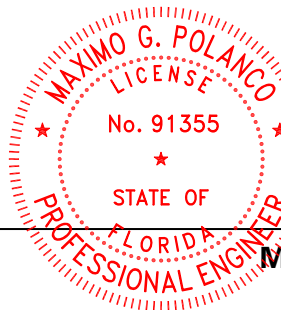
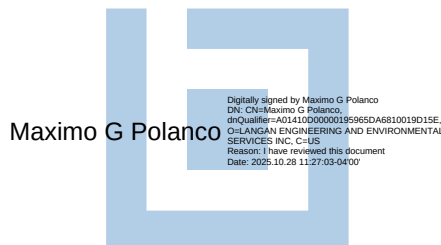

TRAFFIC IMPACT ANALYSIS

**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**



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

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;
September 2025
Revised: October 2025

LANGAN

341021701

Table of Contents

EXECUTIVE SUMMARY	i
1.0 INTRODUCTION	1
1.1 Project Description	1
1.2 Study Methodology and Study Area	2
2.0 DESCRIPTION OF EXISTING CONDITIONS	3
2.1 Roadway Characteristics	3
2.2 Traffic Counts and Volumes	3
2.3 Intersection Capacity Analysis (Level of Service)	4
3.0 PLANNED AND PROGRAMMED ROADWAY IMPROVEMENTS	5
4.0 NO BUILD CONDITIONS	6
4.1 Background/No Build Traffic	6
4.2 Intersection Analysis No Build Conditions	6
5.0 BUILD CONDITIONS	7
5.1 Site-Generated Trips	7
5.2 Trip Distribution	8
5.3 Intersection Analysis Build Conditions	8
5.4 Driveway Volumes and Turn Lane Analysis	9
6.0 CONCLUSIONS	10

List of Figures

Figure 1 - Site Location
Figure 2 - Intersection Lane Configuration
Figure 3 - 2024 Existing Peak-Hour Traffic Volumes
Figure 4 - 2027 No-Build Peak-Hour Traffic Volumes
Figure 5 - Project Traffic Distribution
Figure 6 - Project Traffic Assignment
Figure 7 - 2027 Build Peak-Hour Traffic Volumes
Figure 8 - Site Driveway Volumes

List of Tables

Table 1 - 2024 Existing Conditions Intersection Capacity Analysis Summary
Table 2 - 2027 No-Build Conditions Intersection Capacity Analysis Summary
Table 3 - Trip Generation Estimates
Table 4 - 2027 Build Conditions Intersection Capacity Analysis Summary

Appendices

Appendix A - Figures
Appendix B - Site Plan
Appendix C - Traffic, Signal Timing Data, Census Data & FDOT Tables
Appendix D - Intersection Volume Spreadsheets
Appendix E - Intersection Capacity Reports
Appendix F - Trip Generation Data

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 of SW Gatlin Boulevard at SW Import Drive and SW Rosser Boulevard to demonstrate that the expected LOS, delays, and/or queues can be improved.
- With optimization, the queues for the eastbound left turn (AM and PM), northbound left turn (PM only), and shared southbound through/right turn (AM and PM) movements at the intersection of SW Gatlin Boulevard at SW Import Drive, and the eastbound right turn (PM only) and northbound left turn (AM and PM) movements at the intersection of SW Gatlin Boulevard at SW Rosser Boulevard are expected to have queues that exceed their available storage. All above movements also exceed their available storage in Existing and No Build conditions. With the exception of the eastbound left turn (AM and PM) and southbound through/right turn (PM only) movements at the intersection of SW Gatlin Boulevard and SW Import Drive, the expected Build condition queues are less than the No Build queues. Therefore, the addition of project traffic is not creating the deficiencies at the study intersections.
- 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.

Proposed improvements

Based on the traffic study findings, the development has agreed to construct the following improvements to mitigate the project's impacts, which include funding the improvement's costs entirely:

1. Extend the existing eastbound left turn lane at the intersection of SW Gatlin Boulevard and SW Import Drive.
2. Extend the existing southbound right turn lane at the intersection of SW Gatlin Boulevard and SW Import Drive.
3. Construct a curbed median along SW Import Drive to restrict left turn movements into and out of the proposed driveway connection.
4. Construct an exclusive westbound right turn lane at the proposed driveway connection to Gatlin Boulevard.

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. Additionally, the driveway on SW Import Drive will be restricted with a median curb that will promote the right-turn only for ingress and egress movements and restrict left turns. 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 City of Port St. Lucie Engineering Standards 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 two-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, city-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, city-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, city-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, detailed delay summaries, and queue summaries.

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	31.1	D	49.5
(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.

Proposed improvements

Based on the traffic study findings, the development has agreed to construct the following improvements to mitigate the project's impacts, which include funding the improvement's costs entirely:

1. Extend the existing eastbound left turn lane at the intersection of SW Gatlin Boulevard and SW Import Drive.
2. Extend the existing southbound right turn lane at the intersection of SW Gatlin Boulevard and SW Import Drive.
3. Construct a curbed median along SW Import Drive to restrict left turn movements into and out of the proposed driveway connection.
4. Construct an exclusive westbound right turn lane at the proposed driveway connection to Gatlin Boulevard.

Appendix B contains the concept sketch of the improvements along SW Import Drive and SW Gatlin Boulevard.

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, detailed delay summaries, and queue summaries.

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	C	32.9	D	53.6
(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
Proposed Uses								
Gasoline-Service Station with Convenience Store	16 Fuel Pumps	3,383	132	131	263	153	153	306
	Pass-by Trips	-	100	100	200	115	115	230
	Net-New Trips	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** and **5.1** show the proposed development's net new and pass-by traffic distributions, respectively. **Figures 6, 6.1,** and **6.2** illustrate the morning and afternoon development net new, pass-by, and total traffic assignments, respectively.

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, delays, and/or queues can be improved.

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. Appendix E contains the capacity-analyses worksheets and detailed delay summaries.

Queues were evaluated for the study intersections. Based on the results of the analysis, with optimization, the queues for the eastbound left turn (AM and PM), northbound left turn (PM only), and shared southbound through/right turn (AM and PM) movements at the intersection of SW Gatlin Boulevard at SW Import Drive, and the eastbound right turn (PM only) and northbound left turn (AM and PM) movements at the intersection of SW Gatlin Boulevard at SW Rosser Boulevard are expected to have queues that exceed their available storage. All above movements also exceed their available storage in Existing and No Build conditions. With the exception of the

eastbound left turn (AM and PM) and southbound through/right turn (PM only) movements at the intersection of SW Gatlin Boulevard and SW Import Drive, the expected Build condition queues are less than the No Build queues. Appendix E contains the detailed queue summaries. Of note, the northbound left turn movement at the intersection of SW Gatlin Boulevard at SW Rosser Boulevard includes dual turn lanes with only one lane of storage, indicating that the queue will be contained within the continuous lane. Therefore, the addition of project traffic is not creating the deficiencies at the study intersections.

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	36.6	E	55.2
		Overall ^[1]	D	36.1	D	52.5
(3) SW GATLIN BLVD & SW ROSSER BLVD	Signalized	Overall	C	30.0	C	32.5
		Overall ^[1]	C	29.7	C	29.6
(4) SW IMPORT DRIVE & EAST DRIVEWAY	Unsignalized	EB	A	9.4	A	9.4
(5) SOUTH DRIVEWAY & SW GATLIN BLVD	Unsignalized	SB	C	18.8	C	15.8

[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 south driveway connection to Gatlin Boulevard which the developer has agreed to construct. Figure 6.2 shows the project site generated trips at the driveway connections to public roadways; Appendix E contains the capacity analysis worksheets, detailed delay summaries, and queue summaries.

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 of SW Gatlin Boulevard at SW Import Drive and SW Rosser Boulevard to demonstrate that the expected LOS, delays, and/or queues can be improved.
- With optimization, the queues for the eastbound left turn (AM and PM), northbound left turn (PM only), and shared southbound through/right turn (AM and PM) movements at the intersection of SW Gatlin Boulevard at SW Import Drive, and the eastbound right turn (PM only) and northbound left turn (AM and PM) movements at the intersection of SW Gatlin Boulevard at SW Rosser Boulevard are expected to have queues that exceed their available storage. All above movements also exceed their available storage in Existing and No Build conditions. With the exception of the eastbound left turn (AM and PM) and southbound through/right turn (PM only) movements at the intersection of SW Gatlin Boulevard and SW Import Drive, the expected Build condition queues are less than the No Build queues. Therefore, the addition of project traffic is not creating the deficiencies at the study intersections.
- 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.

Proposed improvements

Based on the traffic study findings, the development has agreed to construct the following improvements to mitigate the project's impacts, which include funding the improvement's costs entirely:

1. Extend the existing eastbound left turn lane at the intersection of SW Gatlin Boulevard and SW Import Drive.
2. Extend the existing southbound right turn lane at the intersection of SW Gatlin Boulevard and SW Import Drive.
3. Construct a curbed median along SW Import Drive to restrict left turn movements into and out of the proposed driveway connection.
4. Construct an exclusive westbound right turn lane at the proposed driveway connection to Gatlin Boulevard.

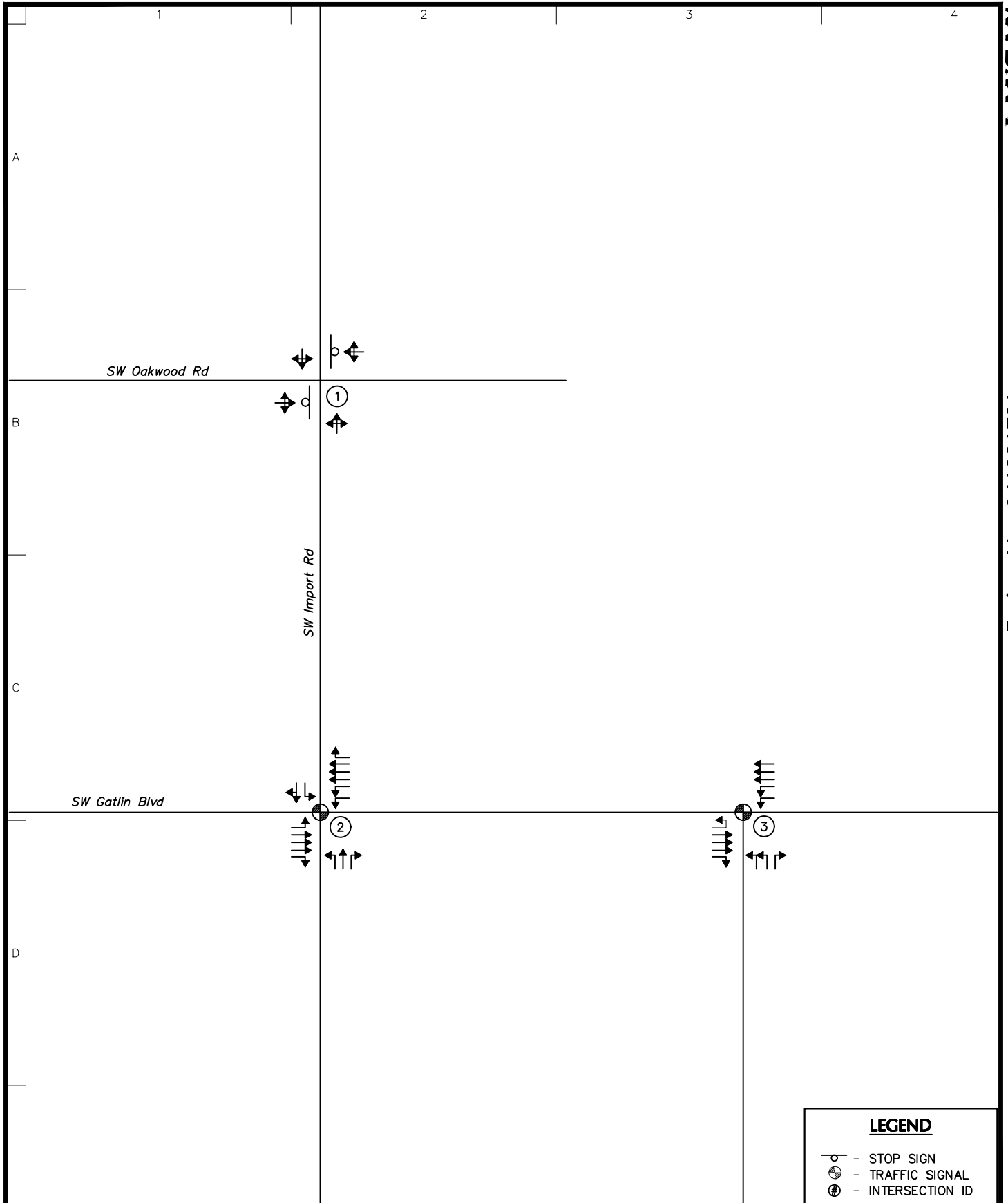
\\langan.com\data\WPB\data7\341021701\Project Data_Discipline\Traffic\Reports\2025-10-28 Murphy Oil - Gatlin Blvd TIS.docx

APPENDIX A

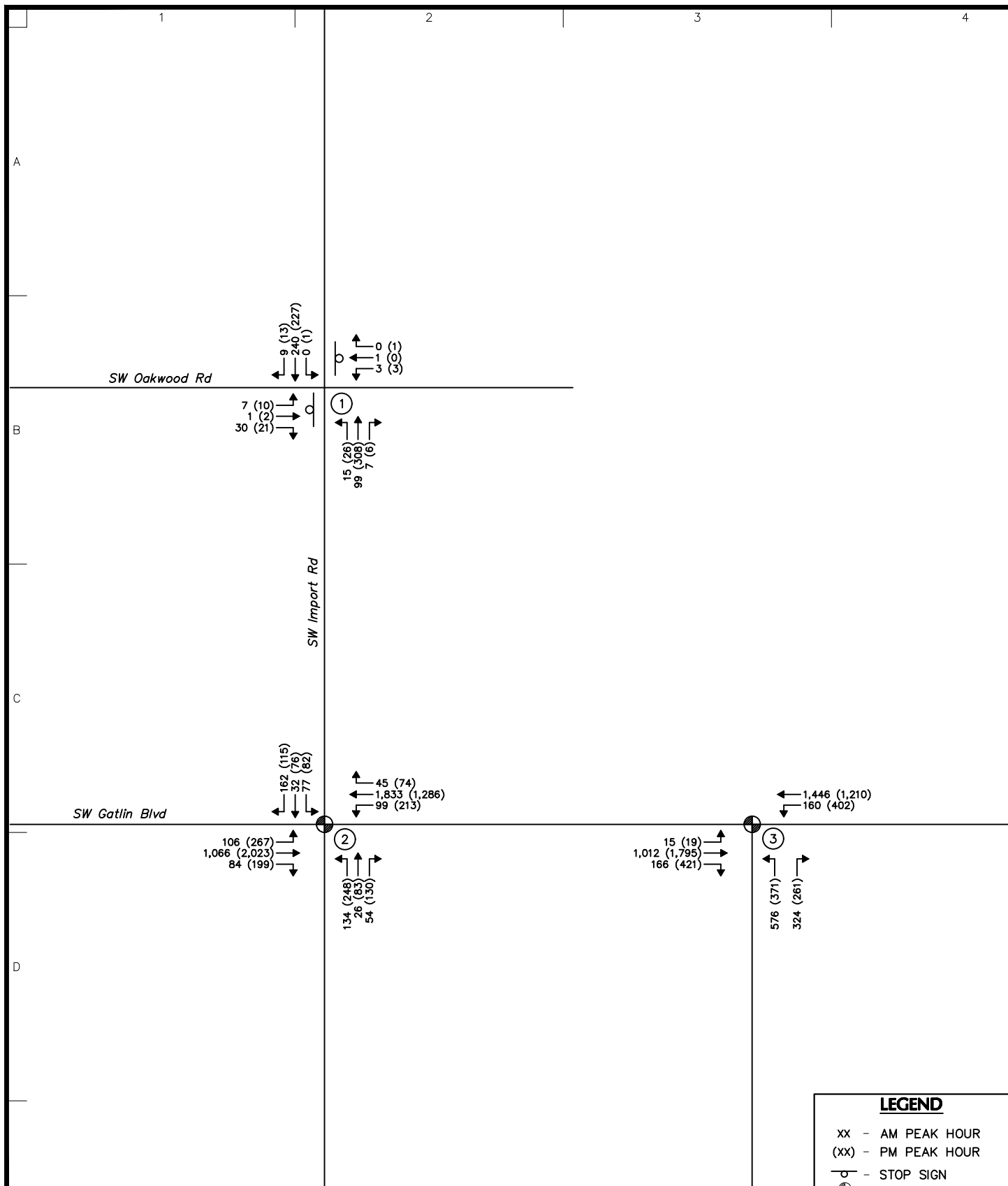
FIGURES



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 FLORIDA	Drawing Title SITE LOCATION MAP	Project No. 341021701 Date JULY 2025 Drawn By LTA Checked By JCG	Figure 1
--	---	---	--	-----------------------------------



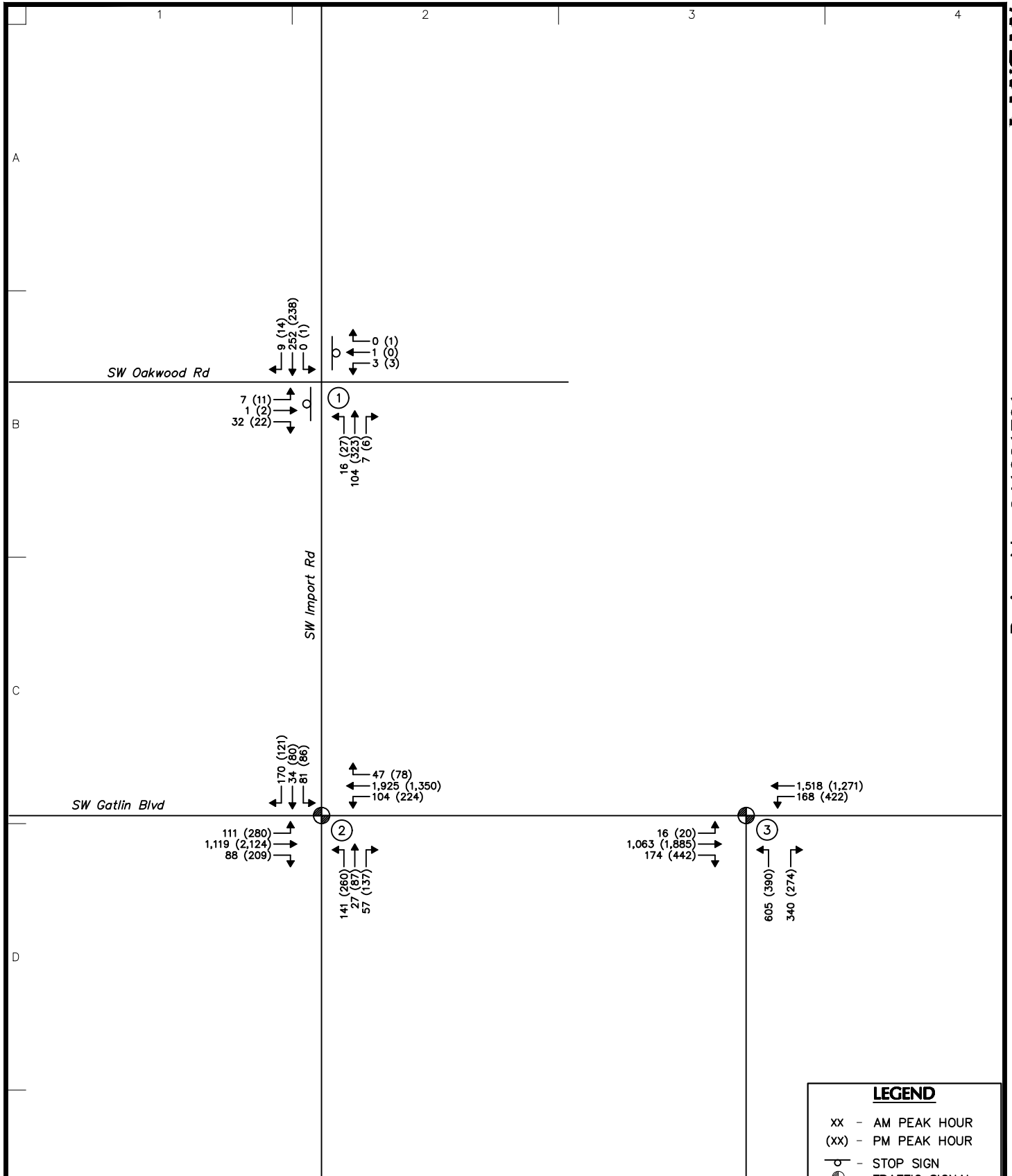
LANGAN Langan Engineering and Environmental Services, Inc. 1221 Brickell Ave, Suite 1800 Miami, FL 33131 P: 786.264.7200 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project MURPHY OIL - SW GATLIN BLVD PORT ST. LUCIE FLORIDA	Drawing Title LANE CONFIGURATION	Project No. 341021701 Date JULY 2025 Drawn By LTA Checked By JCG	Figure 2
--	--	--	--	-----------------------------



* Left-turn movement volumes at all intersections include associated U-turn movements, where applicable.

