

User approved ignoring U-Turning movement.

FUTURE NO BUILD CONDITIONS

Table 2.1 - 2027 No Build Intersection Capacity Analysis Summary

Location	Time	Level of Service[1]					
		(1) SW IMPORT DRIVE & SW OAKWOOD ROAD		(2) SW GATLIN BLVD & SW IMPORT DRIVE		(3) SW GATLIN BLVD & SW ROSSER BLVD	
		Unsignalized		Signalized		Signalized	
		LOS	Delay	LOS	Delay	LOS	Delay
EBL	AM	N/A		F	92.8	C	22.9
	PM			F	95.7	C	24.2
EBT	AM			B	18.9	C	22.9
	PM			D	36.7	C	21.4
EBR	AM			B	15.1	C	20.3
	PM			C	22.6	C	21.4
EB Approach	AM	A	9.4	C	24.8	C	22.6
	PM	B	10.0	D	41.9	C	23.7
WBL	AM	N/A		E	72.4	F	92.0
	PM			F	95.0	F	88.0
WBT	AM			C	29.8	B	16.6
	PM			D	40.2	A	6.2
WBR	AM			B	16.9	N/A	
	PM			C	29.8		
WB Approach	AM	A	9.9	C	31.6	C	24.1
	PM	B	10.9	D	47.1	C	26.6
NBL	AM	[2]		E	63.1	D	45.8
	PM			F	268.0	F	84.1
NBT	AM			D	51.3	N/A	
	PM			E	65.2		
NBR	AM			D	54.1	E	57.6
	PM			E	72.1	F	193.1
NB Approach	AM			E	59.4	D	50.1
	PM			F	176.0	F	129.0
SBL	AM	[2]		D	50.1	N/A	
	PM			E	56.4		
SBT	AM			F	124.6		
	PM			E	73.8		
SBR	AM			F	124.6		
	PM			E	73.8		
SB Approach	AM			F	103.4		
	PM			E	68.6		
Overall	AM	N/A		D	36.2	C	30.0
	PM			E	58.0	D	39.7

[1] Delay is average delay per vehicle in seconds

[2] Approach operates under Free-flow conditions

Table 2.2 -2027 No Build Intersection Queue Lengths Summary

Location	Time	95th Percentile Queue Lenghts (ft)													
		EBL		EBR		WBL		WBR		NBL		NBR		SBL		SBR	
		Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile
(1) SW IMPORT DRIVE & SW OAKWOOD	AM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
	PM																
(2) SW GATLIN BLVD & SW IMPORT DRIVE	AM	193	#210	250	22	608	86	138	0	204	#198	N/A		N/A		N/A	
	PM		444		118		195		7		#629						
(3) SW GATLIN BLVD & SW ROSSER BLVD	AM	93	44	93	85	420	#158	N/A		236	343	196	285	N/A		N/A	
	PM		59		338		321				311		97				

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

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

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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	7	1	32	3	1	0	16	104	7	0	252	9
Future Vol, veh/h	7	1	32	3	1	0	16	104	7	0	252	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	1	36	3	1	0	18	118	8	0	286	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	447	454	291	445	455	122	297	0	0	126	0	0
Stage 1	291	291	-	159	159	-	-	-	-	-	-	-
Stage 2	155	163	-	287	297	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	5	5	-	5	5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	5	-	5	5	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	773	767	902	774	766	1065	1259	-	-	1454	-	-
Stage 1	902	902	-	1028	1028	-	-	-	-	-	-	-
Stage 2	1031	1024	-	906	897	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	760	755	902	730	754	1065	1259	-	-	1454	-	-
Mov Cap-2 Maneuver	760	755	-	730	754	-	-	-	-	-	-	-
Stage 1	902	902	-	1012	1012	-	-	-	-	-	-	-
Stage 2	1014	1008	-	868	897	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.37	9.92	1	0
HCM LOS	A	A		

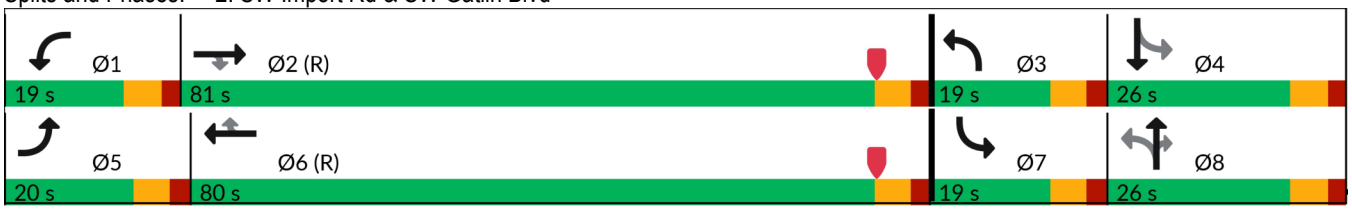
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	224	-	-	869	736	1454	-	-
HCM Lane V/C Ratio	0.014	-	-	0.052	0.006	-	-	-
HCM Control Delay (s/veh)	7.9	0	-	9.4	9.9	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

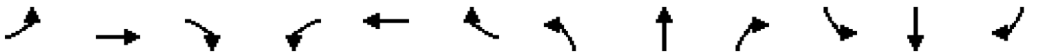
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	111	1119	88	104	1925	47	141	27	57	81	34
Future Volume (vph)	111	1119	88	104	1925	47	141	27	57	81	34
Lane Group Flow (vph)	122	1230	97	114	2115	52	155	30	63	89	224
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	20.0	81.0	81.0	19.0	80.0	80.0	19.0	26.0	26.0	19.0	26.0
Total Split (%)	13.8%	55.9%	55.9%	13.1%	55.2%	55.2%	13.1%	17.9%	17.9%	13.1%	17.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio	0.77	0.45	0.10	0.47	0.81	0.06	0.70	0.10	0.18	0.27	0.63
Control Delay (s/veh)	93.8	21.4	2.2	71.1	32.6	0.1	61.2	55.3	1.4	43.6	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	93.8	21.4	2.2	71.1	32.6	0.1	61.2	55.3	1.4	43.6	29.9
Queue Length 50th (ft)	114	253	0	54	603	0	118	25	0	65	68
Queue Length 95th (ft)	#210	305	22	86	668	0	#198	58	2	113	163
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	169	2702	893	304	2600	864	226	283	336	349	353
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.46	0.11	0.38	0.81	0.06	0.69	0.11	0.19	0.26	0.63

Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	1119	88	104	1925	47	141	27	57	81	34	170
Future Volume (veh/h)	111	1119	88	104	1925	47	141	27	57	81	34	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	122	1230	97	114	2115	52	155	30	63	89	37	187
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	144	2846	883	161	2671	829	205	316	268	326	37	186
Arrive On Green	0.08	0.56	0.56	0.05	0.53	0.53	0.09	0.17	0.17	0.06	0.14	0.14
Sat Flow, veh/h	1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	266	1347
Grp Volume(v), veh/h	122	1230	97	114	2115	52	155	30	63	89	0	224
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0	1613
Q Serve(g_s), s	9.9	20.4	4.2	4.8	49.1	2.3	10.7	2.0	5.0	6.2	0.0	20.0
Cycle Q Clear(g_c), s	9.9	20.4	4.2	4.8	49.1	2.3	10.7	2.0	5.0	6.2	0.0	20.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	144	2846	883	161	2671	829	205	316	268	326	0	223
V/C Ratio(X)	0.85	0.43	0.11	0.71	0.79	0.06	0.76	0.10	0.24	0.27	0.00	1.01
Avail Cap(c_a), veh/h	171	2846	883	307	2671	829	208	316	268	386	0	223
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.7	18.4	14.8	68.1	27.8	16.8	48.6	50.7	52.0	49.7	0.0	62.5
Incr Delay (d2), s/veh	27.2	0.5	0.3	4.3	1.9	0.1	14.5	0.6	2.1	0.4	0.0	62.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	7.7	1.6	2.2	19.2	0.9	5.6	1.0	2.2	2.8	0.0	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	92.8	18.9	15.1	72.4	29.8	16.9	63.1	51.3	54.1	50.1	0.0	124.6
LnGrp LOS	F	B	B	E	C	B	E	D	D	D		F
Approach Vol, veh/h		1449			2281			248			313	
Approach Delay, s/veh		24.8			31.6			59.4			103.4	
Approach LOS		C			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	87.5	18.7	26.0	17.8	82.4	14.0	30.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	75.0	13.0	20.0	14.0	74.0	13.0	20.0
Max Q Clear Time (g_c+I1), s	6.8	22.4	12.7	22.0	11.9	51.1	8.2	7.0
Green Ext Time (p_c), s	0.1	11.3	0.0	0.0	0.1	16.2	0.1	0.2

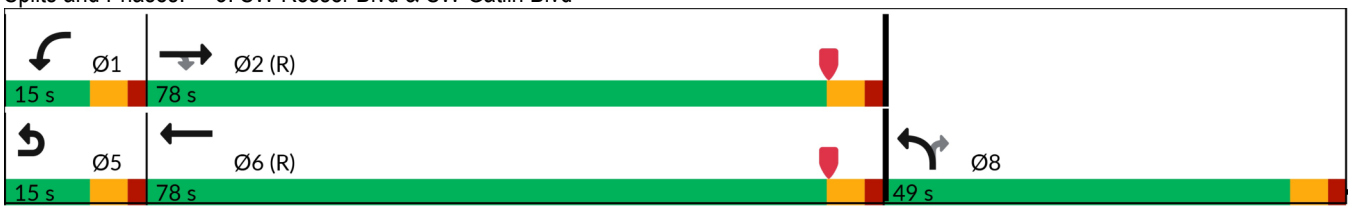
Intersection Summary	
HCM 7th Control Delay, s/veh	36.2
HCM 7th LOS	D

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	16	1063	174	168	1518	605	340
Future Volume (vph)	16	1063	174	168	1518	605	340
Lane Group Flow (vph)	18	1168	191	185	1668	665	374
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	15.0	78.0	78.0	15.0	78.0	49.0	49.0
Total Split (%)	10.6%	54.9%	54.9%	10.6%	54.9%	34.5%	34.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.20	0.45	0.22	0.86	0.57	0.64	0.63
Control Delay (s/veh)	69.7	23.1	8.9	99.0	21.3	46.4	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	69.7	23.1	8.9	99.0	21.3	46.4	28.5
Queue Length 50th (ft)	16	247	39	89	311	275	169
Queue Length 95th (ft)	44	287	85	#158	458	343	285
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	111	2553	848	215	2881	1029	589
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.46	0.23	0.86	0.58	0.65	0.63

Intersection Summary

Cycle Length: 142
Actuated Cycle Length: 142
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	16	1063	174	168	1518	605	340
Future Volume (veh/h)	16	1063	174	168	1518	605	340
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		1168	191	185	1668	665	374
Peak Hour Factor		0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		2568	797	217	3104	1038	476
Arrive On Green		0.51	0.51	0.06	0.61	0.30	0.30
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		1168	191	185	1668	665	374
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		21.0	9.7	7.6	27.0	23.8	30.9
Cycle Q Clear(g_c), s		21.0	9.7	7.6	27.0	23.8	30.9
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		2568	797	217	3104	1038	476
V/C Ratio(X)		0.45	0.24	0.85	0.54	0.64	0.79
Avail Cap(c_a), veh/h		2568	797	217	3104	1038	476
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.90	0.90	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.4	19.6	65.8	15.9	42.8	45.3
Incr Delay (d2), s/veh		0.5	0.6	26.2	0.7	3.0	12.3
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.1	3.6	4.1	9.9	10.4	13.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		22.9	20.3	92.0	16.6	45.8	57.6
LnGrp LOS		C	C	F	B	D	E
Approach Vol, veh/h		1359			1853	1039	
Approach Delay, s/veh		22.6			24.1	50.1	
Approach LOS		C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.0	78.0				93.0	49.0
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	9.0	72.0				72.0	43.0
Max Q Clear Time (g_c+I1), s	9.6	23.0				29.0	32.9
Green Ext Time (p_c), s	0.0	10.9				16.6	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	30.0
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	2	22	3	0	1	27	323	6	1	238	14
Future Vol, veh/h	11	2	22	3	0	1	27	323	6	1	238	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	12	2	24	3	0	1	30	359	7	1	264	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	693	700	272	690	704	362	280	0	0	366	0	0
Stage 1	274	274	-	422	422	-	-	-	-	-	-	-
Stage 2	419	426	-	268	282	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	5	5	-	5	5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	5	-	5	5	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	603	599	919	605	596	841	1277	-	-	1187	-	-
Stage 1	917	917	-	792	792	-	-	-	-	-	-	-
Stage 2	795	789	-	923	910	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	584	581	919	569	578	841	1277	-	-	1187	-	-
Mov Cap-2 Maneuver	584	581	-	569	578	-	-	-	-	-	-	-
Stage 1	916	916	-	769	769	-	-	-	-	-	-	-
Stage 2	770	766	-	895	909	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.01	10.86	0.6	0.03
HCM LOS	B	B		

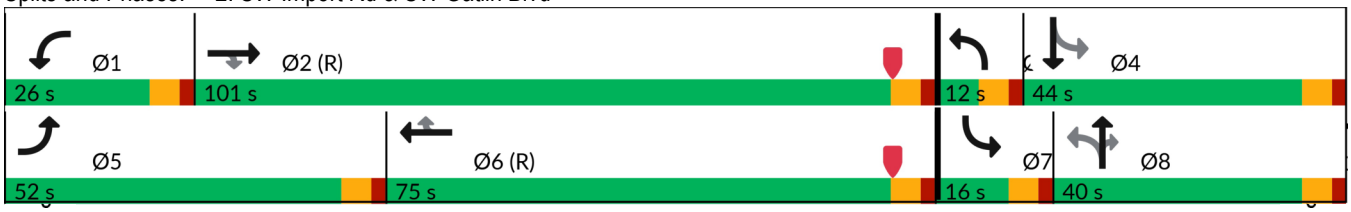
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	136	-	-	757	619	7	-	-
HCM Lane V/C Ratio	0.023	-	-	0.051	0.007	0.001	-	-
HCM Control Delay (s/veh)	7.9	0	-	10	10.9	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-

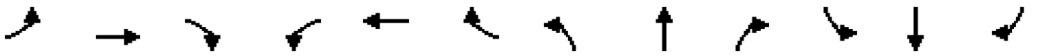
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	280	2124	209	224	1350	78	260	87	137	86	80
Future Volume (vph)	280	2124	209	224	1350	78	260	87	137	86	80
Lane Group Flow (vph)	298	2260	222	238	1436	83	277	93	146	91	214
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	52.0	101.0	101.0	26.0	75.0	75.0	12.0	40.0	40.0	16.0	44.0
Total Split (%)	28.4%	55.2%	55.2%	14.2%	41.0%	41.0%	6.6%	21.9%	21.9%	8.7%	24.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio	0.85	0.84	0.24	0.73	0.66	0.11	1.31	0.26	0.35	0.28	0.56
Control Delay (s/veh)	93.0	40.3	11.0	93.7	44.4	1.1	220.0	66.2	10.7	53.8	59.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	93.0	40.3	11.0	93.7	44.4	1.1	220.0	66.2	10.7	53.8	59.6
Queue Length 50th (ft)	350	835	60	145	503	0	~387	97	0	85	193
Queue Length 95th (ft)	444	916	118	195	610	7	#629	159	68	140	291
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	440	2681	891	371	2164	745	211	345	413	321	378
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.84	0.25	0.64	0.66	0.11	1.31	0.27	0.35	0.28	0.57

Intersection Summary

Cycle Length: 183
Actuated Cycle Length: 183
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	2124	209	224	1350	78	260	87	137	86	80	121
Future Volume (veh/h)	280	2124	209	224	1350	78	260	87	137	86	80	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	298	2260	222	238	1436	83	277	93	146	91	85	129
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	320	2771	860	279	2267	704	203	350	297	296	138	210
Arrive On Green	0.18	0.55	0.55	0.08	0.45	0.45	0.03	0.19	0.19	0.05	0.21	0.21
Sat Flow, veh/h	1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	665	1009
Grp Volume(v), veh/h	298	2260	222	238	1436	83	277	93	146	91	0	214
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0	1674
Q Serve(g_s), s	30.4	66.8	13.6	12.5	40.0	5.6	6.0	7.8	15.2	7.5	0.0	21.3
Cycle Q Clear(g_c), s	30.4	66.8	13.6	12.5	40.0	5.6	6.0	7.8	15.2	7.5	0.0	21.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	320	2771	860	279	2267	704	203	350	297	296	0	348
V/C Ratio(X)	0.93	0.82	0.26	0.85	0.63	0.12	1.36	0.27	0.49	0.31	0.00	0.62
Avail Cap(c_a), veh/h	444	2771	860	375	2267	704	203	350	297	301	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.8	33.9	21.9	83.0	39.0	29.5	76.4	63.4	66.4	55.8	0.0	65.9
Incr Delay (d2), s/veh	21.8	2.8	0.7	12.1	1.2	0.3	191.6	1.8	5.7	0.6	0.0	7.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	27.2	5.4	6.0	16.6	2.3	17.6	3.9	6.6	3.5	0.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	95.7	36.7	22.6	95.0	40.2	29.8	268.0	65.2	72.1	56.4	0.0	73.8
LnGrp LOS	F	D	C	F	D	C	F	E	E	E		E
Approach Vol, veh/h		2780			1757			516			305	
Approach Delay, s/veh		41.9			47.1			176.0			68.6	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.9	106.1	12.0	44.0	39.1	87.9	15.5	40.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	20.0	95.0	6.0	38.0	46.0	69.0	10.0	34.0
Max Q Clear Time (g_c+I1), s	14.5	68.8	8.0	23.3	32.4	42.0	9.5	17.2
Green Ext Time (p_c), s	0.4	19.8	0.0	1.0	0.7	11.6	0.0	0.9

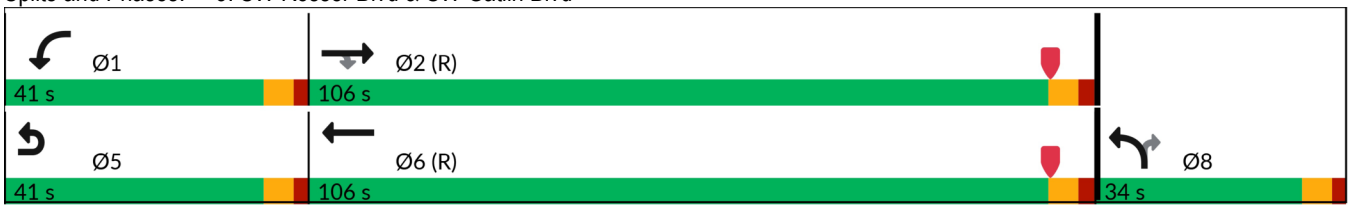
Intersection Summary	
HCM 7th Control Delay, s/veh	58.0
HCM 7th LOS	E

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	20	1885	442	422	1271	390	274
Future Volume (vph)	20	1885	442	422	1271	390	274
Lane Group Flow (vph)	21	1984	465	444	1338	411	288
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	41.0	106.0	106.0	41.0	106.0	34.0	34.0
Total Split (%)	22.7%	58.6%	58.6%	22.7%	58.6%	18.8%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.28	0.67	0.47	0.82	0.36	0.78	0.59
Control Delay (s/veh)	92.8	27.4	16.9	86.3	9.8	85.0	11.8
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.8	27.9	16.9	86.3	9.8	85.0	11.8
Queue Length 50th (ft)	25	572	217	267	220	245	0
Queue Length 95th (ft)	59	675	338	321	258	311	97
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	338	2954	975	657	3675	525	486
Starvation Cap Reductn	0	478	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.80	0.48	0.68	0.36	0.78	0.59

Intersection Summary

Cycle Length: 181
Actuated Cycle Length: 181
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	20	1885	442	422	1271	390	274
Future Volume (veh/h)	20	1885	442	422	1271	390	274
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		1984	465	444	1338	411	288
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		3046	945	496	3946	530	243
Arrive On Green		0.60	0.60	0.14	0.78	0.15	0.15
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		1984	465	444	1338	411	288
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		46.5	30.3	23.0	14.4	20.8	28.0
Cycle Q Clear(g_c), s		46.5	30.3	23.0	14.4	20.8	28.0
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		3046	945	496	3946	530	243
V/C Ratio(X)		0.65	0.49	0.90	0.34	0.77	1.18
Avail Cap(c_a), veh/h		3046	945	663	3946	530	243
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.51	0.51	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		23.7	20.4	76.1	6.0	73.5	76.5
Incr Delay (d2), s/veh		0.6	0.9	12.0	0.2	10.6	116.6
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		18.1	11.1	10.9	4.6	9.9	19.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		24.2	21.4	88.0	6.2	84.1	193.1
LnGrp LOS		C	C	F	A	F	F
Approach Vol, veh/h		2449			1782	699	
Approach Delay, s/veh		23.7			26.6	129.0	
Approach LOS		C			C	F	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.2	114.8				147.0		34.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	35.0	100.0				100.0		28.0
Max Q Clear Time (g_c+I1), s	25.0	48.5				16.4		30.0
Green Ext Time (p_c), s	1.1	28.2				12.6		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	39.7
HCM 7th LOS	D

Notes

User approved ignoring U-Turning movement.

FUTURE BUILD CONDITIONS

Table 5.1 - 2027 Build Intersection Capacity Analysis Summary

Location	Time	Level of Service[1]													
		(1) SW IMPORT DRIVE & SW OAKWOOD ROAD		(2) SW GATLIN BLVD & SW IMPORT DRIVE		(2) SW GATLIN BLVD & SW IMPORT DRIVE[3]		(3) SW GATLIN BLVD & SW ROSSER BLVD		(3) SW GATLIN BLVD & SW ROSSER BLVD[3]		(4) SW IMPORT DRIVE & EAST DRIVEWAY		(5) SOUTH DRIVEWAY & SW GATLIN BLVD	
		Unsignalized		Signalized		Signalized		Signalized		Signalized		Unsignalized		Unsignalized	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
EBL	AM	N/A		F	126.0	E	74.8	C	23.0	C	26.3	N/A		[2]	
	PM			F	97.8	F	95.2	C	24.4	D	35.6				
EBT	AM			B	18.8	C	21.8	C	23.0	C	26.3				
	PM			D	35.8	D	48.8	C	24.4	D	35.6				
EBR	AM			B	15.2	B	17.7	C	20.4	C	23.3				
	PM			C	22.6	C	29.2	C	21.5	C	31.1				
EB Approach	AM	A	9.4	C	30.8	C	27.6	C	22.7	C	25.9	A	9.7		
	PM	B	10.1	D	42.5	D	53.0	C	23.8	C	34.7	A	10.0		
WBL	AM	N/A		E	72.3	E	72.5	F	92.0	E	71.1	N/A		[2]	
	PM			F	94.9	F	88.5	F	88.0	F	86.5				
WBT	AM			C	33.5	D	43.5	B	17.0	B	19.6				
	PM			D	46.0	E	58.2	A	6.4	B	12.0				
WBR	AM			B	18.1	C	21.7	N/A		N/A					
	PM			C	32.9	D	40.2								
WB Approach	AM	A	9.9	D	35.1	D	44.5	C	24.2	C	24.5				
	PM	B	10.9	D	51.7	E	61.3	C	25.8	C	29.7				
NBL	AM	[2]		E	63.9	D	50.7	D	45.9	D	41.7	[2]		N/A	
	PM			F	293.1	F	86.4	F	84.6	E	62.1				
NBT	AM			E	55.1	D	50.2	N/A		N/A					
	PM			E	65.8	E	60.6								
NBR	AM			E	58.7	D	52.7	E	57.6	D	50.0				
	PM			E	72.9	E	66.0	F	193.1	E	78.6				
NB Approach	AM			E	61.6	D	51.2	D	50.1	D	44.7				
	PM			F	190.6	E	76.1	F	129.0	E	68.9				
SBL	AM	[2]		D	48.5	D	43.7	N/A		N/A		[2]		N/A	
	PM			E	62.5	D	53.5								
SBT	AM			F	132.5	E	77.0								
	PM			E	74.7	F	80.5								
SBR	AM			F	132.5	E	77.0								
	PM			E	74.7	F	80.5								
SB Approach	AM			F	99.6	E	63.9							C	17.3
	PM			E	69.6	E	69.1							B	14.2
Overall	AM	N/A		D	40.7	D	41.0	C	29.9	C	29.8	N/A		N/A	
	PM			E	61.4	E	59.1	D	39.2	D	37.6				

[1] Delay is average delay per vehicle in seconds

[2] Approach operates under Free-flow conditions

[3] Optimized signal timing without changing cycle length.