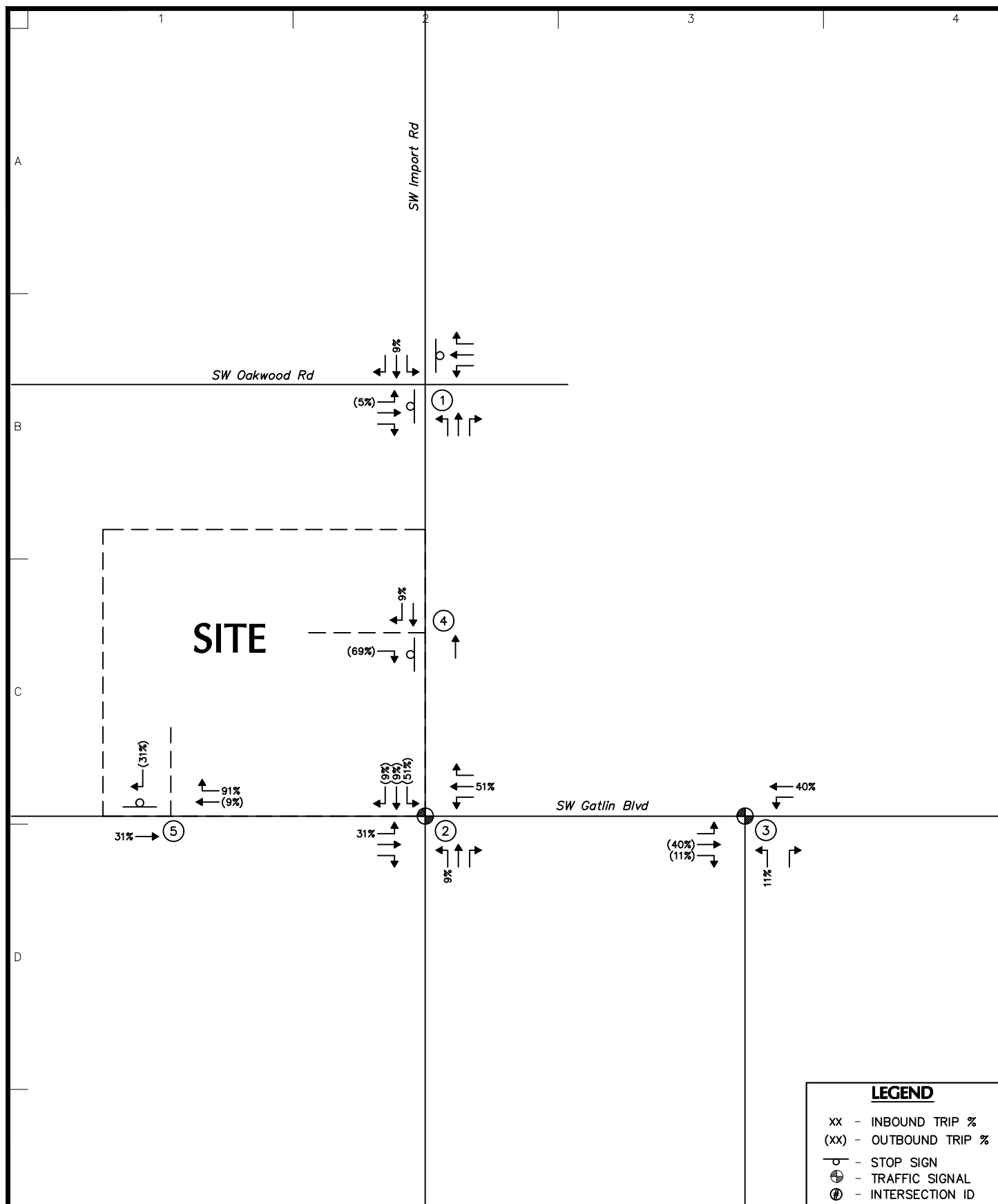
LEGEND	
XX	- AM PEAK HOUR
(XX)	- PM PEAK HOUR
⊙	- STOP SIGN
⊕	- TRAFFIC SIGNAL
⊗	- INTERSECTION ID

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	Drawing Title	Project No.	Figure
	MURPHY OIL - SW GATLIN BLVD	2024 EXISTING VOLUMES	341021701	3
	PORT ST. LUCIE		Date	
	FLORIDA		July 2025	
			Drawn By	
			LTA	
			Checked By	
			JCG	

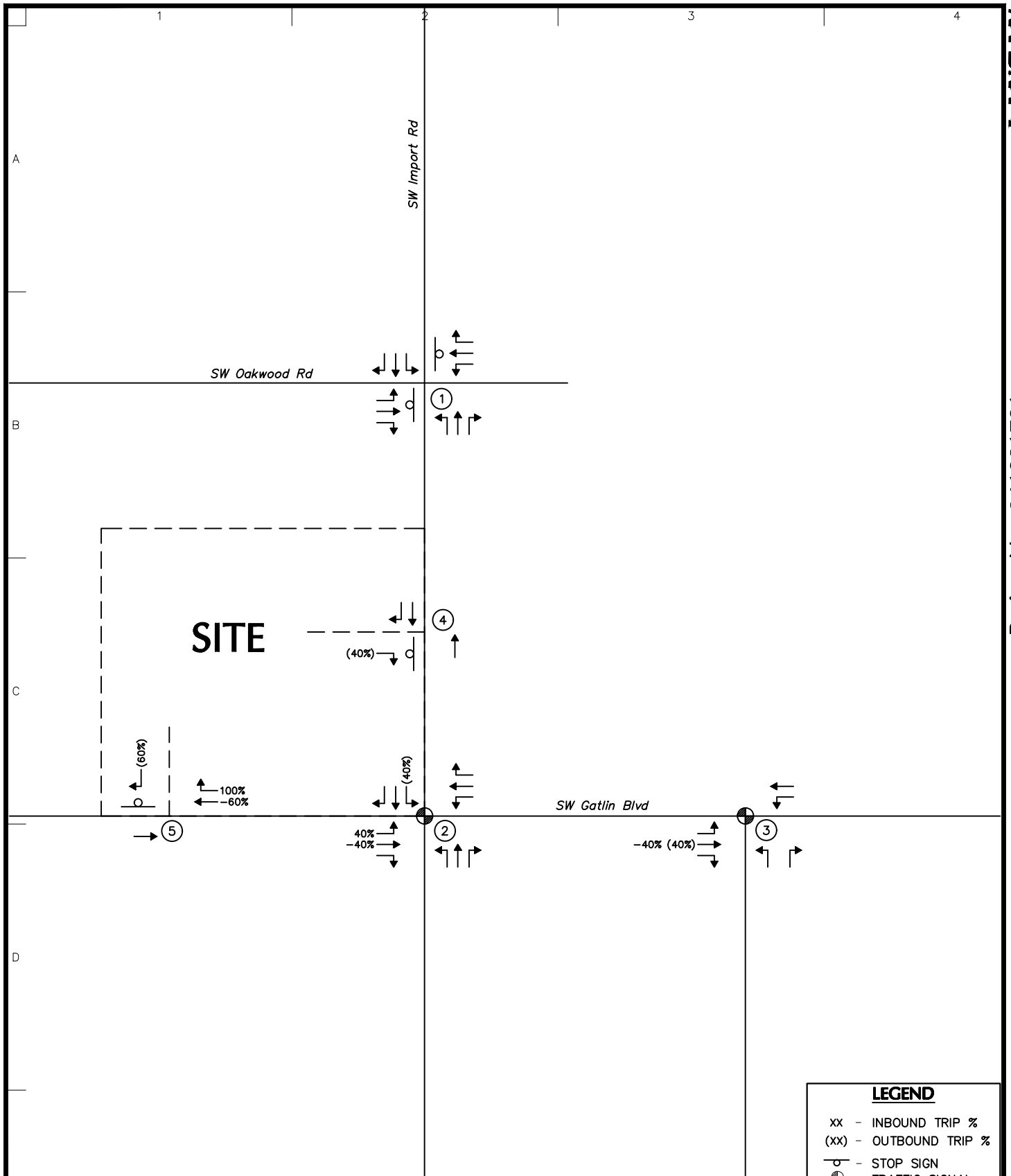


* Left-turn movement volumes at all intersections include associated U-turn movements, where applicable.

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 FLORIDA	Drawing Title 2027 NO BUILD VOLUMES	Project No. 341021701 Date JULY 2025 Drawn By LTA Checked By JCG	Figure 4
---	--	--	--	-----------------------------

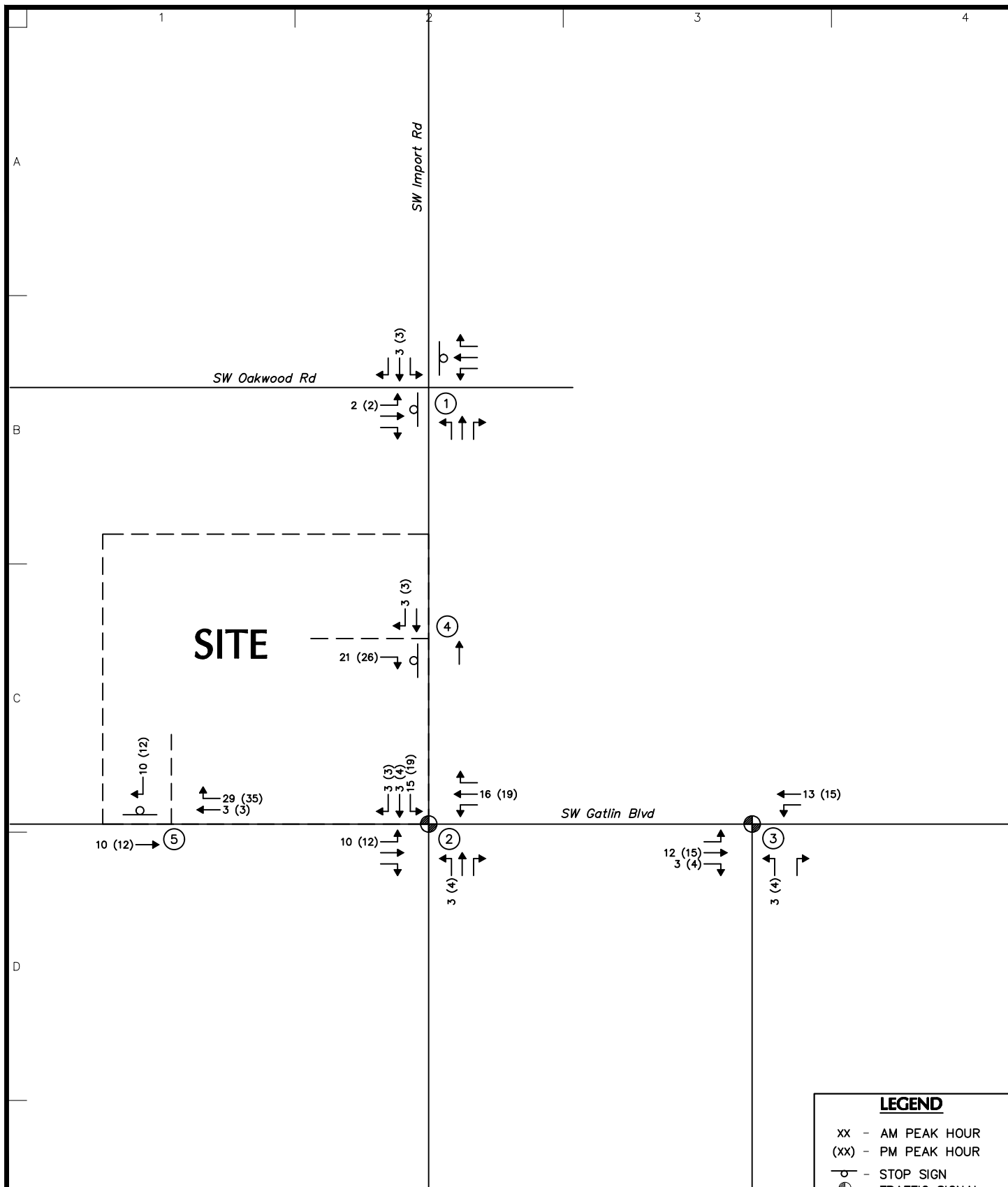


LANGAN Langan Engineering and Environmental Services, Inc. 1221 Brickell Ave, Suite 1800 Miami, FL 33131 P: 786.264.7200 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project		Drawing Title		Project No.	Figure
	MURPHY OIL - SW GATLIN BLVD		SITE TRIP DISTRIBUTION		341021701	
	PORT ST. LUCIE		FLORIDA		Date	
	ST. LUCIE		JULY 2025		Drawn By	
	JCG		LTA		Checked By	



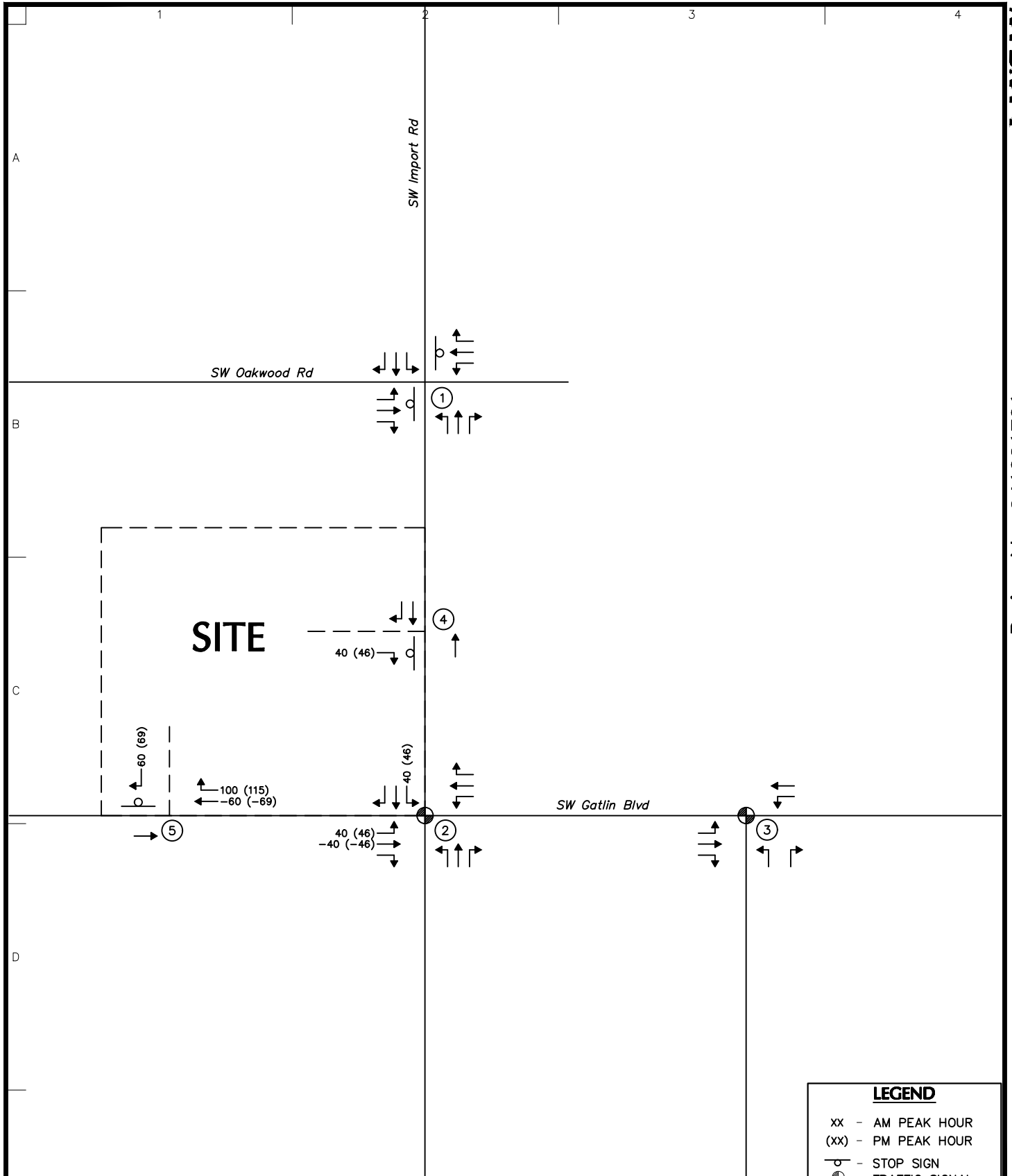
* Left-turn movement volumes at all intersections include associated U-turn movements, where applicable.

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 FLORIDA	Drawing Title PASS-BY SITE TRIP DISTRIBUTION	Project No. 341021701 Date JULY 2025 Drawn By LTA Checked By JCG	Figure 5.1
---	--	---	--	---------------------------------



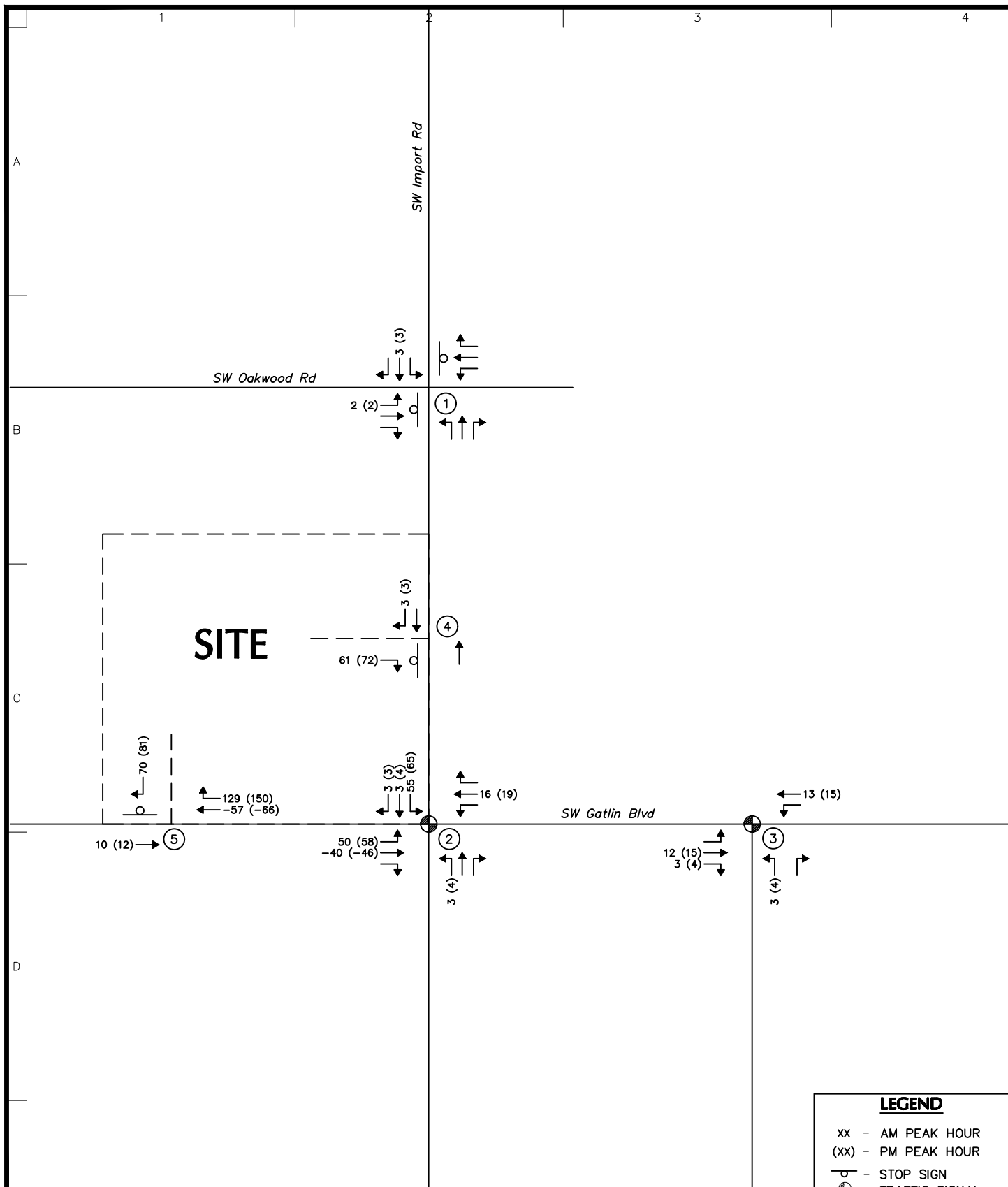
* Left-turn movement volumes at all intersections include associated U-turn movements, where applicable.