Table 5.2 -2027 Build Intersection Queue Lengths Summary

Location	Time	95th Percentile Queue Lenghts (ft)															
		EBL		EBR		WBL		WBR		NBL		NBR		SBL		SBR	
		Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile	Storage (ft)	95th %tile
(1) SW IMPORT DRIVE & SW OAKWOOD ROAD	AM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
	PM																
(2) SW GATLIN BLVD & SW IMPORT DRIVE	AM	193	#503	250	22	608	86	138	0	204	#207	N/A		N/A		N/A	
	AM[1]		#454		22		88		0		179						
	PM		#1114		117		195		7		#647						
	PM[1]		#1028		157		192		8		#400						
(3) SW GATLIN BLVD & SW ROSSER BLVD	AM	93	44	93	87	420	#158	N/A		236	344	196	286	N/A		N/A	
	AM[1]		45		110		126				329		274				
	PM		59		343		321				314		97				
	PM[1]		59		437		320				282		85				
(4) SW IMPORT DRIVE & EAST DRIVEWAY	AM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
	PM																
(5) SOUTH DRIVEWAY & SW GATLIN BLVD	AM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
	PM																

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

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

[1] Optimized signal timing without changing cycle length.

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ENGINEERING & ENVIRONMENTAL SERVICES

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	9	1	32	3	1	0	16	104	7	0	255	9
Future Vol, veh/h	9	1	32	3	1	0	16	104	7	0	255	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	1	36	3	1	0	18	118	8	0	290	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	450	457	295	449	459	122	300	0	0	126	0	0
Stage 1	295	295	-	159	159	-	-	-	-	-	-	-
Stage 2	155	163	-	290	300	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	5	5	-	5	5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	5	-	5	5	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	770	765	899	771	764	1065	1255	-	-	1454	-	-
Stage 1	899	899	-	1028	1028	-	-	-	-	-	-	-
Stage 2	1031	1024	-	903	894	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	757	753	899	727	752	1065	1255	-	-	1454	-	-
Mov Cap-2 Maneuver	757	753	-	727	752	-	-	-	-	-	-	-
Stage 1	899	899	-	1012	1012	-	-	-	-	-	-	-
Stage 2	1014	1008	-	865	894	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.43	9.94	1	0
HCM LOS	A	A		

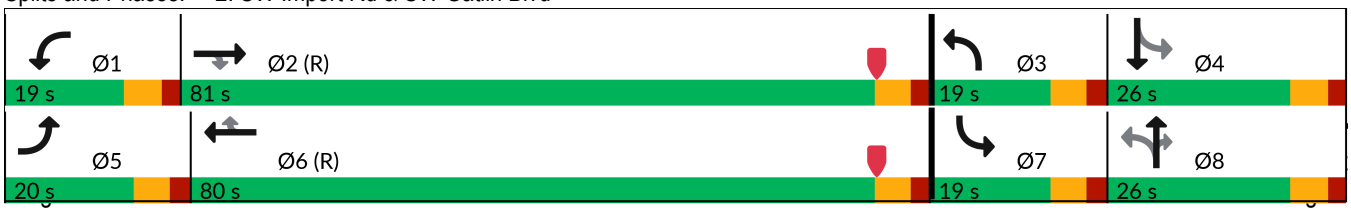
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	224	-	-	860	733	1454	-	-
HCM Lane V/C Ratio	0.014	-	-	0.055	0.006	-	-	-
HCM Control Delay (s/veh)	7.9	0	-	9.4	9.9	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

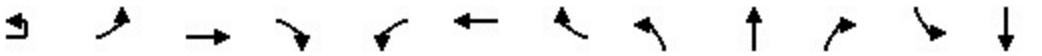
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	151	1079	88	104	2001	47	144	27	57	136	37
Future Volume (vph)	151	1079	88	104	2001	47	144	27	57	136	37
Lane Group Flow (vph)	177	1186	97	114	2199	52	158	30	63	149	231
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	20.0	81.0	81.0	19.0	80.0	80.0	19.0	26.0	26.0	19.0	26.0
Total Split (%)	13.8%	55.9%	55.9%	13.1%	55.2%	55.2%	13.1%	17.9%	17.9%	13.1%	17.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio	no cap	0.44	0.11	0.48	0.86	0.06	0.73	0.11	0.20	0.44	0.68
Control Delay (s/veh)		21.2	2.3	71.1	35.1	0.1	64.0	56.1	1.6	47.4	35.6
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	Error	21.2	2.3	71.1	35.1	0.1	64.0	56.1	1.6	47.4	35.6
Queue Length 50th (ft)	~347	241	0	54	645	0	121	25	0	113	88
Queue Length 95th (ft)	#503	291	22	86	714	0	#207	58	2	178	186
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	1	2702	893	304	2570	855	220	262	319	348	341
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	177.00	0.44	0.11	0.38	0.86	0.06	0.72	0.11	0.20	0.43	0.68

Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd





Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	10	151	1079	88	104	2001	47	144	27	57	136	37
Future Volume (veh/h)	10	151	1079	88	104	2001	47	144	27	57	136	37
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		166	1186	97	114	2199	52	158	30	63	149	41
Peak Hour Factor		0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %		3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h		171	2837	881	161	2586	803	208	264	224	366	40
Arrive On Green		0.10	0.56	0.56	0.05	0.51	0.51	0.09	0.14	0.14	0.09	0.14
Sat Flow, veh/h		1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	287
Grp Volume(v), veh/h		166	1186	97	114	2199	52	158	30	63	149	0
Grp Sat Flow(s),veh/h/ln		1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0
Q Serve(g_s), s		13.6	19.5	4.2	4.8	54.4	2.4	11.0	2.0	5.2	10.4	0.0
Cycle Q Clear(g_c), s		13.6	19.5	4.2	4.8	54.4	2.4	11.0	2.0	5.2	10.4	0.0
Prop In Lane		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		171	2837	881	161	2586	803	208	264	224	366	0
V/C Ratio(X)		0.97	0.42	0.11	0.71	0.85	0.06	0.76	0.11	0.28	0.41	0.00
Avail Cap(c_a), veh/h		171	2837	881	307	2586	803	208	264	224	374	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		65.3	18.3	15.0	68.1	30.7	18.0	48.9	54.2	55.6	47.8	0.0
Incr Delay (d2), s/veh		60.7	0.5	0.3	4.2	2.8	0.1	15.0	0.9	3.1	0.7	0.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.9	7.4	1.6	2.1	21.6	0.9	5.8	1.0	2.3	4.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		126.0	18.8	15.2	72.3	33.5	18.1	63.9	55.1	58.7	48.5	0.0
LnGrp LOS		F	B	B	E	C	B	E	E	E	D	
Approach Vol, veh/h			1449			2365			251			380
Approach Delay, s/veh			30.8			35.1			61.6			99.6
Approach LOS			C			D			E			F

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	87.2	19.0	26.0	20.0	80.0	18.4	26.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	13.0	75.0	13.0	20.0	14.0	74.0	13.0	20.0
Max Q Clear Time (g_c+I1), s	6.8	21.5	13.0	22.0	15.6	56.4	12.4	7.2
Green Ext Time (p_c), s	0.1	10.7	0.0	0.0	0.0	13.7	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	40.7
HCM 7th LOS	D

Notes

User approved ignoring U-Turning movement.

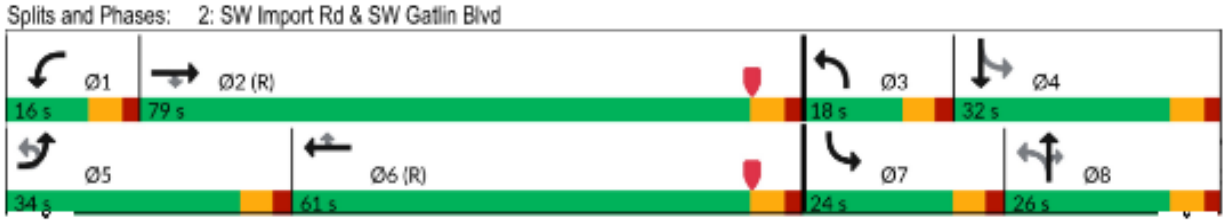
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	173
Future Volume (veh/h)	173
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	190
Peak Hour Factor	0.91
Percent Heavy Veh, %	3
Cap, veh/h	183
Arrive On Green	0.14
Sat Flow, veh/h	1329
Grp Volume(v), veh/h	231
Grp Sat Flow(s),veh/h/ln	1616
Q Serve(g_s), s	20.0
Cycle Q Clear(g_c), s	20.0
Prop In Lane	0.82
Lane Grp Cap(c), veh/h	223
V/C Ratio(X)	1.04
Avail Cap(c_a), veh/h	223
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	62.5
Incr Delay (d2), s/veh	70.0
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	12.6
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	132.5
LnGrp LOS	F
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
October 2024
341021701
SW Import Drive & SW Gatlin Boulevard

Morning Peak Hour

Existing Timing

Optimized Timing

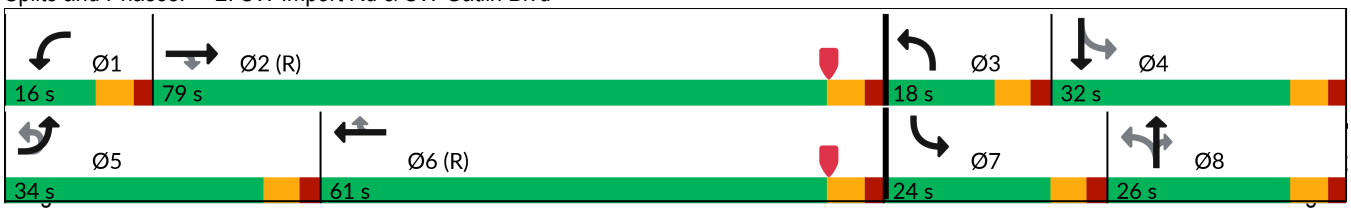


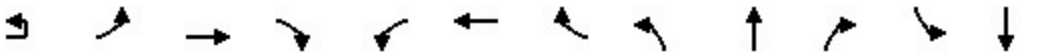
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	10	151	1079	88	104	2001	47	144	27	57	136	37
Future Volume (vph)	10	151	1079	88	104	2001	47	144	27	57	136	37
Lane Group Flow (vph)	0	177	1186	97	114	2199	52	158	30	63	149	231
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		5	2		1	6		3	8		7	4
Permitted Phases	5			2			6	8		8	4	
Detector Phase	5	5	2	2	1	6	6	3	8	8	7	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	34.0	34.0	79.0	79.0	16.0	61.0	61.0	18.0	26.0	26.0	24.0	32.0
Total Split (%)	23.4%	23.4%	54.5%	54.5%	11.0%	42.1%	42.1%	12.4%	17.9%	17.9%	16.6%	22.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio		3.54	0.46	0.11	0.53	1.15	0.08	0.61	0.10	0.16	0.38	0.56
Control Delay (s/veh)		Error	23.8	2.4	74.5	115.4	0.2	51.4	54.7	0.9	41.7	27.1
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		Error	23.8	2.4	74.5	115.4	0.2	51.4	54.7	0.9	41.7	27.1
Queue Length 50th (ft)		~297	260	0	54	~892	0	115	25	0	107	77
Queue Length 95th (ft)		#454	301	22	88	#983	0	179	58	0	170	169
Internal Link Dist (ft)			1623			890			1220			814
Turn Bay Length (ft)		193		250	608		138	204				
Base Capacity (vph)		50	2560	852	234	1910	692	261	299	387	434	409
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio		3.54	0.46	0.11	0.49	1.15	0.08	0.61	0.10	0.16	0.34	0.56

Intersection Summary

Cycle Length: 145
Actuated Cycle Length: 145
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd





Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	10	151	1079	88	104	2001	47	144	27	57	136	37
Future Volume (veh/h)	10	151	1079	88	104	2001	47	144	27	57	136	37
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		166	1186	97	114	2199	52	158	30	63	149	41
Peak Hour Factor		0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %		3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h		191	2663	827	160	2351	730	244	333	282	410	51
Arrive On Green		0.11	0.53	0.53	0.05	0.46	0.46	0.08	0.18	0.18	0.08	0.18
Sat Flow, veh/h		1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	287
Grp Volume(v), veh/h		166	1186	97	114	2199	52	158	30	63	149	0
Grp Sat Flow(s),veh/h/ln		1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0
Q Serve(g_s), s		13.4	21.0	4.5	4.8	59.6	2.7	10.5	2.0	5.0	9.9	0.0
Cycle Q Clear(g_c), s		13.4	21.0	4.5	4.8	59.6	2.7	10.5	2.0	5.0	9.9	0.0
Prop In Lane		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		191	2663	827	160	2351	730	244	333	282	410	0
V/C Ratio(X)		0.87	0.45	0.12	0.71	0.94	0.07	0.65	0.09	0.22	0.36	0.00
Avail Cap(c_a), veh/h		341	2663	827	236	2351	730	244	333	282	483	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		63.6	21.3	17.4	68.2	36.8	21.5	44.9	49.6	50.9	43.1	0.0
Incr Delay (d2), s/veh		11.2	0.5	0.3	4.4	6.7	0.1	5.8	0.5	1.8	0.5	0.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		6.5	8.2	1.7	2.2	24.8	1.0	5.0	1.0	2.1	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		74.8	21.8	17.7	72.5	43.5	21.7	50.7	50.2	52.7	43.7	0.0
LnGrp LOS		E	C	B	E	D	C	D	D	D	D	
Approach Vol, veh/h			1449			2365			251			380
Approach Delay, s/veh			27.6			44.5			51.2			63.9
Approach LOS			C			D			D			E

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	82.2	18.0	32.0	21.7	73.3	18.0	32.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	73.0	12.0	26.0	28.0	55.0	18.0	20.0
Max Q Clear Time (g_c+I1), s	6.8	23.0	12.5	21.8	15.4	61.6	11.9	7.0
Green Ext Time (p_c), s	0.1	10.6	0.0	0.5	0.3	0.0	0.2	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	41.0
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

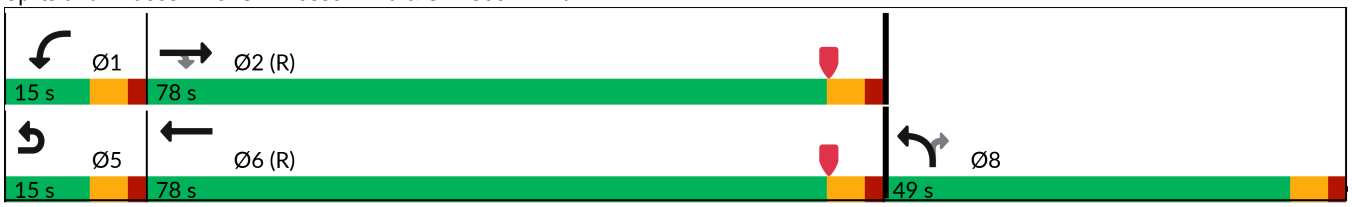
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	173
Future Volume (veh/h)	173
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	190
Peak Hour Factor	0.91
Percent Heavy Veh, %	3
Cap, veh/h	238
Arrive On Green	0.18
Sat Flow, veh/h	1329
Grp Volume(v), veh/h	231
Grp Sat Flow(s),veh/h/ln	1616
Q Serve(g_s), s	19.8
Cycle Q Clear(g_c), s	19.8
Prop In Lane	0.82
Lane Grp Cap(c), veh/h	290
V/C Ratio(X)	0.80
Avail Cap(c_a), veh/h	290
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	57.0
Incr Delay (d2), s/veh	20.0
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	9.7
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	77.0
LnGrp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	16	1075	177	168	1591	608	340
Future Volume (vph)	16	1075	177	168	1591	608	340
Lane Group Flow (vph)	18	1181	195	185	1748	668	374
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	15.0	78.0	78.0	15.0	78.0	49.0	49.0
Total Split (%)	10.6%	54.9%	54.9%	10.6%	54.9%	34.5%	34.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.21	0.46	0.23	0.86	0.61	0.65	0.63
Control Delay (s/veh)	69.8	23.3	9.1	99.0	22.0	46.5	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	69.8	23.3	9.1	99.0	22.0	46.5	28.7
Queue Length 50th (ft)	16	251	40	89	334	276	169
Queue Length 95th (ft)	44	291	87	#158	490	344	286
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	111	2553	848	215	2881	1029	589
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.46	0.23	0.86	0.61	0.65	0.63

Intersection Summary

Cycle Length: 142
Actuated Cycle Length: 142
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	16	1075	177	168	1591	608	340
Future Volume (veh/h)	16	1075	177	168	1591	608	340
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		1181	195	185	1748	668	374
Peak Hour Factor		0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		2568	797	217	3104	1038	476
Arrive On Green		0.51	0.51	0.06	0.61	0.30	0.30
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		1181	195	185	1748	668	374
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		21.3	9.9	7.6	29.0	24.0	30.9
Cycle Q Clear(g_c), s		21.3	9.9	7.6	29.0	24.0	30.9
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		2568	797	217	3104	1038	476
V/C Ratio(X)		0.46	0.24	0.85	0.56	0.64	0.79
Avail Cap(c_a), veh/h		2568	797	217	3104	1038	476
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.91	0.91	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.5	19.7	65.8	16.3	42.9	45.3
Incr Delay (d2), s/veh		0.5	0.7	26.2	0.7	3.1	12.3
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.3	3.7	4.1	10.6	10.5	13.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		23.0	20.4	92.0	17.0	45.9	57.6
LnGrp LOS		C	C	F	B	D	E
Approach Vol, veh/h		1376			1933	1042	
Approach Delay, s/veh		22.7			24.2	50.1	
Approach LOS		C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.0	78.0				93.0	49.0
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	9.0	72.0				72.0	43.0
Max Q Clear Time (g_c+I1), s	9.6	23.3				31.0	32.9
Green Ext Time (p_c), s	0.0	11.1				17.6	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	29.9
HCM 7th LOS	C

Notes

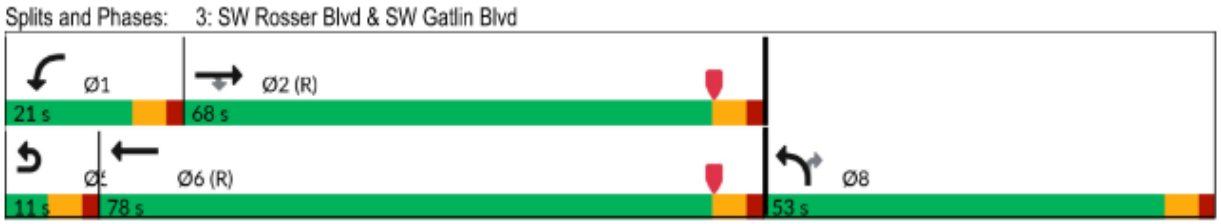
User approved ignoring U-Turning movement.

Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
October 2024
341021701
SW Rosser Boulevard & SW Gatlin Boulevard

Morning Peak Hour

Existing Timing

Optimized Timing

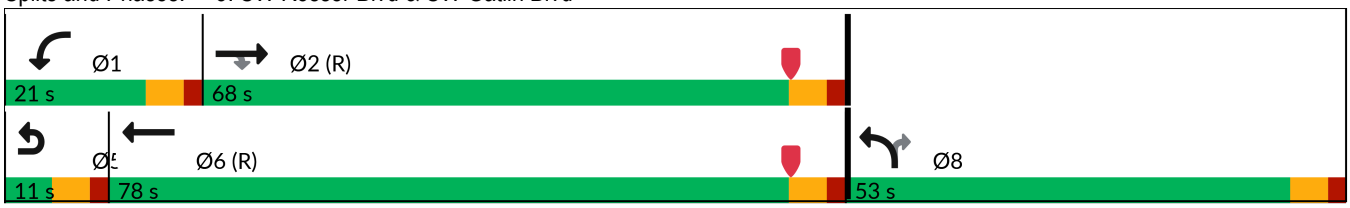


Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	16	1075	177	168	1591	608	340
Future Volume (vph)	16	1075	177	168	1591	608	340
Lane Group Flow (vph)	18	1181	195	185	1748	668	374
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	11.0	68.0	68.0	21.0	78.0	53.0	53.0
Total Split (%)	7.7%	47.9%	47.9%	14.8%	54.9%	37.3%	37.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.30	0.52	0.26	0.61	0.63	0.59	0.60
Control Delay (s/veh)	79.3	29.0	13.1	70.8	23.6	42.2	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	79.3	29.0	13.1	70.8	23.6	42.2	25.9
Queue Length 50th (ft)	17	282	53	86	361	264	162
Queue Length 95th (ft)	45	336	110	126	490	329	274
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	61	2280	762	359	2787	1125	628
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.52	0.26	0.52	0.63	0.59	0.60

Intersection Summary

Cycle Length: 142
Actuated Cycle Length: 142
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	16	1075	177	168	1591	608	340
Future Volume (veh/h)	16	1075	177	168	1591	608	340
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		1181	195	185	1748	668	374
Peak Hour Factor		0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		2398	744	236	2961	1135	520
Arrive On Green		0.47	0.47	0.07	0.58	0.33	0.33
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		1181	195	185	1748	668	374
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		22.7	10.6	7.5	31.1	23.0	29.6
Cycle Q Clear(g_c), s		22.7	10.6	7.5	31.1	23.0	29.6
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		2398	744	236	2961	1135	520
V/C Ratio(X)		0.49	0.26	0.78	0.59	0.59	0.72
Avail Cap(c_a), veh/h		2398	744	362	2961	1135	520
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.90	0.90	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		25.7	22.5	65.1	18.7	39.5	41.7
Incr Delay (d2), s/veh		0.7	0.8	6.0	0.9	2.2	8.3
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		9.0	4.0	3.4	11.7	9.9	12.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		26.3	23.3	71.1	19.6	41.7	50.0
LnGrp LOS		C	C	E	B	D	D
Approach Vol, veh/h		1376			1933	1042	
Approach Delay, s/veh		25.9			24.5	44.7	
Approach LOS		C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.8	73.2				89.0	53.0
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	15.0	62.0				72.0	47.0
Max Q Clear Time (g_c+I1), s	9.5	24.7				33.1	31.6
Green Ext Time (p_c), s	0.3	10.6				17.2	3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	29.8
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	2	22	3	0	1	27	323	6	1	241	14
Future Vol, veh/h	13	2	22	3	0	1	27	323	6	1	241	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	14	2	24	3	0	1	30	359	7	1	268	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	697	703	276	693	708	362	283	0	0	366	0	0
Stage 1	278	278	-	422	422	-	-	-	-	-	-	-
Stage 2	419	426	-	271	286	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	5	5	-	5	5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	5	-	5	5	-	-	-	-	-	-	-
Follow-up Hdwy	3	3	3	3	3	3	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	601	597	916	603	594	841	1273	-	-	1187	-	-
Stage 1	914	914	-	792	792	-	-	-	-	-	-	-
Stage 2	795	789	-	920	907	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	582	579	916	567	576	841	1273	-	-	1187	-	-
Mov Cap-2 Maneuver	582	579	-	567	576	-	-	-	-	-	-	-
Stage 1	913	913	-	768	768	-	-	-	-	-	-	-
Stage 2	770	766	-	892	906	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.13	10.88	0.6	0.03
HCM LOS	B	B		