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 FLORIDA	Drawing Title SITE TRIPS	Project No. 341021701 Date JULY 2025 Drawn By LTA Checked By JCG	Figure 6
---	--	---	--	-----------------------------



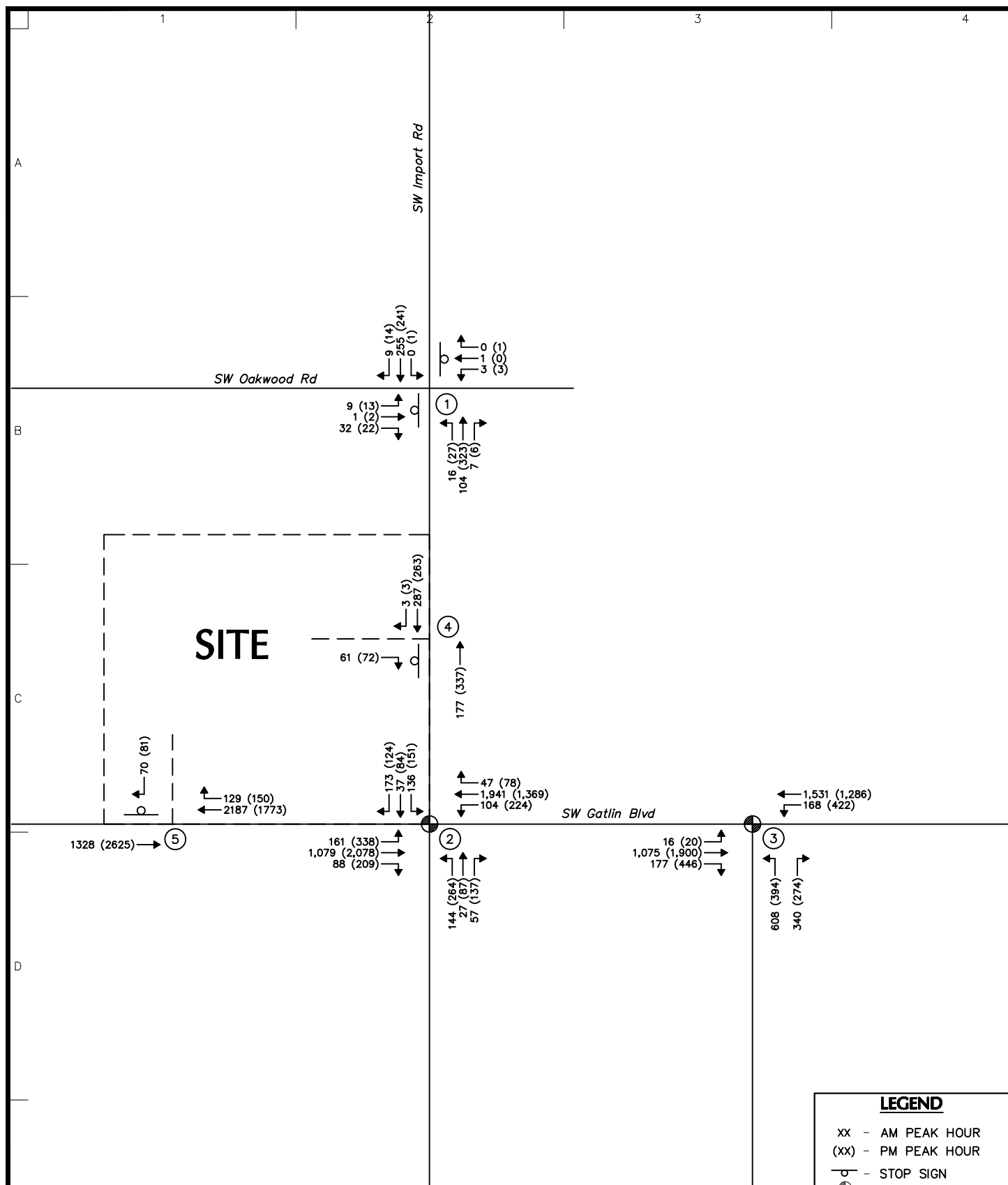
* Left-turn movement volumes at all intersections include associated U-turn movements, where applicable.

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 FLORIDA	Drawing Title PASS-BY SITE TRIPS	Project No. 341021701 Date JULY 2025 Drawn By LTA Checked By JCG	Figure 6.1
---	---	---	--	---------------------------------



* Left-turn movement volumes at all intersections include associated U-turn movements, where applicable.

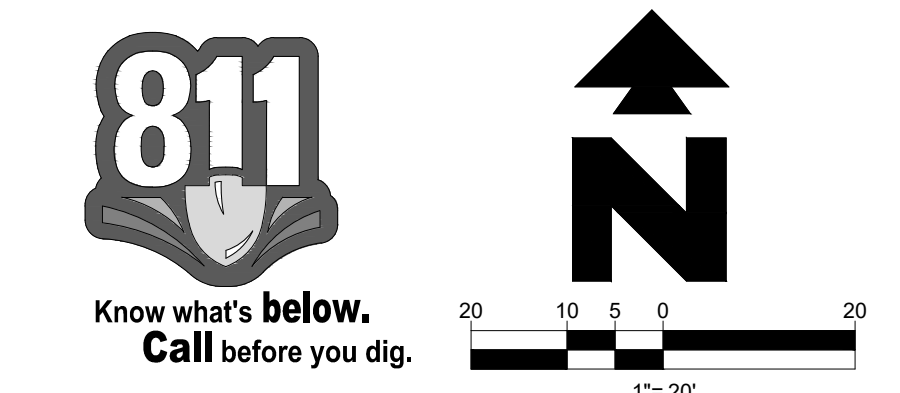
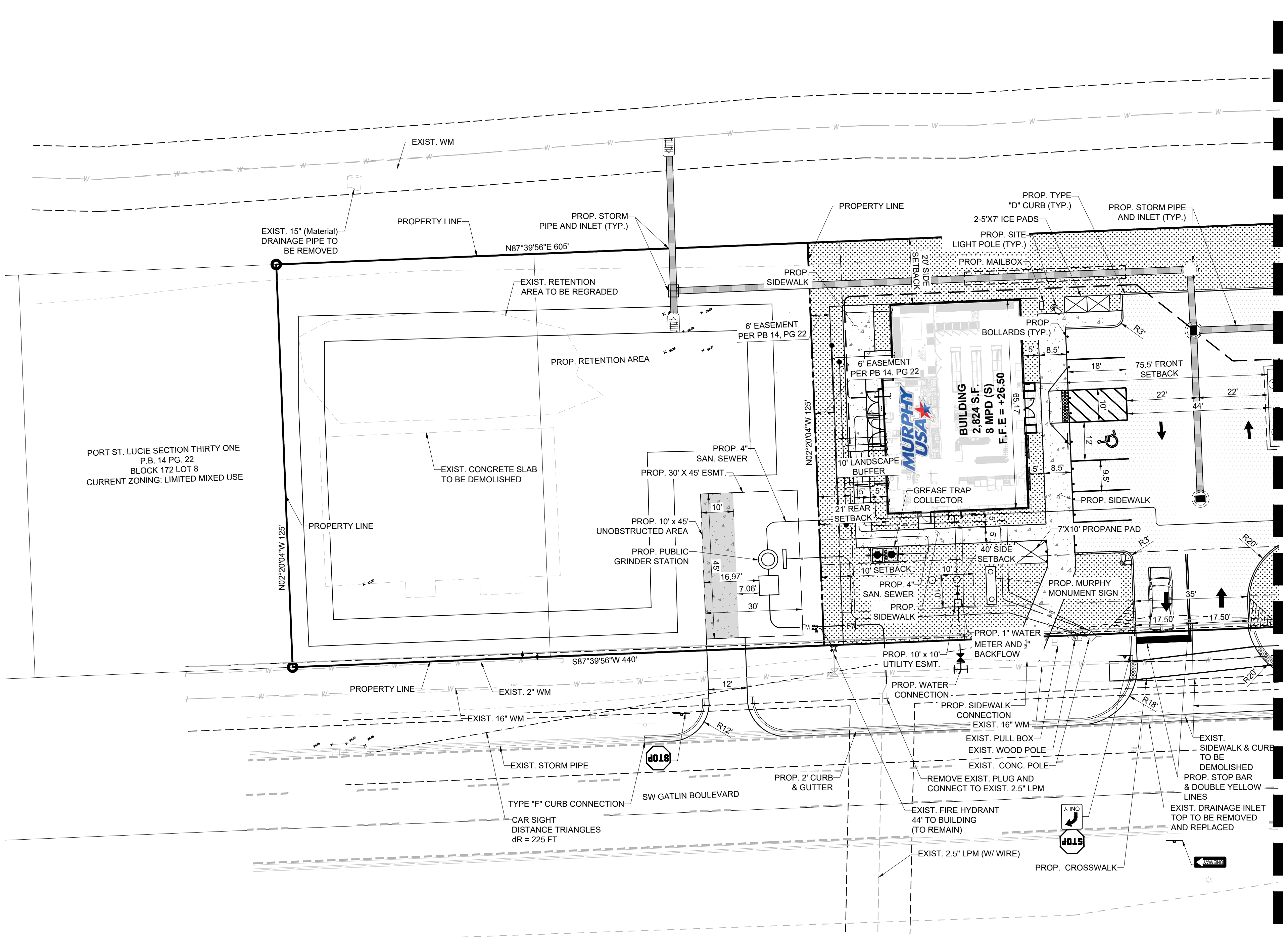
LANGAN Langan Engineering and Environmental Services, Inc. 1221 Brickell Ave, Suite 1800 Miami, FL 33131 P: 786.264.7200 F: 786.264.7201 www.langan.com FL CERTIFICATE OF AUTHORIZATION No. 00006601	Project MURPHY OIL - SW GATLIN BLVD PORT ST. LUCIE FLORIDA	Drawing Title TOTAL PROJECT TRAFFIC TRIPS	Project No. 341021701 Date JULY 2025 Drawn By LTA Checked By JCG	Figure 6.2
--	---	---	---	------------------------------



* Left-turn movement volumes at all intersections include associated U-turn movements, where applicable.

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		Drawing Title		Project No.	Figure
	MURPHY OIL - SW GATLIN BLVD		2027 BUILD VOLUMES		341021701	
	PORT ST. LUCIE		FLORIDA		Date	
	ST. LUCIE				JULY 2025	
				Drawn By	LTA	7
				Checked By	JCG	

APPENDIX B
SITE PLAN



PROJECT TEAM:

OWNER PS LUCIE SR CGP LLC 361 SUMMIT BLVD STE 110 BIRMINGHAM, AL 35243	DEVELOPER MURPHY OIL USA, INC. 200 PEACH STREET EL DORADO, AR 71730
LANDSCAPE COLLABORATIVE INDEPENDENT 2347 SW 5TH STREET MIAMI, FL 33135	CIVIL ENGINEER/SURVEY HSQ GROUP 7975 NW 154TH STREET SUITE 360 MIAMI LAKES, FLORIDA 33016

SITE DATA

LEGAL DESCRIPTION: (SITE AS PER SPECIAL WARRANTY DEED O.R.B. 4759, PG. 8417)

LOTS 9 AND 10, AND TRACT P, BLOCK 1702, PORT ST. LUCIE SECTION THIRTY ONE, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 14, PAGE 22, 24A THROUGH 22G, INCLUSIVE OF THE PUBLIC RECORDS OF ST. LUCIE, COUNTY FLORIDA.

BUILDING COVERAGE:
PROPOSED: 2,824 S.F.
MAXIMUM ALLOWED: 40% PROVIDED THAT THE COMBINED AREA COVERAGE OF ALL IMPERVIOUS SURFACES SHALL NOT EXCEED 80%

STATEMENT OF INTENT:
THE OWNER PROPOSES TO BUILD A NEW 2,824 S.F. MURPHY EXPRESS CONVENIENCE STORE WITH THE REQUIRED SITE SUPPORT ELEMENTS TO SERVE IT.

OVERALL SITE ADDRESS: 1837 SW GATLIN BLVD, PORT ST. LUCIE, FLORIDA 34953
FOLIO: 3420-650-0936-000-6
TOTAL SITE AREA: 75,469 S.F. (1.733 ACRES)
EXISTING ZONING: CG (GENERAL COMMERCIAL)
EXISTING LAND USE: VACANT LAND - GENERAL COMMERCIAL
FUTURE LAND USE: COMMERCIAL GENERAL
PROPOSED USE: CONVENIENCE STORE WITH GAS SALES

REQUIRED BUILDING HEIGHT:
THE FACADE OF THE BUILDING FACING AN ARTERIAL OR COLLECTOR ROAD OR AN INTERSTATE HIGHWAY SHALL HAVE A MINIMUM BUILDING WALL HEIGHT OF 22 FEET, EXCLUSIVE OF SLOPED ROOF HEIGHT, FOR AT LEAST 60% OF THE LENGTH OF THE BUILDING, 35 FEET MAX. HEIGHT.

PROPOSED BUILDING HEIGHT: TOP OF BUILDING: 22'-0"
TOP OF TOWER ROOF: 28'-6"
NUMBER OF STORIES: 1
CONVENIENCE STORE AREA: 2,824 S.F.
TOTAL BUILDING AREA: 2,824 S.F.
BUILDING SETBACKS: REQUIRED PROVIDED

NORTH:	10'	20'
EAST:	25'	75.5'
SOUTH:	10'	40'
WEST:	10'	21'

ZONING	LAND USE
NORTH: OSC	MUNICIPAL
EAST: P	OFFICE BUILDINGS
SOUTH: PUD	FINANCIAL INSTITUTIONS
WEST: LM	RESIDENTIAL-OFFICE-INSTITUTIONAL

CANOPY AREA: 5,541 S.F.
PROVIDED FLOOR AREA RATIO: 2,824 S.F.
REQUIRED FLOOR AREA RATIO: N/A

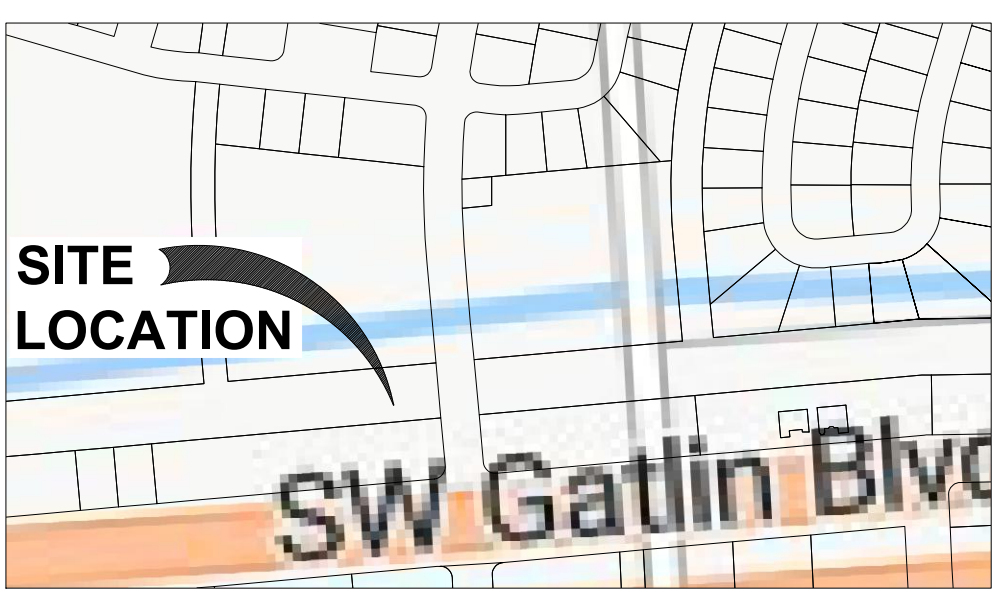
- SITE NOTES**
- 8B OVERHEAD CANOPY (TYP. PER CANOPY PLANS)
 - 12A 4" TRAFFIC YELLOW LANE STRIPE
 - 12B 4" TRAFFIC WHITE LANE STRIPE
 - 12D 4" WIDE BLUE PAINTED STRIPES, 2" O.C. @ 45° (SEE SIZE INDICATED AT SYMBOL)
 - 14J GC TO INSTALL (1) 4" PVC SLEEVE FOR IRRIGATION LINE. (SEE UTILITY PLAN FOR INSTALLATION REQUIREMENTS)
 - 14K GC TO INSTALL (2) 4" PVC SLEEVES FOR FUTURE USE (SEE UTILITY PLAN FOR INSTALLATION REQUIREMENTS)
 - 16A MURPHY FREE STANDING MONUMENT SIGN
 - 21E UNDERGROUND STORAGE TANKS (1-25,000 GAL. & 1-26,000 GAL.)
 - 21K MURPHY EXPRESS ID SIGN PER APPROVED RENDERING
 - 21L PRICE SIGN PER APPROVED ELEVATION
 - 51B LIMITS OF SAWCUT AND PAVEMENT REMOVAL

- SITE DETAILS**
- 1A INTEGRAL CONCRETE CURB
 - 2E DUMPSTER ENCLOSURE
 - 3D CONCRETE SIDEWALK
 - 3K CONCRETE SIDEWALK AROUND BUILDING
 - 5B TRAFFIC SIGN IN BOLLARD
 - 5F STEEL BOLLARD W/COVER (SINGLE)
 - 9U ACCESSIBLE PARKING SYMBOL (SEE PAINT COLOR INDICATED AT SYMBOL)
 - 9V ACCESSIBLE / VAN ACCESSIBLE PARKING SIGN MOUNTED IN BOLLARD
 - 9X "NO PARKING" PAINTED ON PAVEMENT
 - 10A TRAFFIC FLOW ARROW (TYP.)
 - 10B STOP BAR (TYP.)
 - 12G "STOP" SIGN
 - 13A SITE LIGHT POLE (SEE PHOTOMETRIC PLANS FOR POLE BASE DETAIL, FIXTURE TYPE, LOCATION AND MOUNTING DETAILS)
 - 18G CONSTRUCTION CAMERA (COORDINATE WITH MOUSA PM FOR LOCATION)
 - 21G AIR VACUUM UNIT WITH 4"x7" CONCRETE SLAB
 - 21H ATM PAD (SEE FUEL DEVELOPMENT PLAN SHT. FE-1 FOR CONDUITS)
 - 21P 7"x10" CONCRETE SLAB FOR PROPANE TANKS
 - 21T MAILBOX/CONTRACTOR SHALL COORDINATE LOCATION WITH MURPHY AND POSTMASTER PRIOR TO INSTALLATION)
 - 21U 5"x7" ICE UNIT (SEE NUMBER INDICATED AT SYMBOL)

- GENERAL SITE NOTES**
- A. ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- B. ALL CURB RETURN RADII SHALL BE 3', AS SHOWN TYPICAL ON THIS PLAN, UNLESS OTHERWISE NOTED.
- C. UNLESS OTHERWISE SHOWN, CALLED OUT OR SPECIFIED HEREON: ALL CURB AND GUTTER ADJACENT TO PAVING SHALL BE INSTALLED PER DETAIL. PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE PAVING PLAN OVER THE ENTIRE PARKING LOT AREA AND ALL APPROACH DRIVES. SEE ASSOCIATED PLANS FOR CANOPY, COLUMN, DISPENSER ISLAND DETAILS AND LAYOUT.
- D. CONTRACTOR SHALL BEGIN CONSTRUCTION OF ANY LIGHT POLE BASES FOR RELOCATED LIGHT FIXTURES AND RELOCATION OF ELECTRICAL SYSTEM AS SOON AS DEMOLITION BEGINS. CONTRACTOR SHALL BE AWARE THAT INTERRUPTION OF POWER TO ANY LIGHT POLES OR SIGNS SHALL NOT EXCEED 24 HOURS.
- E. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEED/DODED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- F. CONTRACTOR SHALL PURCHASE AND INSTALL A MAILBOX AND SHALL COORDINATE LOCATION OF MAILBOX WITH MURPHY CONSTRUCTION MANAGER AND/OR ON-SITE REPRESENTATIVE AND LOCAL POSTMASTER.
- G. ALL PROPOSED PAVEMENT STRIPING OR MARKINGS SHALL FOLLOW THE SPECIFICATIONS FOR PAINT INCLUDED IN DETAIL 10A.
- H. THE PROPERTY OWNER, CONTRACTOR, AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICKUP, REMOVAL, AND DISPOSAL OF LITTER WITHIN THE PROJECT LIMITS AND SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FROM THE EDGE OF PAVEMENT TO THE PROPERTY LINE WITHIN THE CITY'S RIGHT-OF-WAY IN ACCORDANCE WITH CITY CODE, SECTION 41.08 (G).