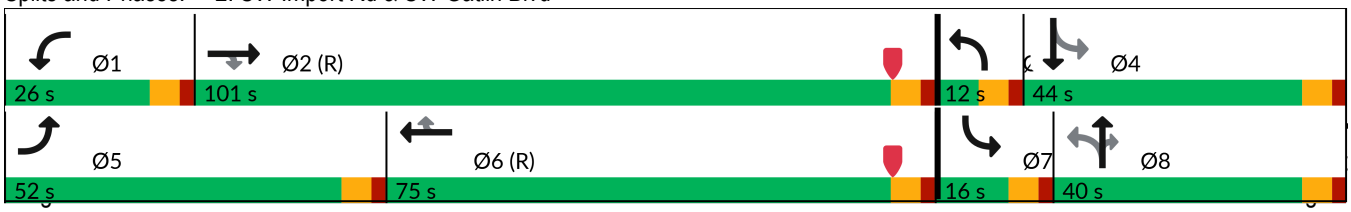
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	136	-	-	743	617	7	-	-
HCM Lane V/C Ratio	0.024	-	-	0.055	0.007	0.001	-	-
HCM Control Delay (s/veh)	7.9	0	-	10.1	10.9	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	327	2078	209	224	1438	78	264	87	137	151	84
Future Volume (vph)	327	2078	209	224	1438	78	264	87	137	151	84
Lane Group Flow (vph)	360	2211	222	238	1530	83	281	93	146	161	221
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	52.0	101.0	101.0	26.0	75.0	75.0	12.0	40.0	40.0	16.0	44.0
Total Split (%)	28.4%	55.2%	55.2%	14.2%	41.0%	41.0%	6.6%	21.9%	21.9%	8.7%	24.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio	no cap	0.82	0.25	0.73	0.81	0.12	1.37	0.27	0.36	0.50	0.59
Control Delay (s/veh)		39.3	10.8	93.8	55.1	1.2	241.4	66.4	10.8	60.6	61.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	Error	39.3	10.8	93.8	55.1	1.2	241.4	66.4	10.8	60.6	61.2
Queue Length 50th (ft)	~895	803	59	145	603	0	~404	97	0	156	203
Queue Length 95th (ft)	#1114	882	117	195	664	7	#647	159	68	232	302
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	1	2681	892	371	1898	669	205	342	410	319	377
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	360.00	0.82	0.25	0.64	0.81	0.12	1.37	0.27	0.36	0.50	0.59

Intersection Summary

Cycle Length: 183
Actuated Cycle Length: 183
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	11	327	2078	209	224	1438	78	264	87	137	151	84
Future Volume (veh/h)	11	327	2078	209	224	1438	78	264	87	137	151	84
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		348	2211	222	238	1530	83	281	93	146	161	89
Peak Hour Factor		0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %		3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h		369	2771	860	279	2126	660	198	345	292	298	140
Arrive On Green		0.21	0.55	0.55	0.08	0.42	0.42	0.03	0.19	0.19	0.05	0.21
Sat Flow, veh/h		1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	675
Grp Volume(v), veh/h		348	2211	222	238	1530	83	281	93	146	161	0
Grp Sat Flow(s),veh/h/ln		1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0
Q Serve(g_s), s		35.5	64.2	13.6	12.5	46.0	5.9	6.0	7.9	15.3	10.0	0.0
Cycle Q Clear(g_c), s		35.5	64.2	13.6	12.5	46.0	5.9	6.0	7.9	15.3	10.0	0.0
Prop In Lane		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		369	2771	860	279	2126	660	198	345	292	298	0
V/C Ratio(X)		0.94	0.80	0.26	0.85	0.72	0.13	1.42	0.27	0.50	0.54	0.00
Avail Cap(c_a), veh/h		444	2771	860	375	2126	660	198	345	292	298	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		71.3	33.3	21.9	83.0	44.1	32.5	76.6	63.9	66.9	60.5	0.0
Incr Delay (d2), s/veh		26.4	2.5	0.7	11.9	1.9	0.3	216.5	1.9	6.0	2.0	0.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		18.6	26.1	5.4	6.0	19.3	2.4	18.4	4.0	6.7	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		97.8	35.8	22.6	94.9	46.0	32.9	293.1	65.8	72.9	62.5	0.0
LnGrp LOS		F	D	C	F	D	C	F	E	E	E	
Approach Vol, veh/h			2781			1851			520			382
Approach Delay, s/veh			42.5			51.7			190.6			69.6
Approach LOS			D			D			F			E

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.9	106.1	12.0	44.0	44.2	82.8	16.0	40.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	20.0	95.0	6.0	38.0	46.0	69.0	10.0	34.0
Max Q Clear Time (g_c+I1), s	14.5	66.2	8.0	24.0	37.5	48.0	12.0	17.3
Green Ext Time (p_c), s	0.4	20.8	0.0	1.1	0.7	11.0	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	61.4
HCM 7th LOS	E

Notes

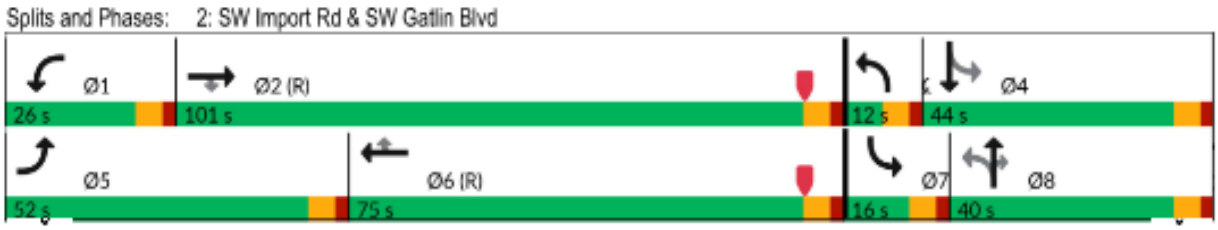
User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	124
Future Volume (veh/h)	124
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	132
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	208
Arrive On Green	0.21
Sat Flow, veh/h	1001
Grp Volume(v), veh/h	221
Grp Sat Flow(s),veh/h/ln	1675
Q Serve(g_s), s	22.0
Cycle Q Clear(g_c), s	22.0
Prop In Lane	0.60
Lane Grp Cap(c), veh/h	348
V/C Ratio(X)	0.64
Avail Cap(c_a), veh/h	348
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	66.2
Incr Delay (d2), s/veh	8.6
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	10.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	74.7
LnGrp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

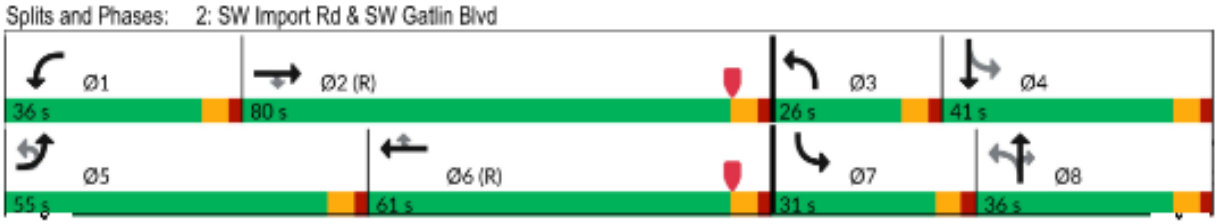
Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
October 2024
341021701
SW Import Drive & SW Gatlin Boulevard

Afternoon Peak Hour

Existing Timing



Optimized Timing

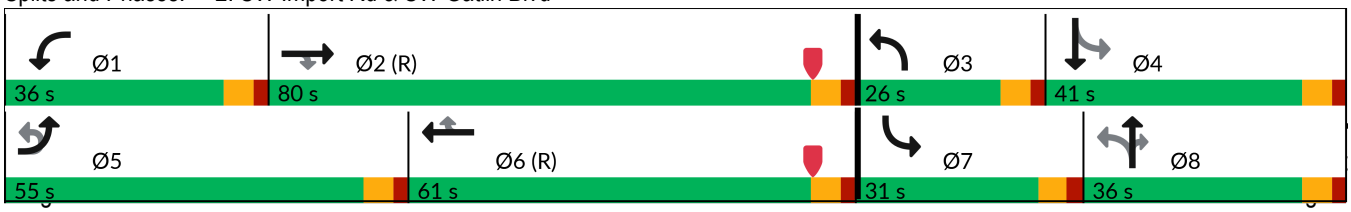


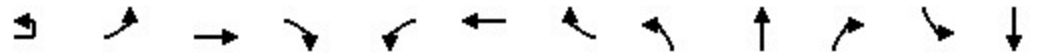
Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	11	327	2078	209	224	1438	78	264	87	137	151	84
Future Volume (vph)	11	327	2078	209	224	1438	78	264	87	137	151	84
Lane Group Flow (vph)	0	360	2211	222	238	1530	83	281	93	146	161	221
Turn Type	custom	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		5	2		1	6		3	8		7	4
Permitted Phases	5			2			6	8		8	4	
Detector Phase	5	5	2	2	1	6	6	3	8	8	7	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0	24.0	11.0	24.0
Total Split (s)	55.0	55.0	80.0	80.0	36.0	61.0	61.0	26.0	36.0	36.0	31.0	41.0
Total Split (%)	30.1%	30.1%	43.7%	43.7%	19.7%	33.3%	33.3%	14.2%	19.7%	19.7%	16.9%	22.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
v/c Ratio		9.00	0.94	0.28	0.71	1.01	0.15	0.89	0.25	0.34	0.39	0.63
Control Delay (s/veh)		Error	54.5	17.2	91.4	88.2	1.6	79.7	65.0	10.7	48.1	65.6
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		Error	54.5	17.2	91.4	88.2	1.6	79.7	65.0	10.7	48.1	65.6
Queue Length 50th (ft)		~807	913	85	145	~693	0	270	95	0	143	208
Queue Length 95th (ft)		#1028	#1076	157	192	#798	8	#400	162	69	212	310
Internal Link Dist (ft)			1623			890			1220			814
Turn Bay Length (ft)		193		250	608		138	204				
Base Capacity (vph)		40	2363	789	557	1513	558	316	373	434	485	350
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio		9.00	0.94	0.28	0.43	1.01	0.15	0.89	0.25	0.34	0.33	0.63

Intersection Summary

Cycle Length: 183
Actuated Cycle Length: 183
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: SW Import Rd & SW Gatlin Blvd





Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	11	327	2078	209	224	1438	78	264	87	137	151	84
Future Volume (veh/h)	11	327	2078	209	224	1438	78	264	87	137	151	84
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		348	2211	222	238	1530	83	281	93	146	161	89
Peak Hour Factor		0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %		3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h		370	2459	763	284	1819	565	311	400	339	387	129
Arrive On Green		0.21	0.49	0.49	0.08	0.36	0.36	0.11	0.22	0.22	0.08	0.19
Sat Flow, veh/h		1767	5066	1572	3428	5066	1572	1767	1856	1572	1767	675
Grp Volume(v), veh/h		348	2211	222	238	1530	83	281	93	146	161	0
Grp Sat Flow(s),veh/h/ln		1767	1689	1572	1714	1689	1572	1767	1856	1572	1767	0
Q Serve(g_s), s		35.5	72.9	15.5	12.5	50.8	6.5	20.0	7.6	14.7	13.3	0.0
Cycle Q Clear(g_c), s		35.5	72.9	15.5	12.5	50.8	6.5	20.0	7.6	14.7	13.3	0.0
Prop In Lane		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h		370	2459	763	284	1819	565	311	400	339	387	0
V/C Ratio(X)		0.94	0.90	0.29	0.84	0.84	0.15	0.90	0.23	0.43	0.42	0.00
Avail Cap(c_a), veh/h		473	2459	763	562	1819	565	311	400	339	478	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		71.3	43.0	28.2	82.7	53.8	39.7	58.5	59.3	62.1	52.8	0.0
Incr Delay (d2), s/veh		24.0	5.8	1.0	5.8	4.4	0.5	27.9	1.4	4.0	0.7	0.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		18.3	30.9	6.2	5.7	21.9	2.7	6.0	3.8	6.3	6.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		95.2	48.8	29.2	88.5	58.2	40.2	86.4	60.6	66.0	53.5	0.0
LnGrp LOS		F	D	C	F	E	D	F	E	E	D	
Approach Vol, veh/h			2781			1851			520			382
Approach Delay, s/veh			53.0			61.3			76.1			69.1
Approach LOS			D			E			E			E

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.2	94.8	26.0	41.0	44.3	71.7	21.6	45.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	30.0	74.0	20.0	35.0	49.0	55.0	25.0	30.0
Max Q Clear Time (g_c+I1), s	14.5	74.9	22.0	24.5	37.5	52.8	15.3	16.7
Green Ext Time (p_c), s	0.7	0.0	0.0	0.9	0.8	1.8	0.3	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	59.1
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

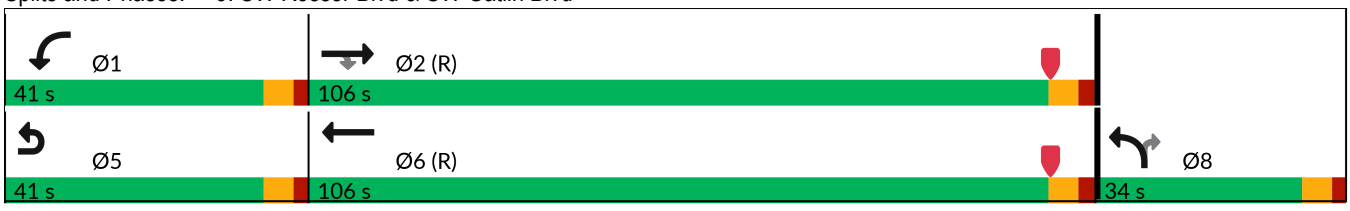
Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	124
Future Volume (veh/h)	124
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	132
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	191
Arrive On Green	0.19
Sat Flow, veh/h	1001
Grp Volume(v), veh/h	221
Grp Sat Flow(s),veh/h/ln	1675
Q Serve(g_s), s	22.5
Cycle Q Clear(g_c), s	22.5
Prop In Lane	0.60
Lane Grp Cap(c), veh/h	320
V/C Ratio(X)	0.69
Avail Cap(c_a), veh/h	320
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	68.9
Incr Delay (d2), s/veh	11.5
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	10.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	80.5
LnGrp LOS	F
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	20	1900	446	422	1353	394	274
Future Volume (vph)	20	1900	446	422	1353	394	274
Lane Group Flow (vph)	21	2000	469	444	1424	415	288
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	41.0	106.0	106.0	41.0	106.0	34.0	34.0
Total Split (%)	22.7%	58.6%	58.6%	22.7%	58.6%	18.8%	18.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.28	0.68	0.48	0.82	0.39	0.79	0.59
Control Delay (s/veh)	92.8	27.6	17.1	86.3	10.1	85.5	11.8
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.8	28.1	17.1	86.3	10.1	85.5	11.8
Queue Length 50th (ft)	25	580	220	267	240	248	0
Queue Length 95th (ft)	59	684	343	321	280	314	97
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	338	2954	975	657	3675	525	486
Starvation Cap Reductn	0	475	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.81	0.48	0.68	0.39	0.79	0.59

Intersection Summary

Cycle Length: 181
Actuated Cycle Length: 181
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	20	1900	446	422	1353	394	274
Future Volume (veh/h)	20	1900	446	422	1353	394	274
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		2000	469	444	1424	415	288
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		3046	945	496	3946	530	243
Arrive On Green		0.60	0.60	0.14	0.78	0.15	0.15
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		2000	469	444	1424	415	288
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		47.1	30.7	23.0	15.6	21.1	28.0
Cycle Q Clear(g_c), s		47.1	30.7	23.0	15.6	21.1	28.0
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		3046	945	496	3946	530	243
V/C Ratio(X)		0.66	0.50	0.90	0.36	0.78	1.18
Avail Cap(c_a), veh/h		3046	945	663	3946	530	243
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.54	0.54	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		23.8	20.5	76.1	6.1	73.6	76.5
Incr Delay (d2), s/veh		0.6	1.0	12.0	0.3	11.0	116.6
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		18.3	11.3	10.9	5.1	10.1	19.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		24.4	21.5	88.0	6.4	84.6	193.1
LnGrp LOS		C	C	F	A	F	F
Approach Vol, veh/h		2469			1868	703	
Approach Delay, s/veh		23.8			25.8	129.0	
Approach LOS		C			C	F	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.2	114.8				147.0		34.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	35.0	100.0				100.0		28.0
Max Q Clear Time (g_c+I1), s	25.0	49.1				17.6		30.0
Green Ext Time (p_c), s	1.1	28.4				14.1		0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	39.2
HCM 7th LOS	D

Notes

User approved ignoring U-Turning movement.

Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
October 2024
341021701
SW Rosser Boulevard & SW Gatlin Boulevard

Afternoon Peak Hour

Existing Timing

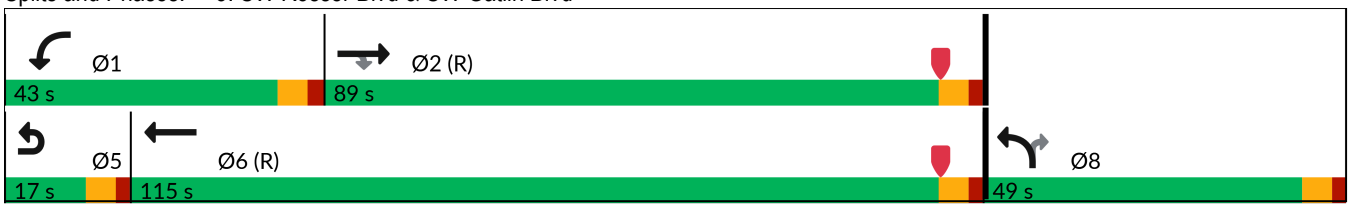
Optimized Timing

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	20	1900	446	422	1353	394	274
Future Volume (vph)	20	1900	446	422	1353	394	274
Lane Group Flow (vph)	21	2000	469	444	1424	415	288
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	17.0	89.0	89.0	43.0	115.0	49.0	49.0
Total Split (%)	9.4%	49.2%	49.2%	23.8%	63.5%	27.1%	27.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	C-Max	C-Max	None	C-Max	Max	Max
v/c Ratio	0.28	0.79	0.56	0.82	0.44	0.51	0.49
Control Delay (s/veh)	92.8	40.5	26.5	86.2	16.9	62.6	8.2
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.8	41.2	26.5	86.2	16.9	62.6	8.2
Queue Length 50th (ft)	25	708	291	267	316	223	0
Queue Length 95th (ft)	59	822	437	320	365	282	85
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	106	2535	844	695	3257	807	592
Starvation Cap Reductn	0	229	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.87	0.56	0.64	0.44	0.51	0.49

Intersection Summary

Cycle Length: 181
Actuated Cycle Length: 181
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: SW Rosser Blvd & SW Gatlin Blvd



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	20	1900	446	422	1353	394	274
Future Volume (veh/h)	20	1900	446	422	1353	394	274
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		2000	469	444	1424	415	288
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		3	3	3	3	3	3
Cap, veh/h		2623	814	497	3526	814	374
Arrive On Green		0.52	0.52	0.15	0.70	0.24	0.24
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		2000	469	444	1424	415	288
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		56.9	37.1	23.0	21.5	19.0	30.9
Cycle Q Clear(g_c), s		56.9	37.1	23.0	21.5	19.0	30.9
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		2623	814	497	3526	814	374
V/C Ratio(X)		0.76	0.58	0.89	0.40	0.51	0.77
Avail Cap(c_a), veh/h		2623	814	701	3526	814	374
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.38	0.38	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		34.8	30.0	76.0	11.6	59.9	64.4
Incr Delay (d2), s/veh		0.8	1.1	10.5	0.3	2.3	14.2
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		23.0	14.1	10.8	7.9	8.5	13.8
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		35.6	31.1	86.5	12.0	62.1	78.6
LnGrp LOS		D	C	F	B	E	E
Approach Vol, veh/h		2469			1868	703	
Approach Delay, s/veh		34.7			29.7	68.9	
Approach LOS		C			C	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	32.3	99.7				132.0	49.0
Change Period (Y+Rc), s	6.0	6.0				6.0	6.0
Max Green Setting (Gmax), s	37.0	83.0				109.0	43.0
Max Q Clear Time (g_c+I1), s	25.0	58.9				23.5	32.9
Green Ext Time (p_c), s	1.2	17.5				14.1	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	37.6
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

DRIVEWAYS

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	89	0	225	278	12
Future Vol, veh/h	0	89	0	225	278	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	97	0	245	302	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	309	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3	-	-	-	-
Pot Cap-1 Maneuver	0	886	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	886	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.56	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	886	-	-
HCM Lane V/C Ratio	-	0.109	-	-
HCM Control Delay (s/veh)	-	9.6	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1328	2208	120	0	41
Future Vol, veh/h	0	1328	2208	120	0	41
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	1443	2400	130	0	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	1265
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	5
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3
Pot Cap-1 Maneuver	0	-	-	-	0	335
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	335
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	17.39
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	335
HCM Lane V/C Ratio	-	-	-	0.133
HCM Control Delay (s/veh)	-	-	-	17.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	106	0	492	252	14
Future Vol, veh/h	0	106	0	492	252	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	115	0	535	274	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	282	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3	-	-	-	-
Pot Cap-1 Maneuver	0	911	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	911	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.53	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	911	-	-
HCM Lane V/C Ratio	-	0.127	-	-
HCM Control Delay (s/veh)	-	9.5	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2625	1698	139	0	47
Future Vol, veh/h	0	2625	1698	139	0	47
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	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	2853	1846	151	0	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	998
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	5
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3
Pot Cap-1 Maneuver	0	-	-	-	0	442
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	442
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	14.21
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	442
HCM Lane V/C Ratio	-	-	-	0.116
HCM Control Delay (s/veh)	-	-	-	14.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Right Turn Lane Warrant
Analyst: LTA
Date: OCTOBER 2024
Analysis Year: 2027 AM
Job#: 341021701

Intersection:
N/S: SW Import Dr
E/W: East Driveway
SOUTHBOUND RIGHT TURN

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

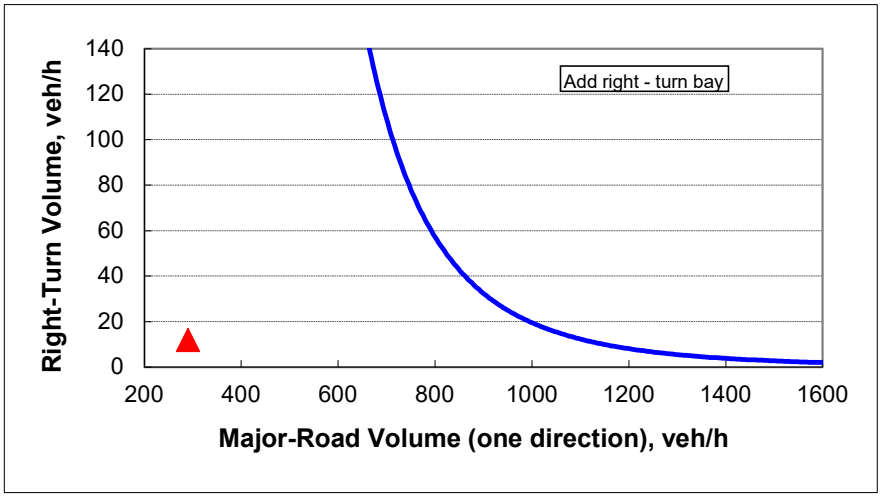
INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	30
Major-road volume (one direction), veh/h:	290
Right-turn volume, veh/h:	12

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	7614
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Data Source: NCHRP 457 Evaluation of Intersection Improvements

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Right Turn Lane Warrant
Analyst: LTA
Date: OCTOBER 2024
Analysis Year: 2027 PM
Job#: 341021701

Intersection:
N/S: SW Import Dr
E/W: East Driveway
SOUTHBOUND RIGHT TURN

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

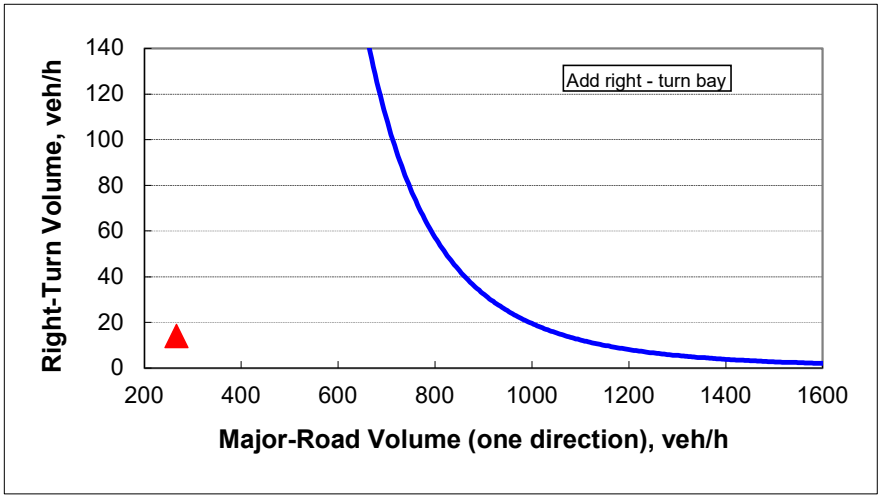
INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	30
Major-road volume (one direction), veh/h:	266
Right-turn volume, veh/h:	14