- IMPERVIOUS SITE RATIO (ISR)**
- | AREA | SQUARE FEET | % |
|------------------------------|-------------|-----|
| IMPERVIOUS (ROOF AND PAVING) | 37,157 | 49 |
| LANDSCAPE AREA | 38,463 | 51 |
| GROSS SITE | 75,620 | 100 |

AREA	SQUARE FEET	%
IMPERVIOUS (ROOF AND PAVING)	37,157	49
LANDSCAPE AREA	38,463	51
GROSS SITE	75,620	100



VICINITY MAP
SCALE: 1" = 400'

City Project Special
Exception Use #: P24-165

City Project Site Plan #: P24-165

PSLUSD Project #: 11-651-00

- GENERAL SITE NOTES**
- A. ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- B. ALL CURB RETURN RADII SHALL BE 3', AS SHOWN TYPICAL ON THIS PLAN, UNLESS OTHERWISE NOTED.
- C. UNLESS OTHERWISE SHOWN, CALLED OUT OR SPECIFIED HEREON: ALL CURB AND GUTTER ADJACENT TO PAVING SHALL BE INSTALLED PER DETAIL. PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE PAVING PLAN OVER THE ENTIRE PARKING LOT AREA AND ALL APPROACH DRIVES. SEE ASSOCIATED PLANS FOR CANOPY, COLUMN, DISPENSER ISLAND DETAILS AND LAYOUT.
- D. CONTRACTOR SHALL BEGIN CONSTRUCTION OF ANY LIGHT POLE BASES FOR RELOCATED LIGHT FIXTURES AND RELOCATION OF ELECTRICAL SYSTEM AS SOON AS DEMOLITION BEGINS. CONTRACTOR SHALL BE AWARE THAT INTERRUPTION OF POWER TO ANY LIGHT POLES OR SIGNS SHALL NOT EXCEED 24 HOURS.
- E. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR INCHES OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEED/DODED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- F. CONTRACTOR SHALL PURCHASE AND INSTALL A MAILBOX AND SHALL COORDINATE LOCATION OF MAILBOX WITH MURPHY CONSTRUCTION MANAGER AND/OR ON-SITE REPRESENTATIVE AND LOCAL POSTMASTER.
- G. ALL PROPOSED PAVEMENT STRIPING OR MARKINGS SHALL FOLLOW THE SPECIFICATIONS FOR PAINT INCLUDED IN DETAIL 10A.
- H. THE PROPERTY OWNER, CONTRACTOR, AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICKUP, REMOVAL, AND DISPOSAL OF LITTER WITHIN THE PROJECT LIMITS AND SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FROM THE EDGE OF PAVEMENT TO THE PROPERTY LINE WITHIN THE CITY'S RIGHT-OF-WAY IN ACCORDANCE WITH CITY CODE, SECTION 41.08 (G).

PARKING INFORMATION:							
DESCRIPTION	BUILDING AREA (S.F.)	REQUIRED:		SPACES			
		1/200 S.F.	RATIO	REGULAR	UNDER CANOPY	ACCESSIBLE	TOTAL
FUELING STATION	2,886			15		1	16
		PROVIDED:		SPACES			
				REGULAR	UNDER CANOPY	ACCESSIBLE	TOTAL
				14	16	1	31
NO. OF FUEL ISLANDS: 8 NO. OF VEHICLE FUELING POINTS: 16							
Designation	Land Use	ITE Code	Size	Units	Daily Trips	AM Peak Trips	AM Peak Trips
Existing	Vacant	-	-	-	0	0	0
	Existing Total				0	0	0
Proposed	Convenience Store w/ Gas Station (2-4k GFA)	945	16	FP	4,242	257	295
	Proposed Total				4,242	257	295
	Net New Trips				4,242	257	295
WELLFIELD PROTECTION ORDINANCE: THE PARCEL IS NOT LOCATED WITHIN A FLORIDA WELLFIELD PROTECTION ZONE. NEAREST FIRE HYDRANT LOCATIONS: EXISTING FIRE HYDRANTS ARE SHOWN ON THE PLAN VIEW. MAINTENANCE NOTE: THE PROPERTY OWNER, CONTRACTOR, AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICKUP, REMOVAL, AND DISPOSAL OF LITTER WITHIN THE PROJECT LIMITS. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FROM THE EDGE OF PAVEMENT TO THE PROPERTY LINE WITHIN THE CITY'S RIGHT-OF-WAY IN ACCORDANCE WITH THE ITE CODE, SECTION 41.08 (G).							

- PROJECT NOTES:**
- UTILITY PROVIDERS:
WATER & WASTEWATER: PSLUSD
IRRIGATION: N/A (PROPOSED)
SOLIDWASTE: WASTEPRO
ELECTRIC: FPL
- STORM WATER DRAINAGE:
THE SURFACE WATER MANAGEMENT SYSTEM FOR THE PROPOSED DEVELOPMENT WILL COLLECT SITE RUNOFF THROUGH THE USE OF CATCH BASINS INTERCONNECTED BY PIPES WITH EXFILTRATION TRENCH THAT ULTIMATELY CONNECT TO THE MASTER DRAINAGE SYSTEM AT THE NEIGHBORING PLAZA.
- WATER:
CONNECTION TO EXISTING WATER MAIN WILL BE UTILIZED TO SERVE THE PROPOSED BUILDING.
- SEWER:
CONNECTION TO EXISTING GRAVITY SEWER WILL BE UTILIZED TO SERVE THE PROPOSED BUILDING.
- FIRE PROTECTION:
EXISTING FIRE HYDRANT ASSEMBLY SHOWN ON THE PLAN VIEW. EXISTING FIRE HYDRANT IS APPROXIMATELY 187' TO THE CLOSEST POINT OF THE PROPOSED BUILDING.
- HAZARDOUS WASTE:
ALL HAZARDOUS WASTE DISPOSAL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
- SOLID WASTE:
BASED ON THE INTENDED USE OF THE BUILDING, THIS PROJECT WILL USE THE PROPOSED DUMPSTER AREA FOR SOLID WASTE AND RECYCLABLE ITEMS.
- LANDSCAPE:
PROPOSED LANDSCAPE PLANS TO ADHERE WITH CITY OF PORT ST. LUCIE LAND DEVELOPMENT CODE.
- ENVIRONMENTAL:
AN ENVIRONMENTAL ASSESSMENT WILL BE PROVIDED DURING CONSTRUCTION PLAN SUBMITTAL.
- ACCESSIBILITY AND ADA COMPLIANCE:
ALL SIDEWALKS AND RAMPS TO ADHERE WITH FOOT AND ADA REQUIREMENTS.
- A/C UNITS:
ALL A/C UNITS TO BE LOCATED ON THE ROOF.
- SIGNAGE:
SIGNAGE TO BE APPROVED UNDER SEPARATE REVIEW PROCESS.
- TRAFFIC STATEMENT:
THE ITE TRIP GENERATION MANUAL, 11TH EDITION, LAND USE CODE 945 (CONVENIENCE STORE/GAS STATION) WAS USED TO DETERMINE THE EXPECTED GROSS DAILY AND PEAK HOUR TRIPS FOR THE PROPOSED DEVELOPMENT. REFER TO TRAFFIC ANALYSIS REPORT.

- EXISTING**
- S SANITARY SEWER LINE
 - W WATER LINE
 - UGE UNDERGROUND ELECTRIC LINE
 - UGT UNDERGROUND TELEPHONE LINE
 - OHE,TV,T OVERHEAD ELECTRIC, TELEVISION, TELEPHONE
 - SEWER MANHOLE
 - WATER METER
 - FIRE HYDRANT
 - UTILITY POLE
- PROPOSED**
- BOUNDARY LINE
 - CONCRETE CURB AND GUTTER
 - FPL EASEMENT
 - BUILDING SETBACK LINE AND LANDSCAPE BUFFER
 - CONCRETE SIDEWALK
 - LANDSCAPE
 - HEAVY DUTY CONCRETE 8"
 - STAND DUTY CONCRETE 5"

SHEET NO.

CSP-1

ARAF SHEHADEH
P.E.
No 92128
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

DATE: 7/10/25
ARAF SHEHADEH, P.E.
FLORIDA REGISTRATION NO. - 92128

CONCEPTUAL SITE PLAN

MURPHY USA
1837 SW GATLIN BLVD
PORT ST. LUCIE FLORIDA

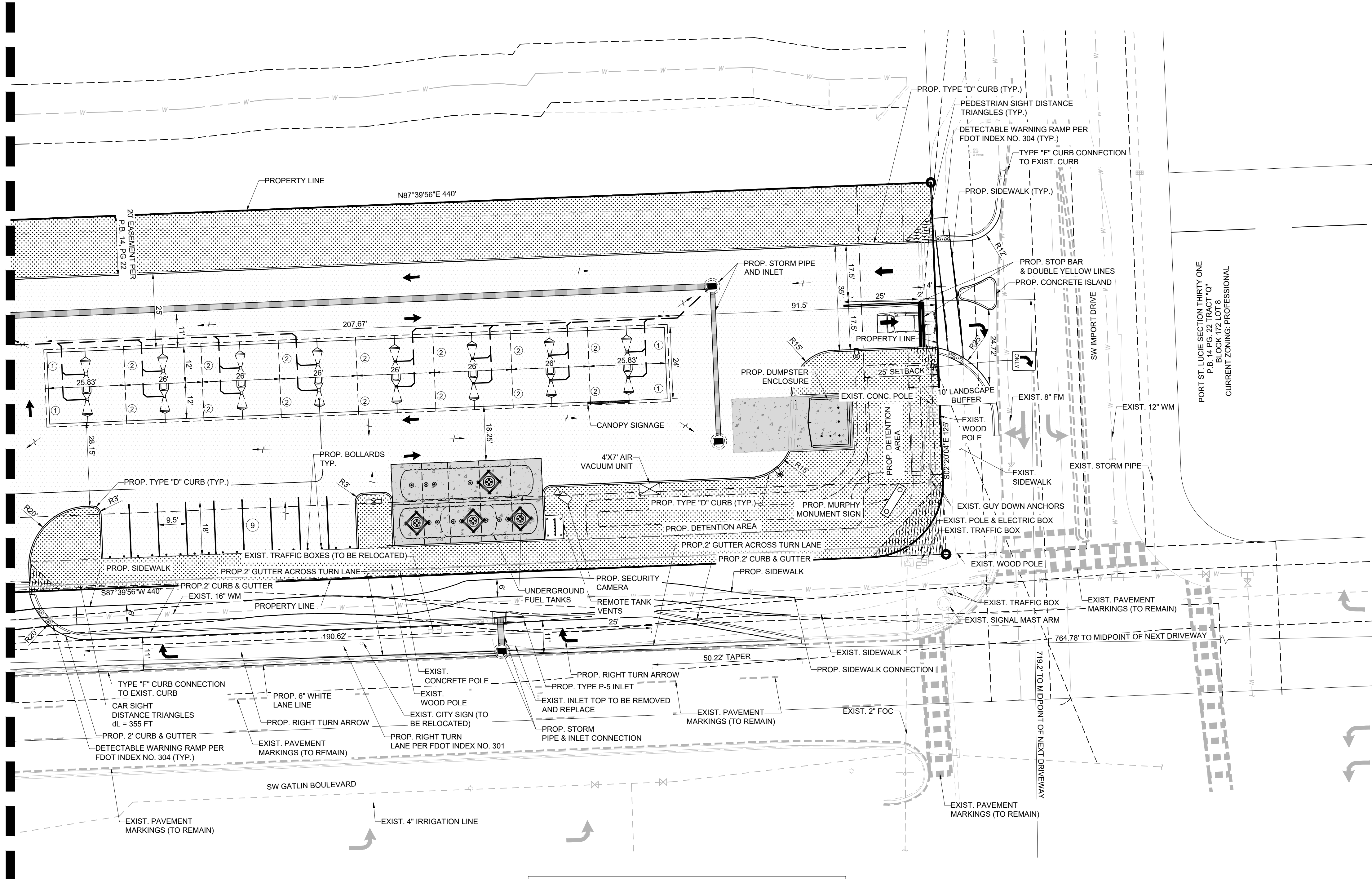
HSQ GROUP
Engineers - Planners - Surveyors
7975 NW 154th Street, Suite 360
Miami Lakes, FL 33054
Contact: Aref Shehadeh, P.E.

PSLUSD

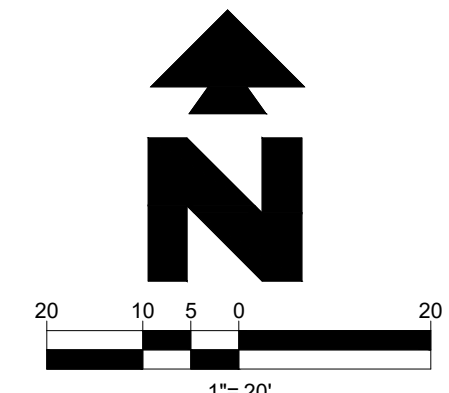
MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730

MURPHY USA

MATCHLINE- SEE SHEET CSP-1



PLEASE REFER TO SHEET
CSP-1 FOR SITE DATA
INFORMATION



PROJECT TEAM:
OWNER
PS LUCIE SR CGP LLC
361 SUMMIT BLVD
STE 110 BIRMINGHAM,
AL 35243
DEVELOPER
MURPHY OIL USA, INC.
200 PEACH STREET EL
DORADO, AR 71730
LANDSCAPE
COLLABORATIVE INDEPENDENT
2347 SW 5TH STREET
MIAMI, FL 33135
CIVIL ENGINEER/SURVEY
HSQ GROUP
7975 NW 154TH STREET SUITE 360
MIAMI LAKES, FLORIDA 33016

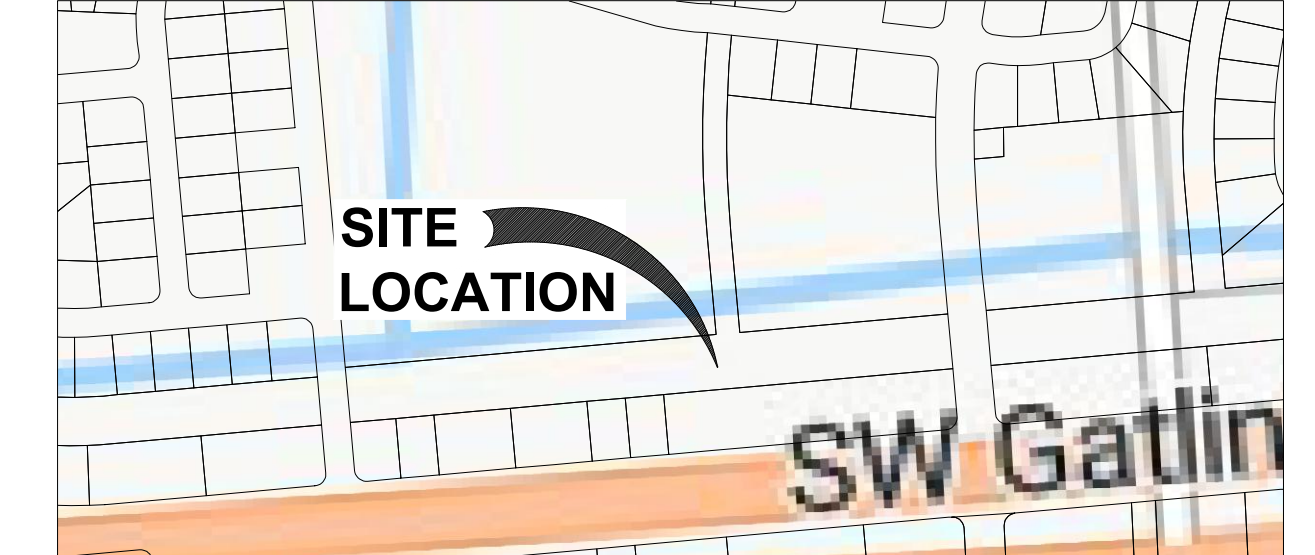
SITE DATA
LEGAL DESCRIPTION: (SITE AS PER SPECIAL WARRANTY DEED
O.R.B. 4769, PG. 8417)
LOTS 9 AND 10, AND TRACT P, BLOCK 1702, PORT ST. LUCIE, SECTION THIRTY ONE,
ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 14, PAGE 22, 22A
THROUGH 22G, INCLUSIVE OF THE PUBLIC RECORDS OF ST. LUCIE, COUNTY FLORIDA.
BUILDING COVERAGE:
PROPOSED: 2,824 S.F.
MAXIMUM ALLOWED: 40% PROVIDED THAT THE COMBINED AREA COVERAGE OF
ALL IMPERVIOUS SURFACES SHALL NOT EXCEED 80%
STATEMENT OF INTENT:
THE OWNER PROPOSES TO BUILD A NEW 2,824 S.F. MURPHY EXPRESS
CONVENIENCE STORE WITH THE REQUIRED SITE SUPPORT ELEMENTS TO SERVE IT.
OVERALL SITE ADDRESS: 1837 SW GATLIN BLVD, PORT ST. LUCIE, FLORIDA 34953
FOLIO: 3420-650-0936-000-6
TOTAL SITE AREA: 75,489 S.F. (1.733 ACRES)
EXISTING ZONING: CG (GENERAL COMMERCIAL)
EXISTING LAND USE: VACANT LAND - GENERAL COMMERCIAL
FUTURE LAND USE: COMMERCIAL GENERAL
PROPOSED USE: CONVENIENCE STORE WITH GAS SALES
REQUIRED BUILDING HEIGHT:
THE FACADE OF THE BUILDING FACING AN ARTERIAL OR COLLECTOR ROAD OR AN
INTERSTATE HIGHWAY SHALL HAVE A MINIMUM BUILDING WALL HEIGHT OF 22 FEET,
EXCLUSIVE OF SLOPED ROOF HEIGHT, FOR AT LEAST 60% OF THE LENGTH OF THE
BUILDING, 35 FEET MAX. HEIGHT.
PROPOSED BUILDING HEIGHT: TOP OF BUILDING: 22'-0"
TOP OF TOWER ROOF: 28'-6"
NUMBER OF STORIES: 1
CONVENIENCE STORE AREA: 2,824 S.F.
TOTAL BUILDING AREA: 2,824 S.F.
BUILDING SETBACKS: REQUIRED PROVIDED
NORTH: 10' 20'
EAST: 25' 75.5'
SOUTH: 10' 40'
WEST: 10' 21'