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	11545
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Data Source: NCHRP 457 Evaluation of Intersection Improvements

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Right Turn Lane Warrant
Analyst: LTA
Date: OCTOBER 2024
Analysis Year: 2027 AM
Job#: 341021701

Intersection:
N/S: South Driveway
E/W: SW Gatlin Boulevard
WESTBOUND RIGHT TURN

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

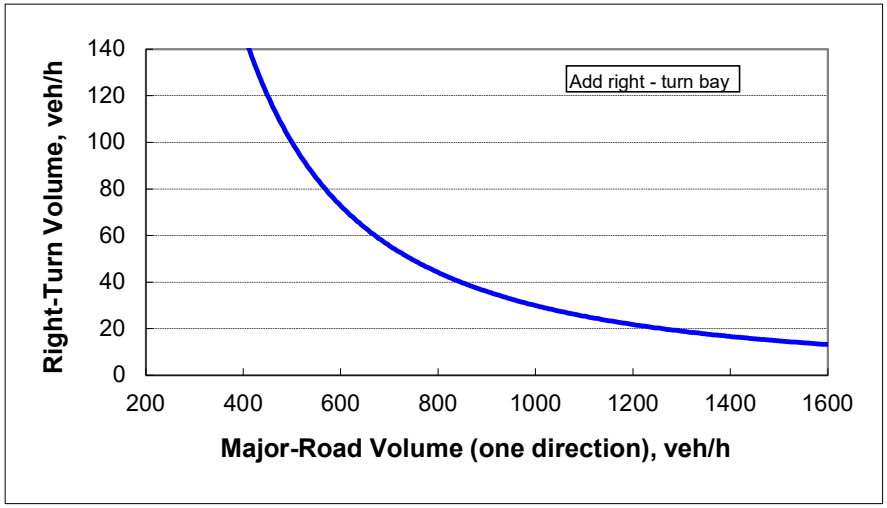
INPUT

Roadway geometry:	4-lane roadway

Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	2328
Right-turn volume, veh/h:	120

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	7
Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:	
Add right-turn bay.	



Data Source: NCHRP 457 Evaluation of Intersection Improvements

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Right Turn Lane Warrant
Analyst: LTA
Date: OCTOBER 2024
Analysis Year: 2027 PM
Job#: 341021701

Intersection:
N/S: South Driveway
E/W: SW Gatlin Boulevard
WESTBOUND RIGHT TURN

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

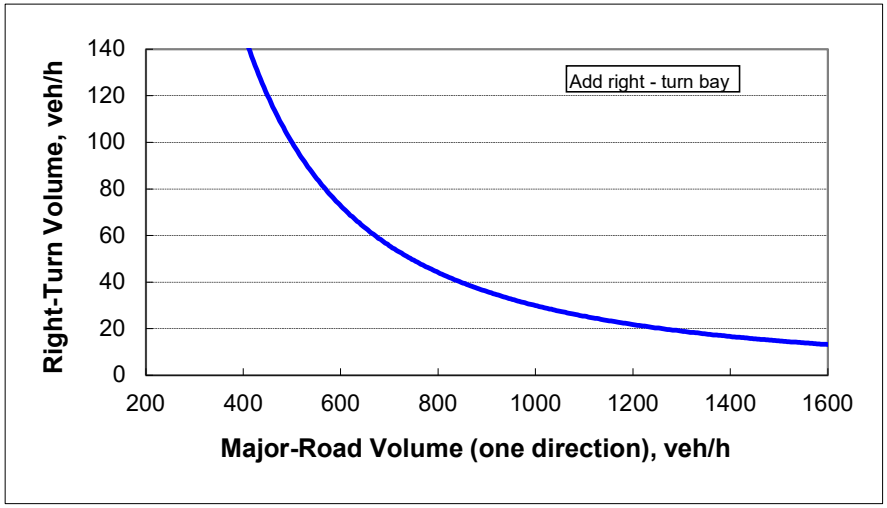
INPUT

Roadway geometry:	4-lane roadway

Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	1837
Right-turn volume, veh/h:	139

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	10
Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:	
Add right-turn bay.	



Data Source: NCHRP 457 Evaluation of Intersection Improvements

APPENDIX F
TRIP GENERATION DATA

TRIP GENERATION ANALYSIS
MURPHY OIL GAS STATION

DAILY

Land Use	ITE Code	Size	Trip Generation Rate	In	Out	Total Trips			Pass-by				Net New Trips		
						In	Out	Total	In	Out	Total	%	In	Out	Total
Proposed Uses															
Gasoline-Service Station with Convenience Store	945	16 Fuel Pumps	T = 158.28 (X) + 850.23	50%	50%	1,691	1,692	3,383	0	0	0	0%	1,691	1,692	3,383

MORNING PEAK HOUR

Land Use	ITE Code	Size	Trip Generation Rate	In	Out	Total Trips			Pass-by				Net New Trips		
						In	Out	Total	In	Out	Total	%	In	Out	Total
Proposed Uses															
Gasoline-Service Station with Convenience Store	945	16 Fuel Pumps	T = 16.46 (X)	50%	50%	132	131	263	100	100	200	76%	32	31	63

AFTERNOON PEAK HOUR

Land Use	ITE Code	Size	Trip Generation Rate	In	Out	Total Trips			Pass-by				Net New Trips		
						In	Out	Total	In	Out	Total	%	In	Out	Total
Proposed Uses															
Gasoline-Service Station with Convenience Store	945	16 Fuel Pumps	T = 19.13 (X)	50%	50%	153	153	306	115	115	230	75%	38	38	76

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Convenience Store/Gas Station - GFA (2-4k) (945)

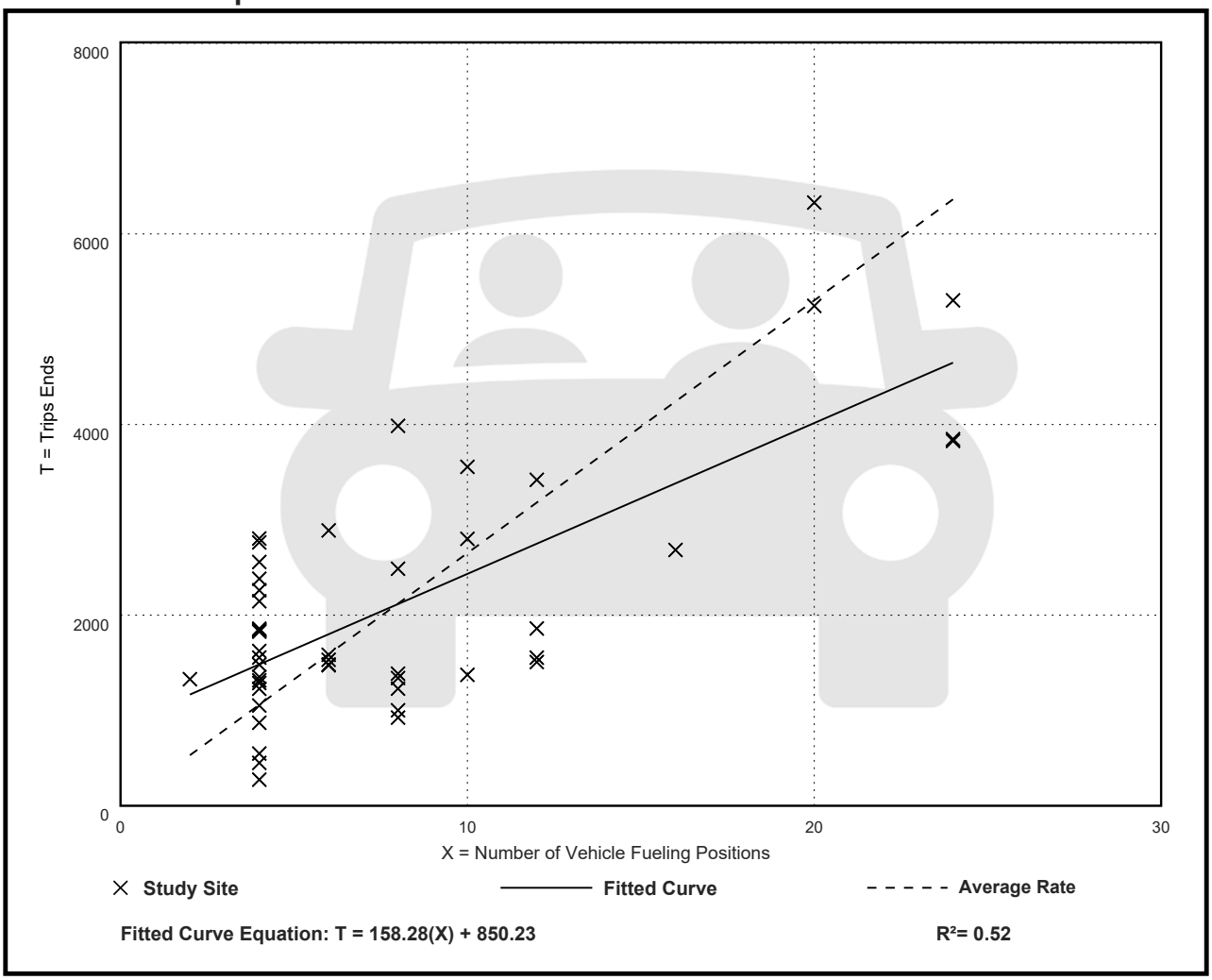
Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 48
Avg. Num. of Vehicle Fueling Positions: 8
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
265.12	68.50 - 701.00	142.37

Data Plot and Equation



Fitted Curve Equation: T = 158.28(X) + 850.23

R^2= 0.52

Convenience Store/Gas Station - GFA (2-4k)
(945)

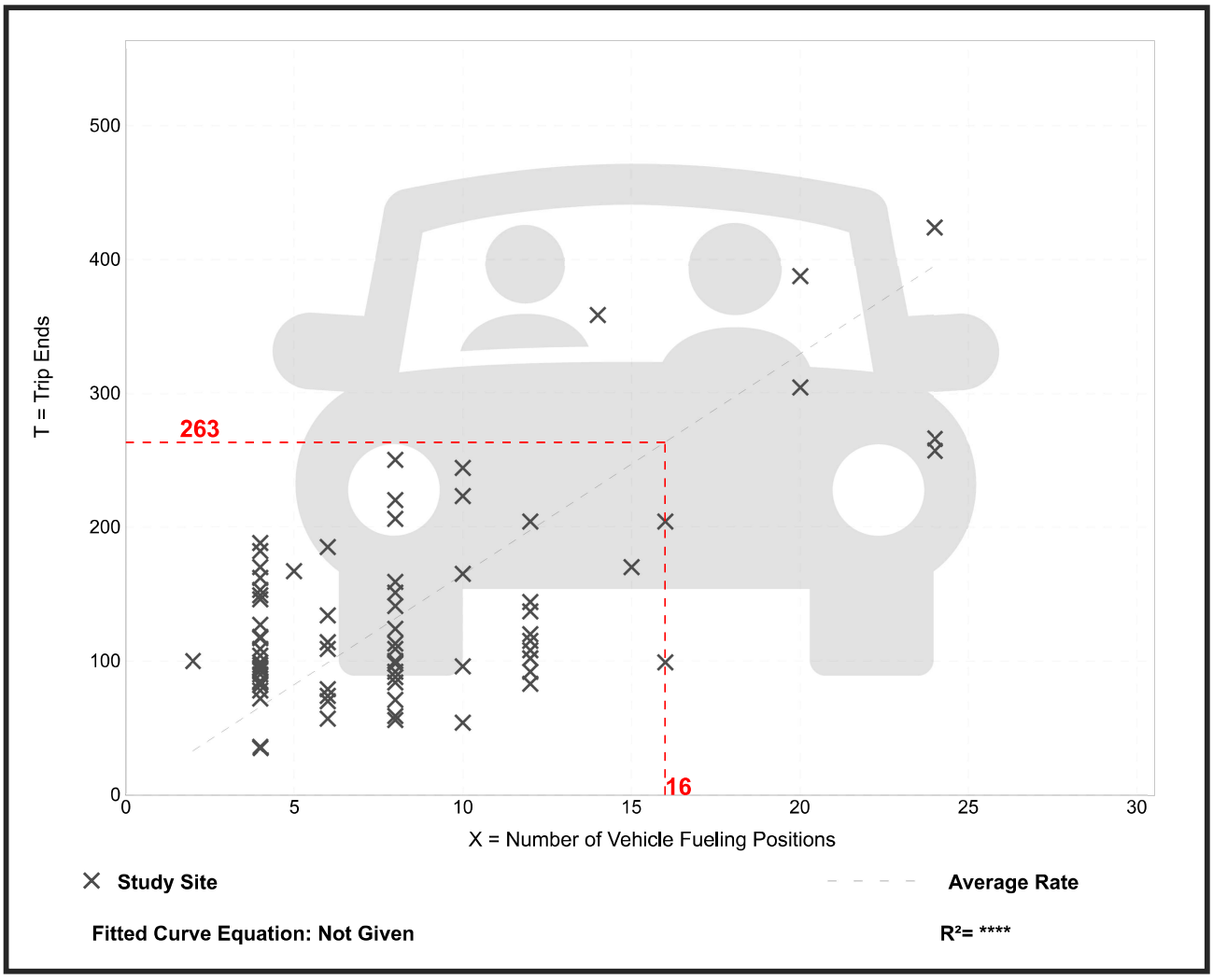
Vehicle Trip Ends vs: **Vehicle Fueling Positions**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 77
Avg. Num. of Vehicle Fueling Positions: 8
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
16.46	5.40 - 50.00	8.75