	ZONING	LAND USE
NORTH:	OSC	MUNICIPAL
EAST:	P	OFFICE BUILDINGS
SOUTH:	PUD	FINANCIAL INSTITUTIONS
WEST:	LM	RESIDENTIAL-OFFICE-INSTITUTIONAL

CANOPY AREA: 5,541 S.F.
PROVIDED FLOOR AREA RATIO: 2,824 S.F.
REQUIRED FLOOR AREA RATIO: N/A

EXISTING			
S	SANITARY SEWER LINE	⊙	SEWER MANHOLE
W	WATER LINE	⊙	WATER METER
UGE	UNDERGROUND ELECTRIC LINE	⊙	WATER VALVE
UGT	UNDERGROUND TELEPHONE LINE	⬮	FIRE HYDRANT
OHE,TV,T	OVERHEAD ELECTRIC, TELEVISION, TELEPHONE	●	UTILITY POLE

PROPOSED			
---	BOUNDARY LINE		
---	CONCRETE CURB AND GUTTER		
---	FPL EASEMENT		
---	BUILDING SETBACK LINE AND LANDSCAPE BUFFER		
▨	CONCRETE SIDEWALK	▨	HEAVY DUTY CONCRETE 8"
▨	LANDSCAPE	▨	STAND DUTY CONCRETE 5"



VICINITY MAP
SCALE: 1" = 400'

City Project Special
Exception Use #: P24-165
City Project Site Plan #: P24-165
PSLUSD Project #: 11-651-00

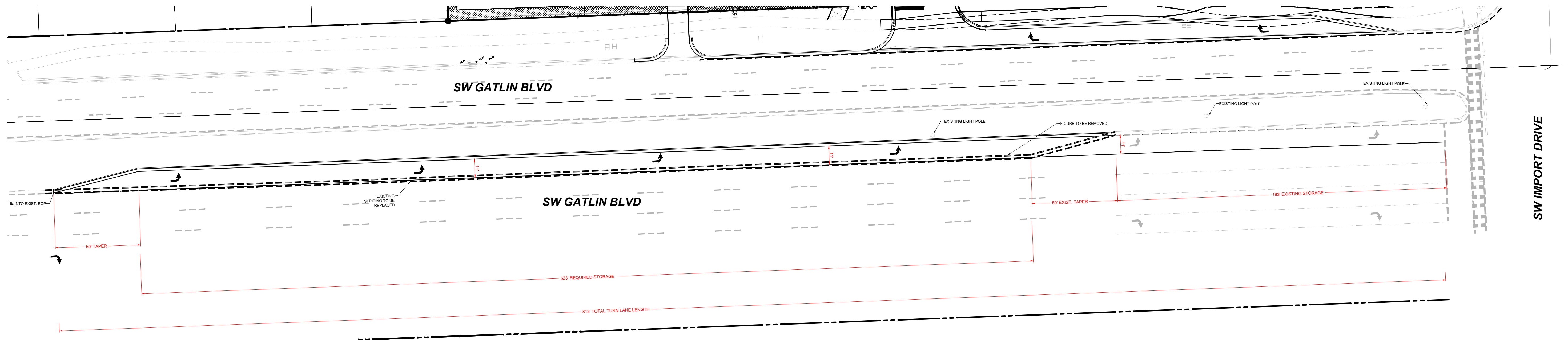
SHEET NO.
CSP-2

CONCEPTUAL SITE PLAN
MURPHY USA
1837 SW GATLIN BLVD
PORT ST. LUCIE FLORIDA

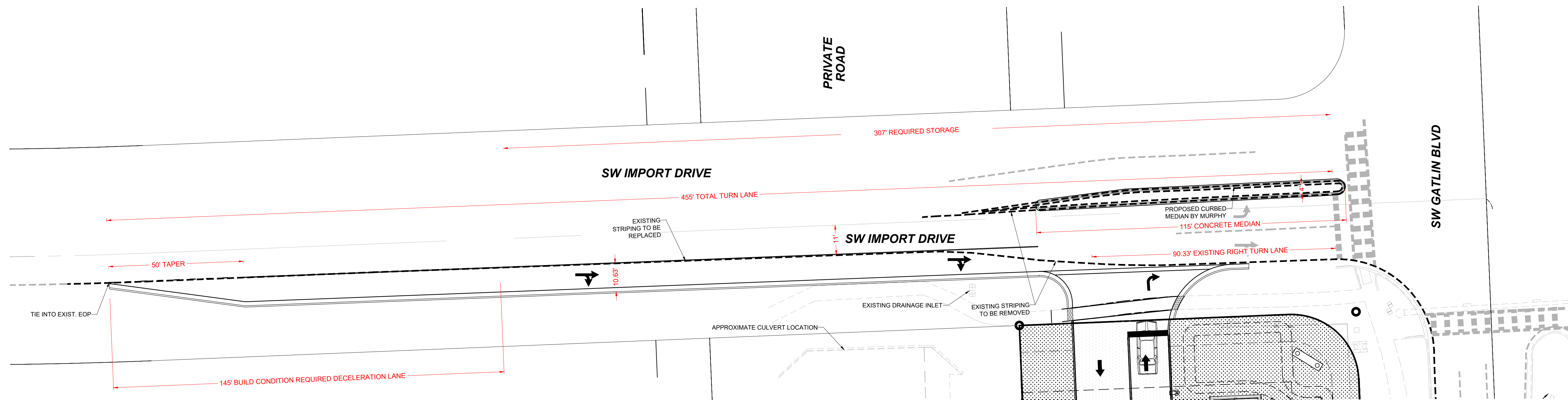
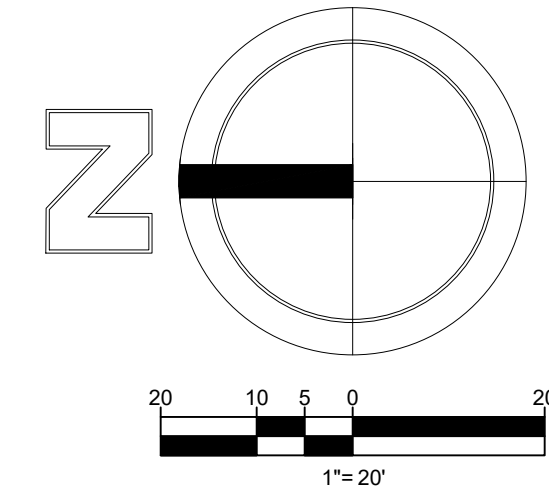
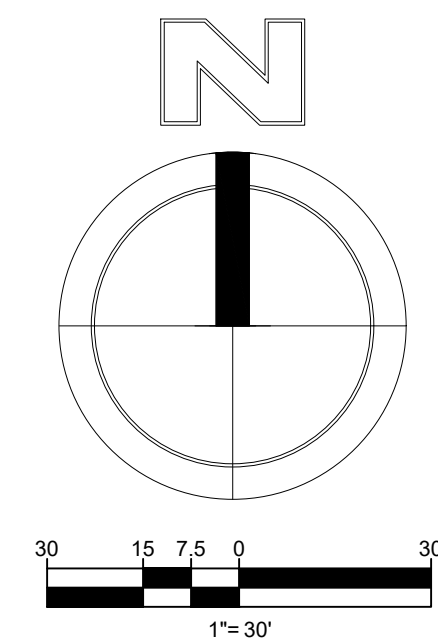
HSQ GROUP
Engineers - Planners - Surveyors
7975 NW 154th Street, Suite 360
Miami Lakes, FL 33016
Contact: Aref Shehadeh, P.E.

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

MURPHY USA



EASTBOUND LEFT TURN LANE - SW GATLIN BLVD



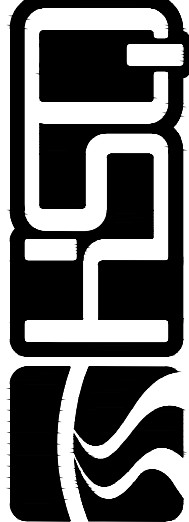
SOUTHBOUND RIGHT TURN LANE - SW IMPORT DR

SHEET NO.

TURN LANE EXHIBIT

MURPHY USA
1837 SW GATLIN BLVD
PORT ST. LUCIE FLORIDA

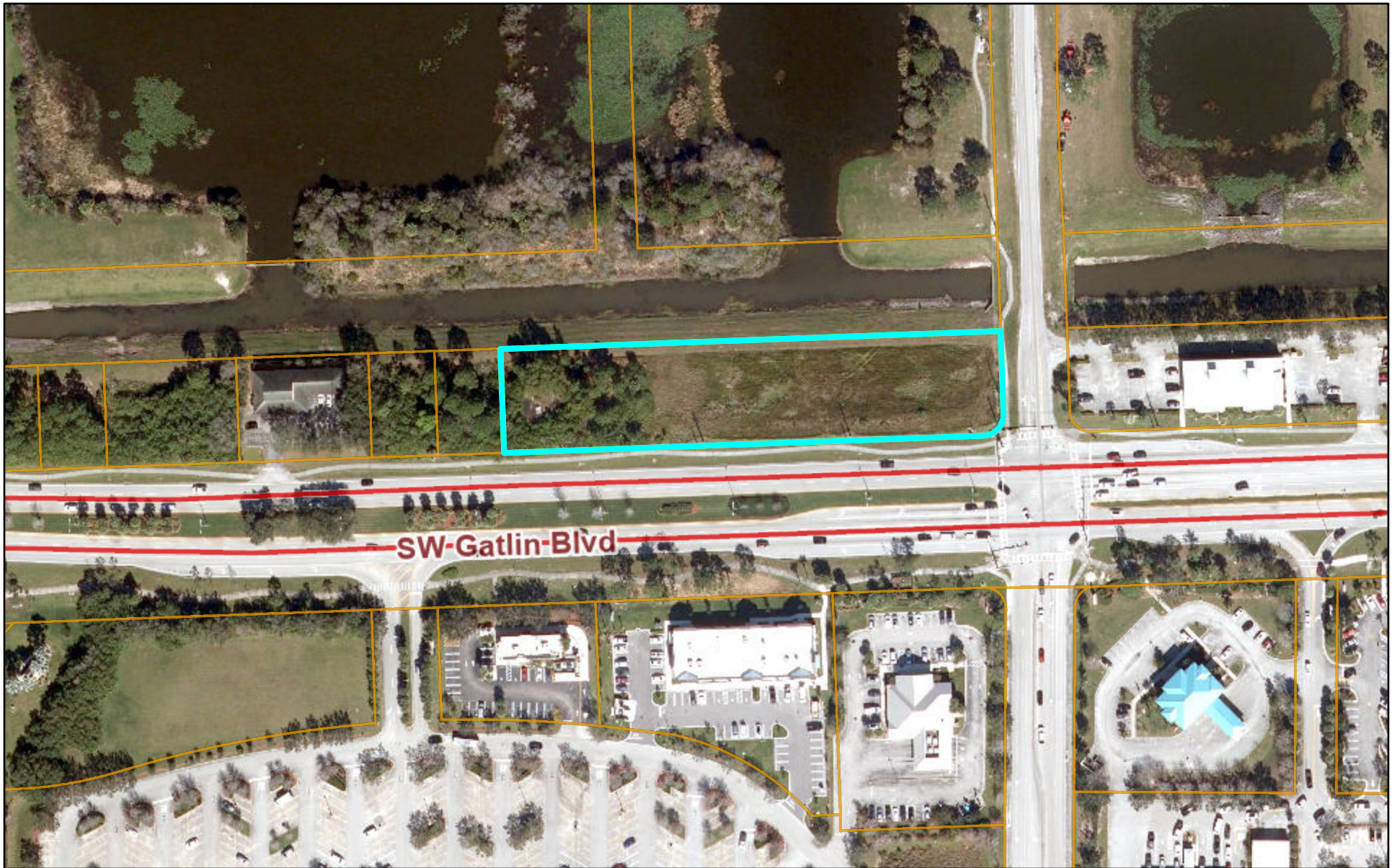
HSQ GROUP
Engineers - Planners - Surveyors
7975 NW 154th Street, Suite 300
Miami Lakes, FL 33054
C26268 - LB7924
Contact: Aref Shehadeh, P.E.



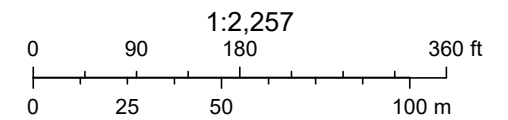
MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730



Saint Lucie County Property Appraiser



10/18/2024



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)

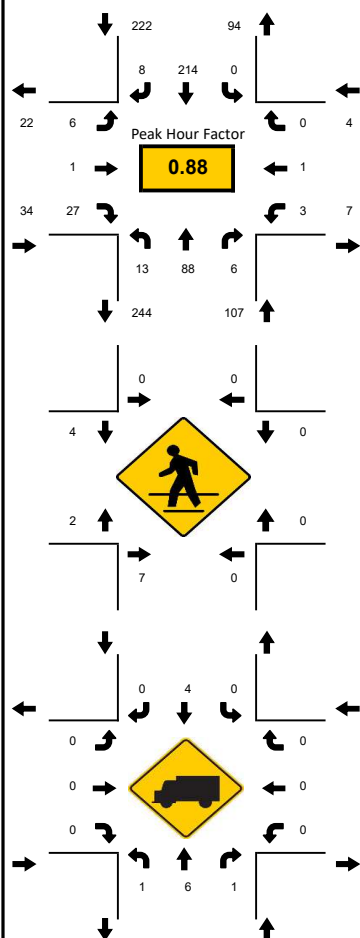
Project ID: 24-140304-001
Date: 10/16/2024

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				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
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
TOTAL VOLUMES :	NL 22	NT 163	NR 8	NU 1	SL 1	ST 402	SR 12	SU 0	EL 9	ET 2	ER 54	EU 0	WL 7	WT 1	WR 0	WU 0	TOTAL 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				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
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
TOTAL VOLUMES :	NL 36	NT 528	NR 10	NU 0	SL 2	ST 380	SR 21	SU 1	EL 16	ET 5	ER 29	EU 0	WL 4	WT 1	WR 1	WU 0	TOTAL 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				

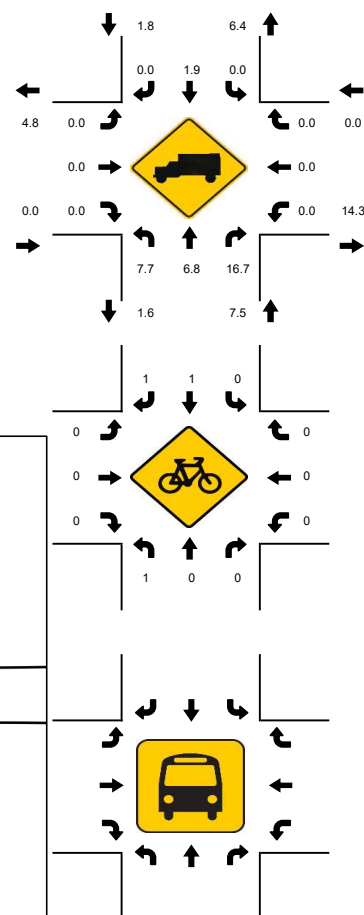
PROJECT ID: 24-140304-001
DATE: Wed, Oct 16, 2024



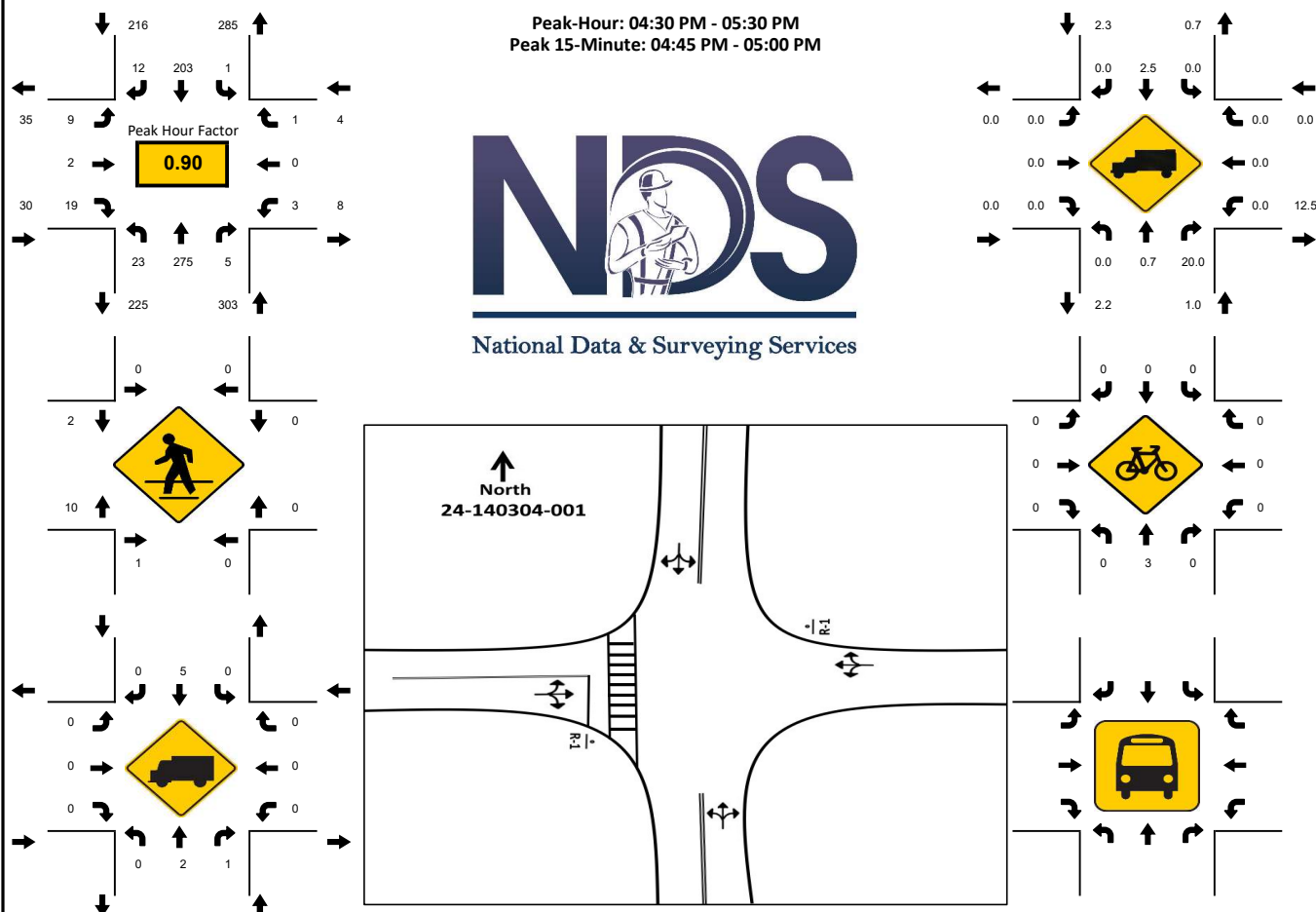
Peak-Hour: 07:30 AM - 08:30 AM
Peak 15-Minute: 07:30 AM - 07:45 AM



National Data & Surveying Services

[illegible]

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

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

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

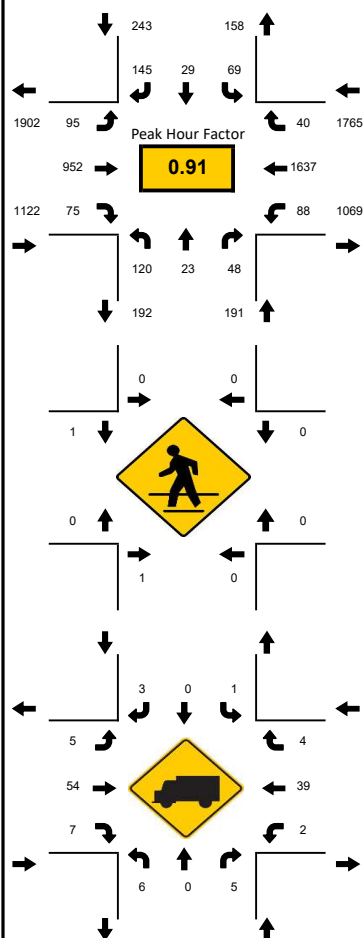
Project ID: 24-140304-002
Date: 10/16/2024

Data - Total

NS/EW Streets:	SW Import Dr				SW Import Dr				SW Gatlin Blvd				SW Gatlin Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
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
TOTAL VOLUMES :	NL 302	NT 44	NR 91	NU 0	SL 133	ST 50	SR 272	SU 0	EL 91	ET 1796	ER 151	EU 86	WL 162	WT 3101	WR 69	WU 35	TOTAL 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				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
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
TOTAL VOLUMES :	NL 431	NT 144	NR 201	NU 0	SL 141	ST 120	SR 183	SU 0	EL 298	ET 3572	ER 344	EU 168	WL 317	WT 2283	WR 121	WU 47	TOTAL 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				

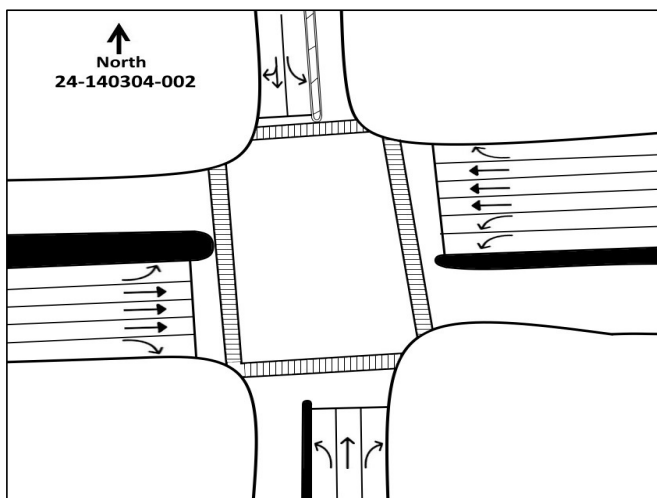
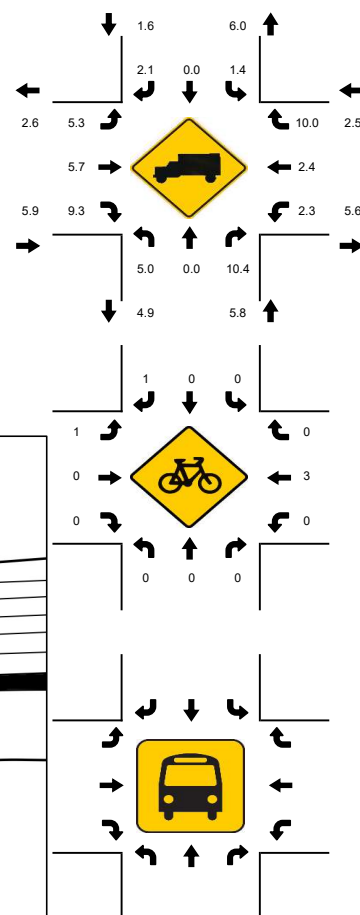
PROJECT ID: 24-140304-002
DATE: Wed, Oct 16, 2024



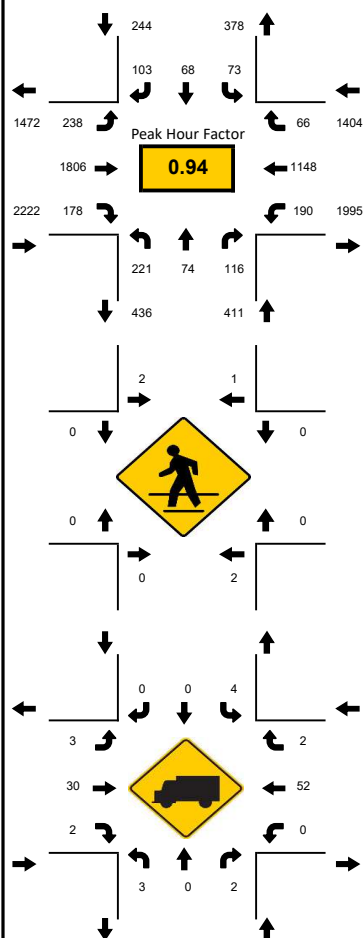
Peak-Hour: 07:30 AM - 08:30 AM
Peak 15-Minute: 07:30 AM - 07:45 AM



National Data & Surveying Services

[illegible]

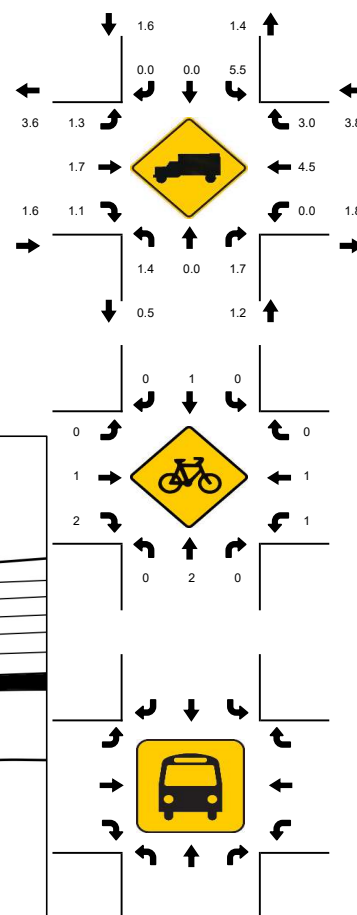
PROJECT ID: 24-140304-002
DATE: Wed, Oct 16, 2024



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



National Data & Surveying Services

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

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

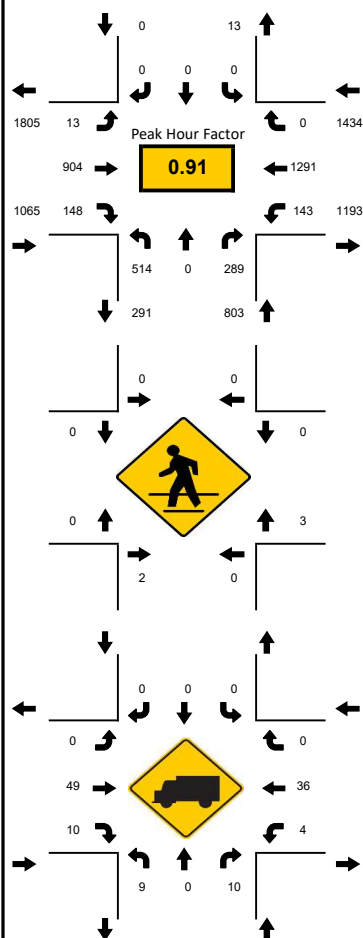
Project ID: 24-140304-003
Date: 10/16/2024

Data - Total

NS/EW Streets:	SW Rosser Blvd				SW Rosser Blvd				SW Gatlin Blvd				SW Gatlin Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
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
TOTAL VOLUMES :	NL 940	NT 0	NR 538	NU 11	SL 0	ST 0	SR 0	SU 0	EL 0	ET 1650	ER 310	EU 28	WL 309	WT 2509	WR 0	WU 11	TOTAL 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				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
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
TOTAL VOLUMES :	NL 612	NT 0	NR 484	NU 18	SL 0	ST 0	SR 0	SU 0	EL 0	ET 3096	ER 725	EU 40	WL 631	WT 2189	WR 0	WU 25	TOTAL 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			

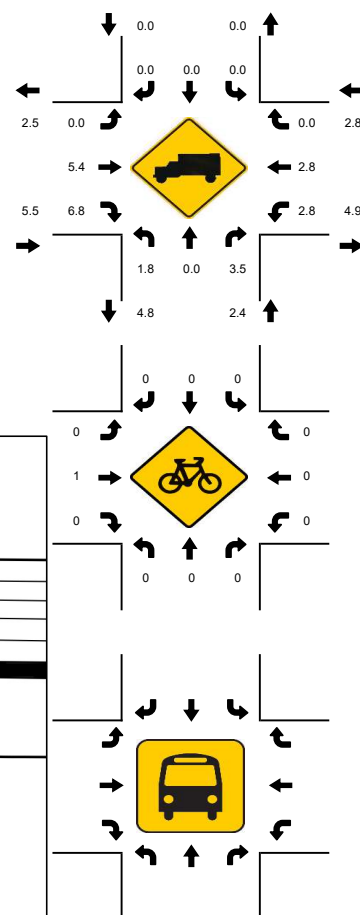
PROJECT ID: 24-140304-003
DATE: Wed, Oct 16, 2024



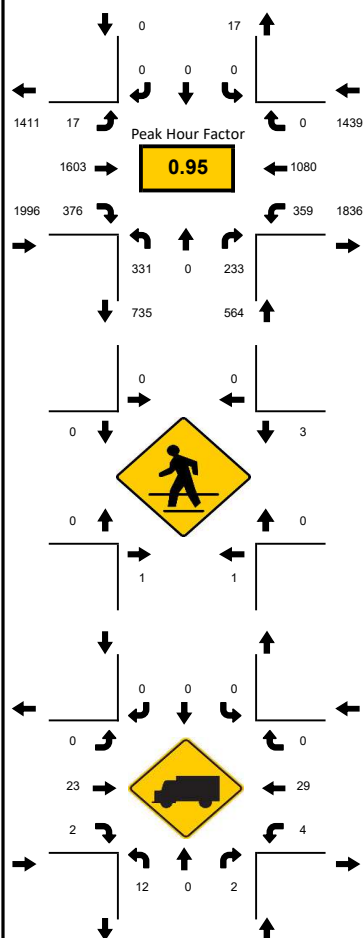
Peak-Hour: 07:30 AM - 08:30 AM
Peak 15-Minute: 07:30 AM - 07:45 AM



National Data & Surveying Services

[illegible]

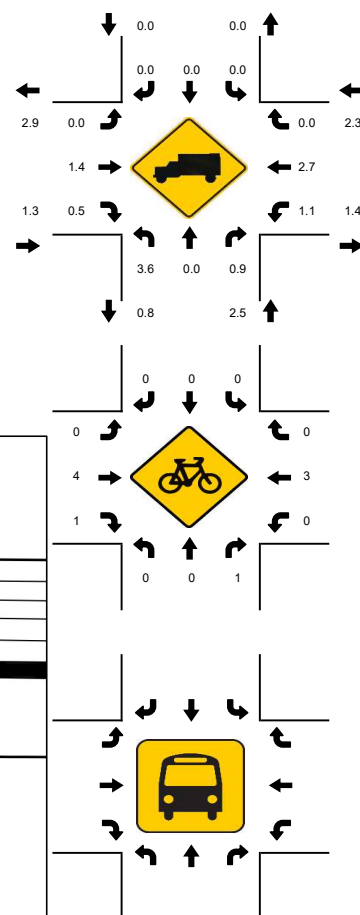
PROJECT ID: 24-140304-003
DATE: Wed, Oct 16, 2024



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



National Data & Surveying Services

[illegible]



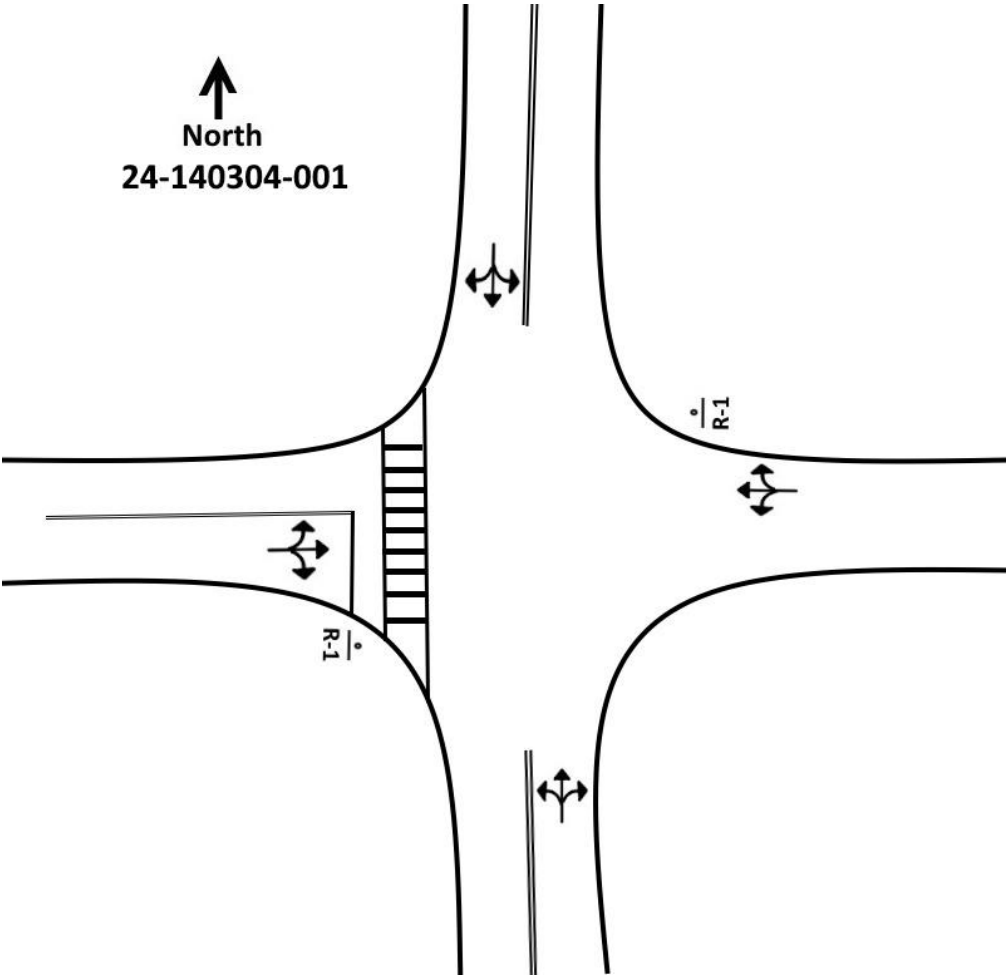
National Data & Surveying Services

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/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