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Convenience Store/Gas Station - GFA (2-4k)
(945)

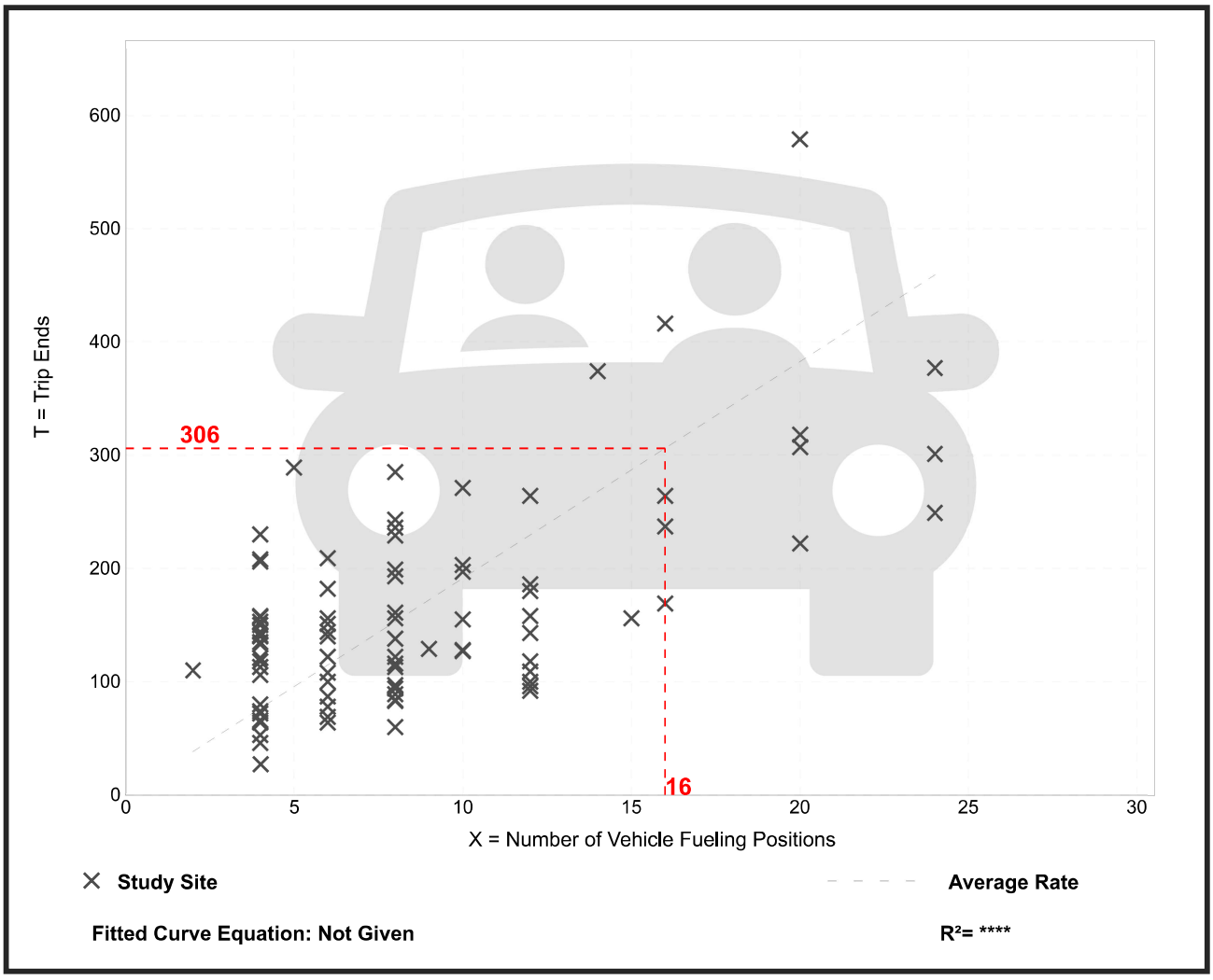
Vehicle Trip Ends vs: **Vehicle Fueling Positions**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 93
Avg. Num. of Vehicle Fueling Positions: 8
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
19.13	6.75 - 57.80	10.15

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday AM Peak Period									
# Data Sites	16 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	60% for Sites with between 2 and 8 VFP					76% for Sites with between 9 and 20 VFP				
	Pass-By Characteristics for Individual Sites									
			Survey		Pass-By	Non-Pass-By Trips			Adj Street Peak	
GFA (000)	VFP	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
2	8	Maryland	1992	46	87	13	0	13	2235	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.1	6	Maryland	1992	26	58	23	19	42	2080	25
2.2	8	Maryland	1992	31	47	34	19	53	1785	25
2.2	< 8	Indiana	1993	79	56	6	38	44	635	2
2.2	8	Maryland	1992	35	78	9	13	22	7080	25
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.3	< 8	Kentucky	1993	58	64	5	31	36	1255	2
2.3	6	Maryland	1992	37	32	41	27	68	2080	25
2.4	< 8	Kentucky	1993	—	48	17	35	52	1210	2
2.6	< 8	Kentucky	1993	—	72	15	13	28	940	2
2.8	< 8	Kentucky	1993	—	54	11	35	46	1240	2
3	< 8	Indiana	1993	62	74	10	16	26	790	2
3.6	< 8	Kentucky	1993	49	67	4	29	33	1985	2
3.7	< 8	Kentucky	1993	49	66	16	18	34	990	2
4.694	12	Maryland	2000	—	72	—	—	28	2440	30
4.694	12	Maryland	2000	—	78	—	—	22	1561	30
4.694	12	Maryland	2000	—	79	—	—	21	2764	30
4.848	12	Virginia	2000	—	55	—	—	45	1398	30
5.06	12	Pennsylvania	2000	—	84	—	—	16	3219	30
5.242	12	Virginia	2000	—	74	—	—	26	1160	30
5.242	12	Virginia	2000	—	71	—	—	29	548	30
5.488	12	Delaware	2000	—	80	—	—	20	—	30
5.5	12	Pennsylvania	2000	—	85	—	—	15	2975	30
4.2	< 8	Kentucky	1993	47	62	19	19	38	1705	2
4.694	16	Maryland	2000	—	90	—	—	10	2278	30
4.694	16	Delaware	2000	—	74	—	—	26	2185	30
4.694	16	Delaware	2000	—	58	—	—	42	962	30
4.694	16	Delaware	2000	—	84	—	—	16	2956	30
4.694	16	New Jersey	2000	—	79	—	—	21	1859	30
4.694	20	Delaware	2000	—	84	—	—	16	3864	30
4.848	16	Virginia	2000	—	68	—	—	32	2106	30
4.848	16	Virginia	2000	—	85	—	—	15	2676	30
4.848	16	Virginia	2000	—	75	—	—	25	3244	30
4.848	16	Virginia	2000	—	71	—	—	29	1663	30
4.993	16	Pennsylvania	2000	—	75	—	—	25	1991	30
5.094	16	New Jersey	2000	—	86	—	—	14	1260	30
5.5	16	Pennsylvania	2000	—	82	—	—	18	1570	30
5.543	16	Pennsylvania	2000	—	84	—	—	16	1933	30
5.565	16	Pennsylvania	2000	—	77	—	—	23	2262	30
5.565	16	Pennsylvania	2000	—	68	—	—	32	2854	30
5.565	16	New Jersey	2000	—	58	—	—	42	1253	30
5.565	16	New Jersey	2000	—	79	—	—	21	1928	30
5.565	16	New Jersey	2000	---	84	---	---	16	1953	30

Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	945									
Land Use	Convenience Store/Gas Station									
Setting	General Urban/Suburban									
Time Period	Weekday PM Peak Period									
# Data Sites	12 Sites with between 2 and 8 VFP					28 Sites with between 9 and 20 VFP				
Average Pass-By Rate	56% for Sites with between 2 and 8 VFP					75% for Sites with between 9 and 20 VFP				
	Pass-By Characteristics for Individual Sites									
			Survey		Pass-By	Non-Pass-By Trips			Adj Street Peak	
GFA (000)	VFP	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source
2.1	8	Maryland	1992	31	52	13	35	48	1785	25
2.1	6	Maryland	1992	30	53	20	27	47	1060	25
2.2	< 8	Indiana	1993	115	48	16	36	52	820	2
2.3	< 8	Kentucky	1993	67	57	16	27	43	1954	2
2.3	6	Maryland	1992	55	40	11	49	60	2760	25
2.4	< 8	Kentucky	1993	—	58	13	29	42	2655	2
2.6	< 8	Kentucky	1993	68	67	15	18	33	950	2
2.8	< 8	Kentucky	1993	—	62	11	27	38	2875	2
3	< 8	Indiana	1993	80	65	15	20	35	1165	2
3.6	< 8	Kentucky	1993	60	56	17	27	44	2505	2
3.7	< 8	Kentucky	1993	70	61	16	23	39	2175	2
4.2	< 8	Kentucky	1993	61	58	26	16	42	2300	2
4.694	12	Maryland	2000	—	78	—	—	22	3549	30
4.694	12	Maryland	2000	—	67	—	—	33	2272	30
4.694	12	Maryland	2000	—	66	—	—	34	3514	30
4.848	12	Virginia	2000	—	71	—	—	29	2350	30
5.06	12	Pennsylvania	2000	—	91	—	—	9	4181	30
5.242	12	Virginia	2000	—	70	—	—	30	2445	30
5.242	12	Virginia	2000	—	56	—	—	44	950	30
5.488	12	Delaware	2000	—	73	—	—	27	—	30
5.5	12	Pennsylvania	2000	—	84	—	—	16	4025	30
4.694	16	Maryland	2000	—	89	—	—	11	2755	30
4.694	16	Delaware	2000	—	73	—	—	27	1858	30
4.694	16	Delaware	2000	—	59	—	—	41	1344	30
4.694	16	Delaware	2000	—	72	—	—	28	3434	30
4.694	16	New Jersey	2000	—	81	—	—	19	1734	30
4.694	20	Delaware	2000	—	76	—	—	24	1616	30
4.848	16	Virginia	2000	—	67	—	—	33	2.954	30
4.848	16	Virginia	2000	—	78	—	—	22	3086	30
4.848	16	Virginia	2000	—	83	—	—	17	4143	30
4.848	16	Virginia	2000	—	73	—	—	27	2534	30
4.993	16	Pennsylvania	2000	—	72	—	—	28	2917	30
5.094	16	New Jersey	2000	—	86	—	—	14	1730	30
5.5	16	Pennsylvania	2000	—	90	—	—	10	2616	30
5.543	16	Pennsylvania	2000	—	87	—	—	13	2363	30
5.565	16	Pennsylvania	2000	—	81	—	—	19	2770	30
5.565	16	Pennsylvania	2000	—	76	—	—	24	3362	30
5.565	16	New Jersey	2000	—	61	—	—	39	1713	30
5.565	16	New Jersey	2000	—	86	—	—	14	1721	30
5.565	16	New Jersey	2000	---	81	---	---	19	2227	30