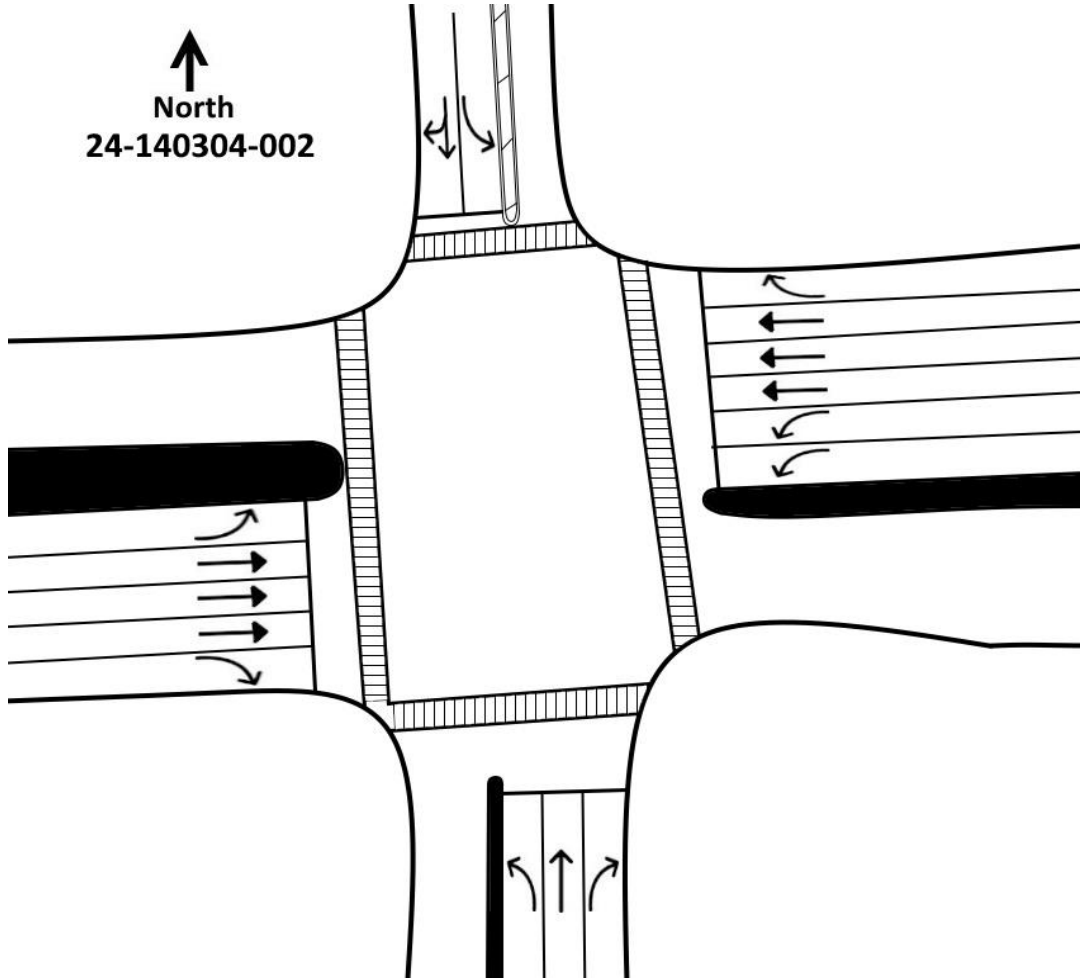
County: St. Lucie

Count Times: 07:00 - 09:00
16:00 - 18:00

Control: Signalized



N/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

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

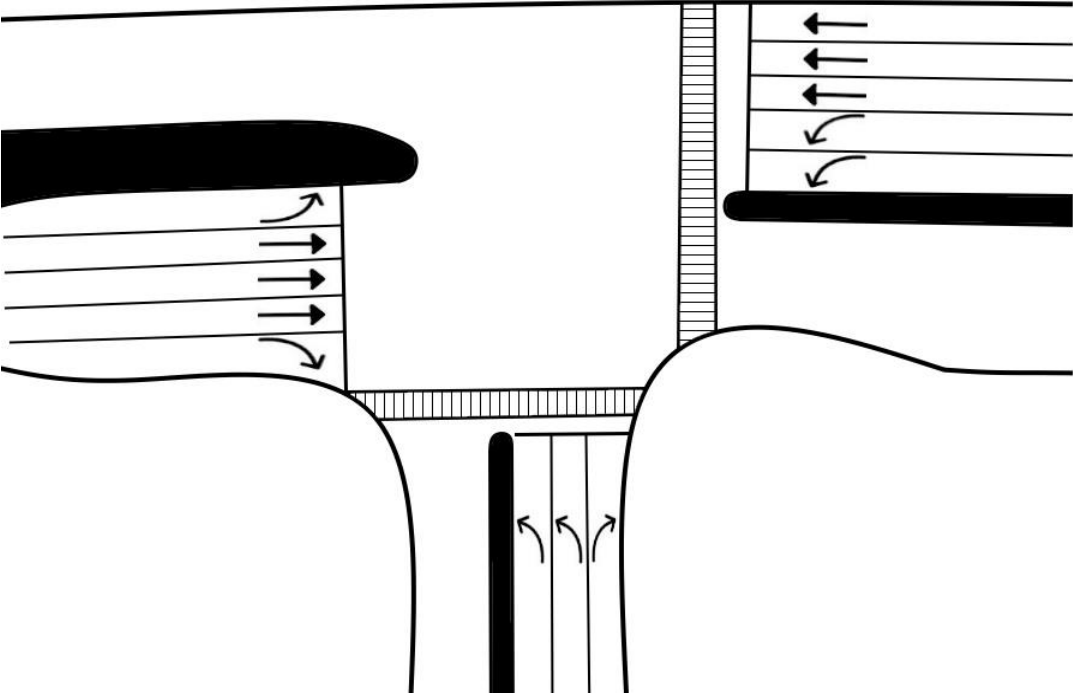
Control: Signalized



N/S Street: SW Rosser Blvd

Speed: 40 MPH

North
24-140304-003



E/W Street: SW Gatlin Blvd

Speed: 45 MPH

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

WEEK	DATES	SF	MOCF: 0.93 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

09-MAR-2024 18:41:41

830UPD

4_9401_PKSEASON.TXT

**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

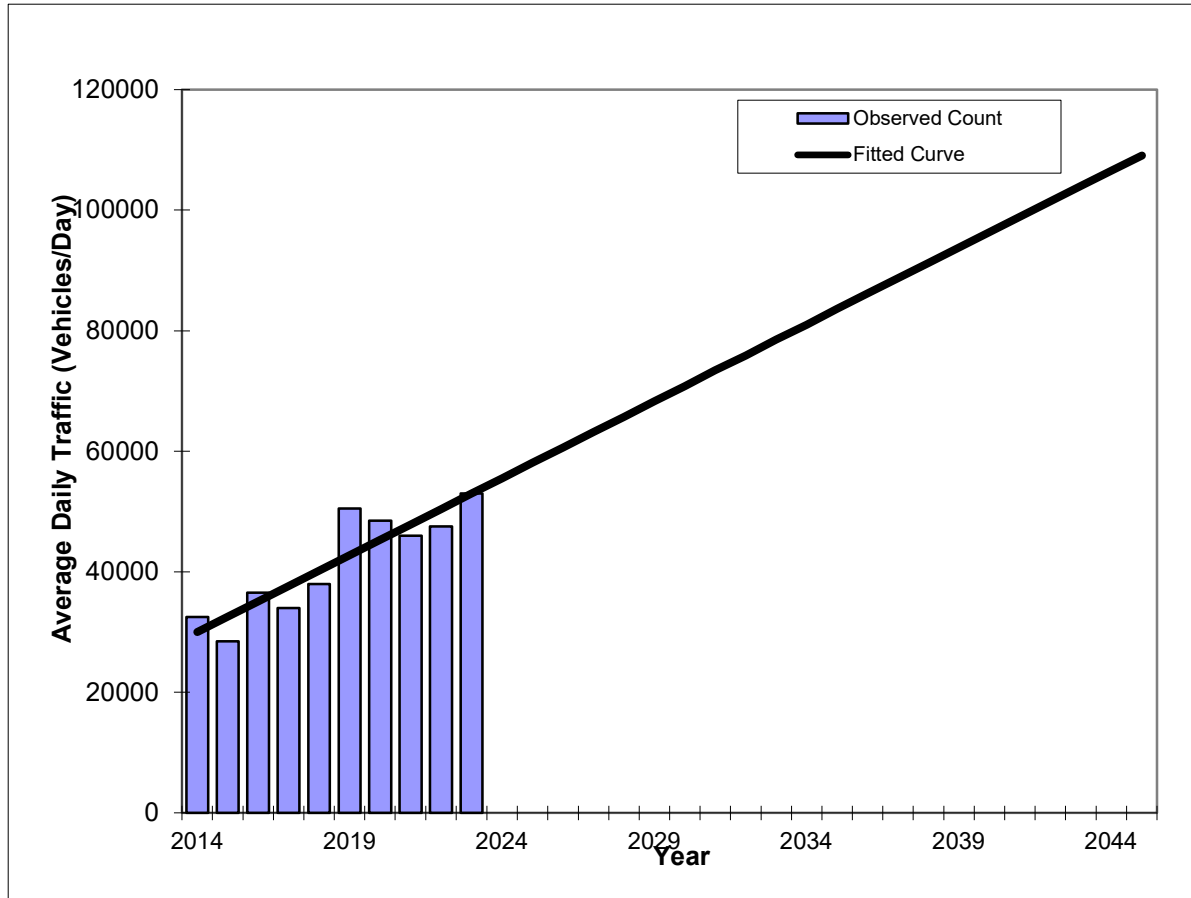
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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	

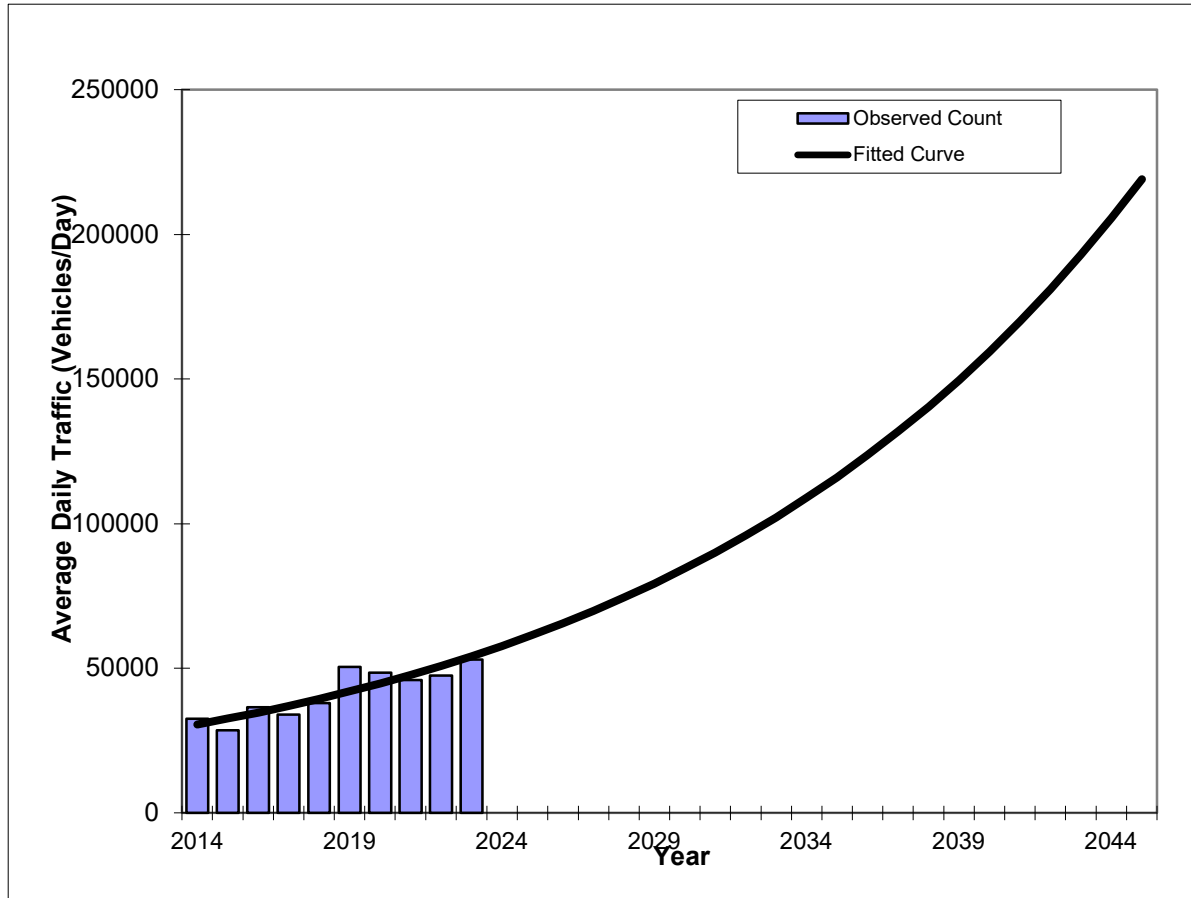
*Axle-Adjusted

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	

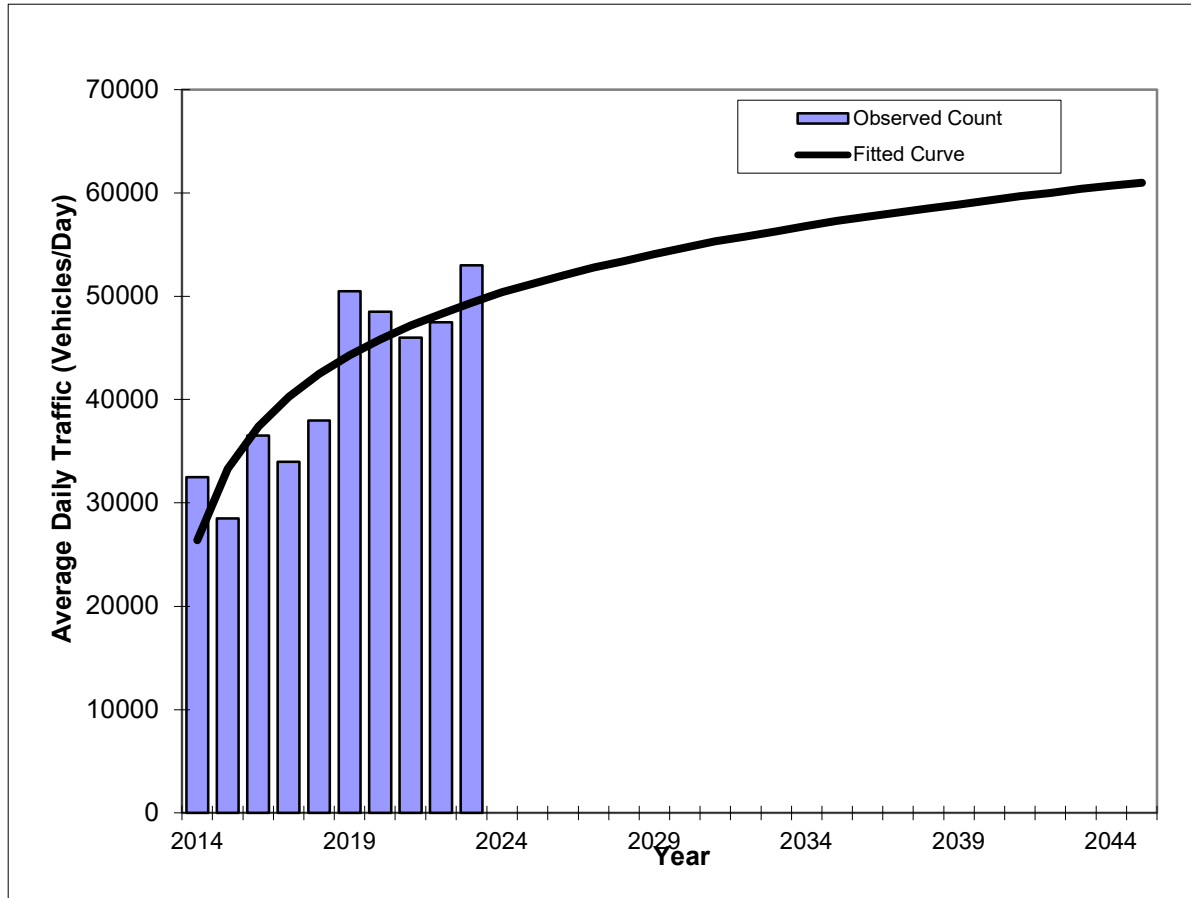
*Axle-Adjusted

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

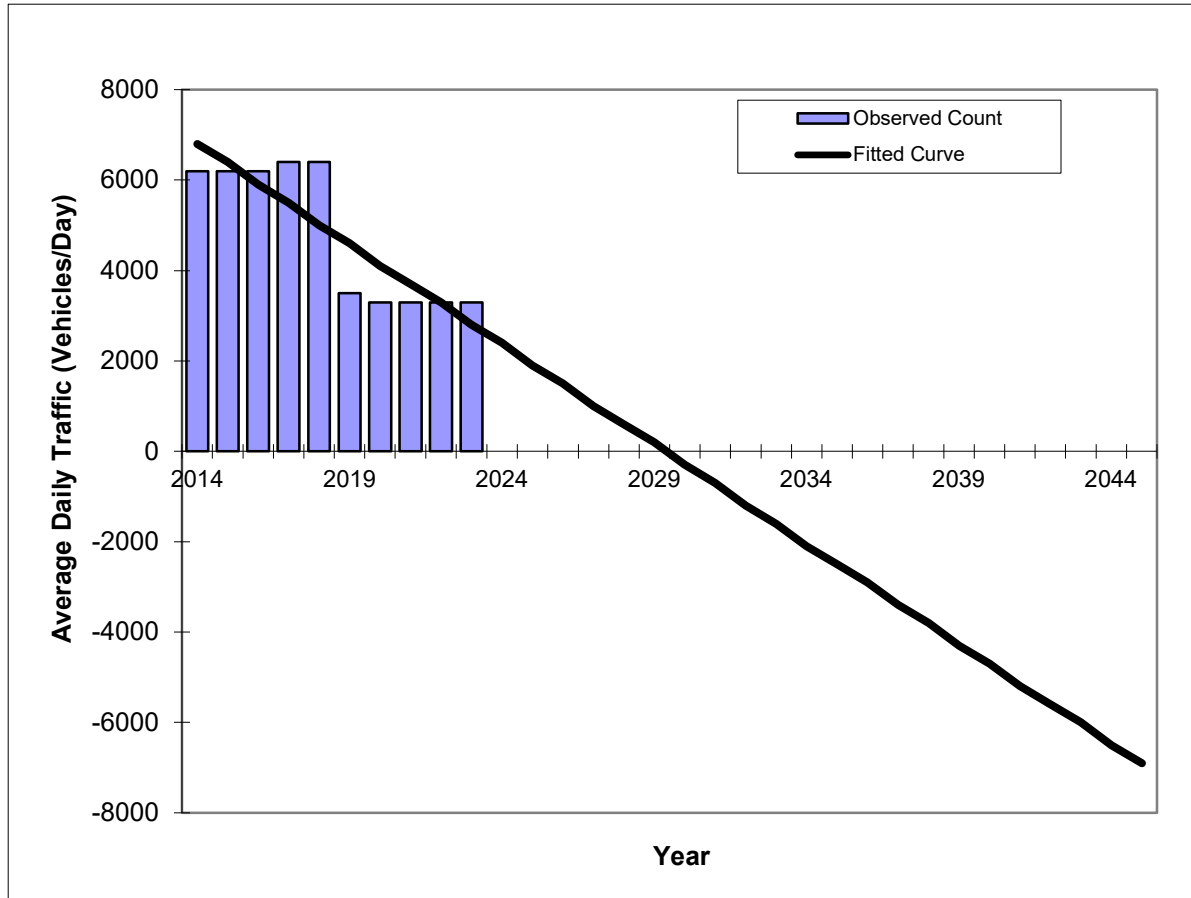
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*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		

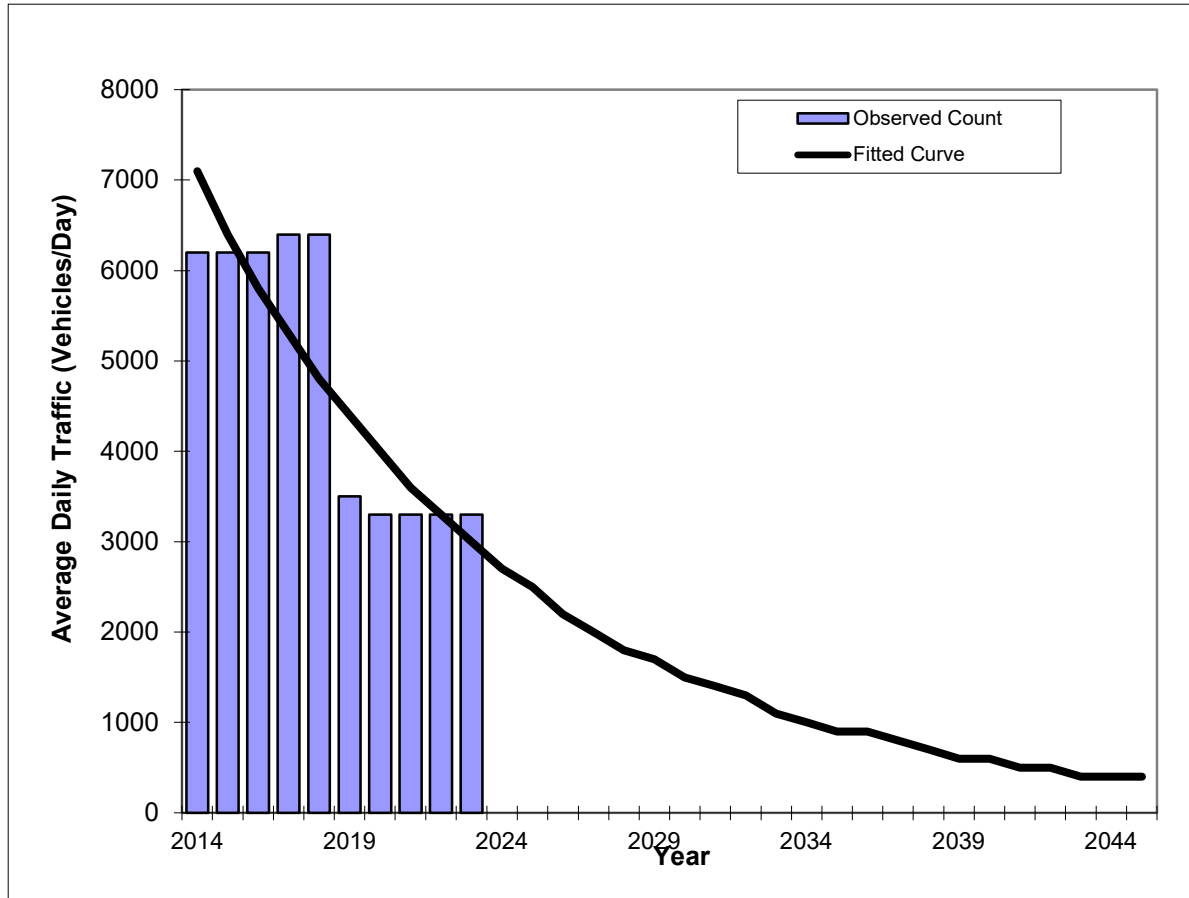
** Annual Trend Increase:	-443
Trend R-squared:	74.66%
Trend Annual Historic Growth Rate:	-6.54%
Trend Growth Rate (2023 to Design Year):	-15.75%
Printed:	9-Oct-24
Straight Line Growth Option	

*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	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		

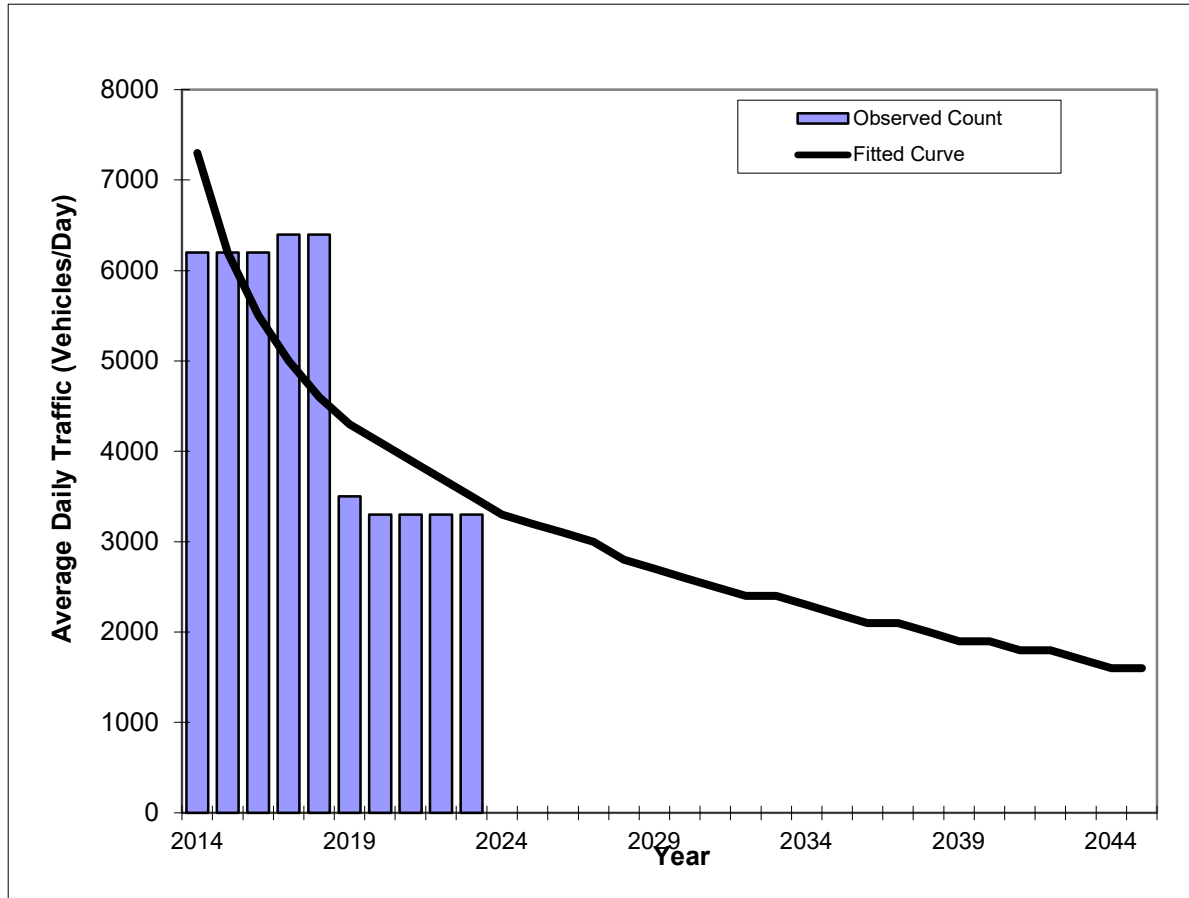
Trend R-squared:	75.89%
Compounded Annual Historic Growth Rate:	-9.13%
Compounded Growth Rate (2023 to Design Year):	-8.75%
Printed:	9-Oct-24
Exponential Growth Option	

*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

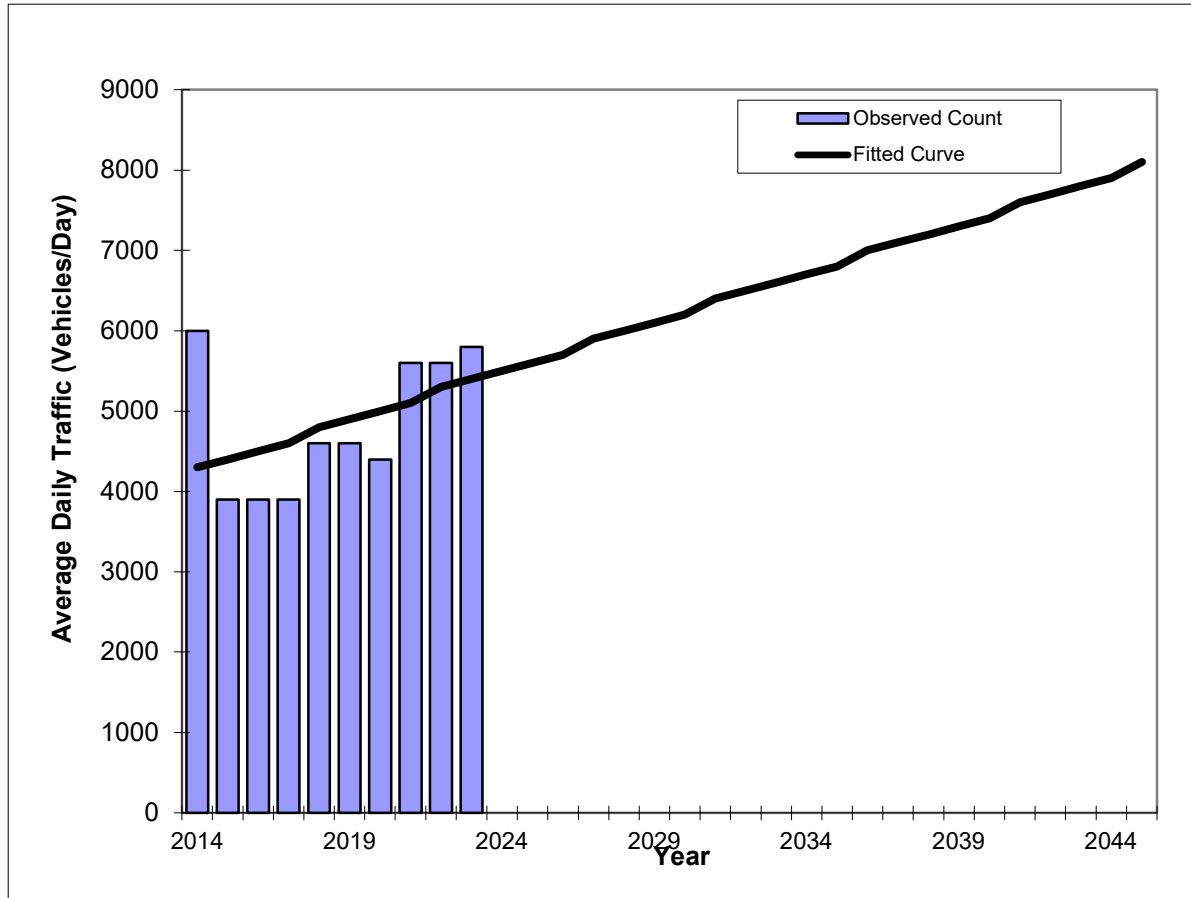
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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	

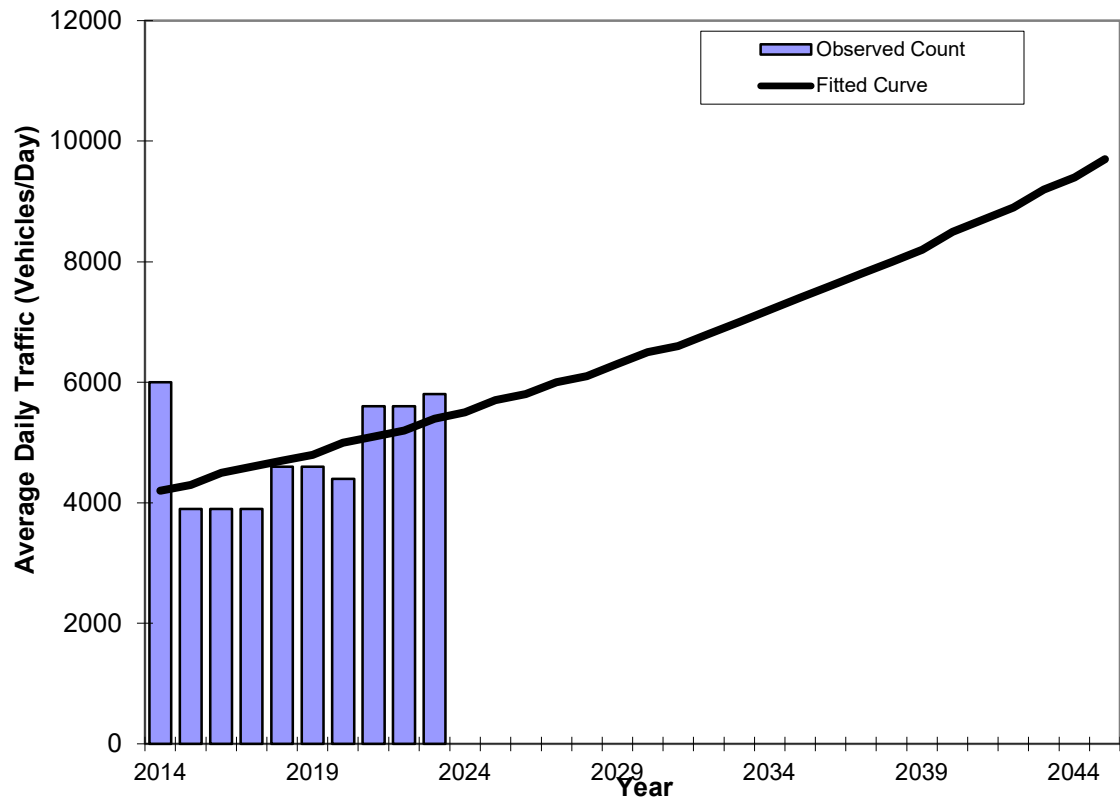
*Axle-Adjusted

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

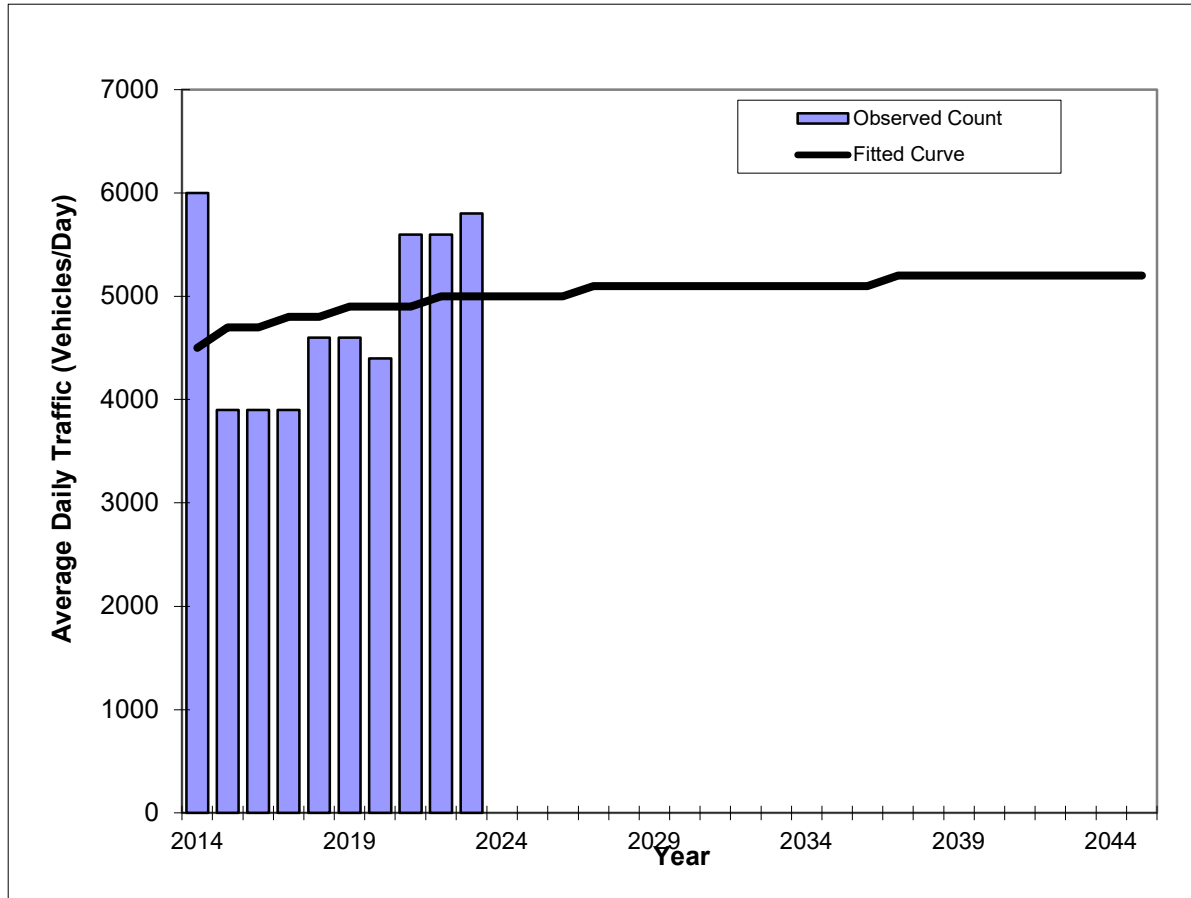
*Axle-Adjusted

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

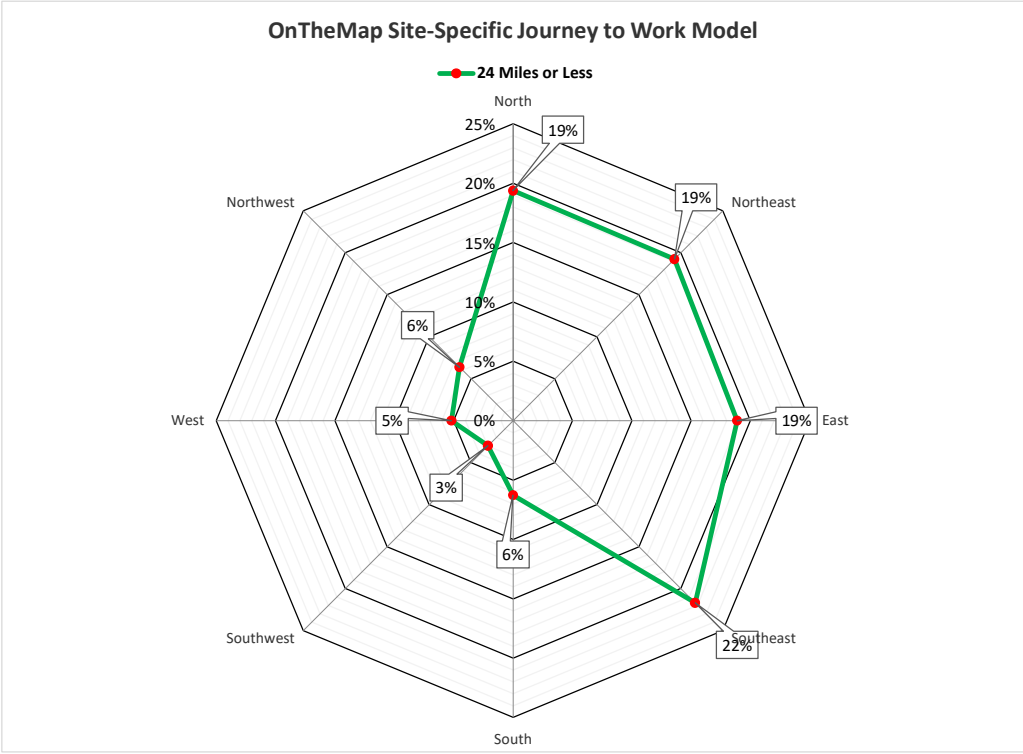
Distance/Direction Report - Home Census Block to Work Census Block

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	
	SW IMPORT DRIVE	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	
	SW GATLIN BLVD	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	
	SW GATLIN BLVD	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	

* At the intersection of SW Gatlin Blvd and SW Import Drive, the eastbound left turn movement includes 46, 48, and 58 U-turns during the existing, no build, and build conditions, respectively

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	
	SW IMPORT DRIVE	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	

* At the intersection of SW Gatlin Blvd and SW Import Drive, the eastbound left turn movement includes 103, 108, and 166 U-turns during the existing, no build, and build conditions, respectively

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	83.1	C	22.6
	PM			F	93.2	C	22.8
EBT	AM			B	17.8	C	22.6
	PM			C	33.1	C	22.8
EBR	AM			B	14.4	C	20.1
	PM			C	21.3	C	20.4
EB Approach	AM		A 9.3	C	20.8	C	22.2
	PM		A 9.9	D	36.3	C	22.3
WBL	AM			E	73.0	F	85.7
	PM			F	92.0	F	87.5
WBT	AM			C	24.0	B	16.1
	PM			C	29.8	A	6.1
WBR	AM			B	14.3	N/A	
	PM			C	22.6		
WB Approach	AM	A	9.8	C	25.9	C	23.1
	PM	B	10.7	D	37.0	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			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	31.1	C	29.0
	PM			D	49.5	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 Lengths (ft)															
		EBL		EBR		WBL		WBR		NBL		NBR		SBL		SBR	
		Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %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	90	188		
	PM		428		109		187		4		#571				274		
(3) SW GATLIN BLVD & SW ROSSER BLVD	AM	93	40	93	78	420	#147	N/A		236 ^[1]	324	N/A	N/A	N/A			
	PM		57		306		308				295						

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

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

[1] Dual left turn lane with one lane with storage and one continuous lane

Murphy Oil - Gatlin Blvd
1: SW Import Rd & SW Oakwood Rd

2024 Existing Conditions
AM Peak Hour

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 Ctrl Dly, s/v	9.3		9.8		0.97		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	220	-	-	881	755	1461	-
HCM Lane V/C Ratio	0.013	-	-	0.049	0.006	-	-
HCM Ctrl Dly (s/v)	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	-

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2024 Existing Conditions
AM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	60	1066	84	87	1833	45	134	26	54	77	32
Future Volume (vph)	60	1066	84	87	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	0.75	0.43	0.10	0.47	0.77	0.06	0.65	0.10	0.17	0.26	0.66
Control Delay (s/veh)	91.7	21.0	1.9	71.0	30.8	0.1	56.9	55.2	1.1	43.4	39.2
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	1.9	71.0	30.8	0.1	56.9	55.2	1.1	43.4	39.2
Queue Length 50th (ft)	108	236	0	52	554	0	112	24	0	62	94
Queue Length 95th (ft)	#195	286	19	84	617	0	176	57	0	110	188
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	323
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	0.66

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

 Ø1	 Ø2 (R)	 Ø3	 Ø4
19 s	81 s	19 s	26 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	80 s	19 s	26 s

Timings
Langan

Synchro 12 Report
Page 2

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2024 Existing Conditions
AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	46	60	1066	84	12	87	1833	45	134	26	54	77
Future Volume (veh/h)	46	60	1066	84	12	87	1833	45	134	26	54	77
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		66	1171	92		96	2014	49	147	29	59	85
Peak Hour Factor		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
Cap, veh/h		84	2893	898		142	2862	888	206	313	265	323
Arrive On Green		0.05	0.57	0.57		0.04	0.56	0.56	0.08	0.17	0.17	0.05
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		66	1171	92		96	2014	49	147	29	59	85
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		5.4	18.7	3.9		4.0	41.6	2.0	10.2	1.9	4.7	5.9
Cycle Q Clear(g_c), s		5.4	18.7	3.9		4.0	41.6	2.0	10.2	1.9	4.7	5.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		84	2893	898		142	2862	888	206	313	265	323
V/C Ratio(X)		0.79	0.40	0.10		0.68	0.70	0.06	0.71	0.09	0.22	0.26
Avail Cap(c_a), veh/h		171	2893	898		307	2862	888	216	313	265	387
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		68.3	17.3	14.2		68.5	22.8	14.2	48.9	50.9	52.1	49.8
Incr Delay (d2), s/veh		14.7	0.4	0.2		4.5	1.2	0.1	10.1	0.6	1.9	0.4
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
%ile BackOfQ(50%),veh/ln		2.7	7.1	1.5		1.8	15.9	0.8	5.1	1.0	2.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		83.1	17.8	14.4		73.0	24.0	14.3	59.0	51.5	54.0	50.2
LnGrp LOS		F	B	B		E	C	B	E	D	D	D
Approach Vol, veh/h			1329				2159			235		
Approach Delay, s/veh			20.8				25.9			56.8		
Approach LOS			C				C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	88.8	18.2	26.0	12.9	87.9	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	6.0	20.7	12.2	21.0	7.4	43.6	7.9	6.7				
Green Ext Time (p_c), s	0.1	10.5	0.0	0.0	0.1	18.7	0.1	0.2				
Intersection Summary												
HCM 7th Control Delay, s/veh			31.1									
HCM 7th LOS			C									
Notes												
User approved ignoring U-Turning movement.												

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2024 Existing Conditions
AM Peak Hour



Movement	SBT	SBR
Lane Configurations	↰	
Traffic Volume (veh/h)	32	162
Future Volume (veh/h)	32	162
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	35	178
Peak Hour Factor	0.91	0.91
Percent Heavy Veh, %	3	3
Cap, veh/h	37	186
Arrive On Green	0.14	0.14
Sat Flow, veh/h	265	1348
Grp Volume(v), veh/h	0	213
Grp Sat Flow(s),veh/h/ln	0	1613
Q Serve(g_s), s	0.0	19.0
Cycle Q Clear(g_c), s	0.0	19.0
Prop In Lane		0.84
Lane Grp Cap(c), veh/h	0	222
V/C Ratio(X)	0.00	0.96
Avail Cap(c_a), veh/h	0	222
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	62.1
Incr Delay (d2), s/veh	0.0	50.2
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	112.3
LnGrp LOS		F
Approach Vol, veh/h	298	
Approach Delay, s/veh	94.6	
Approach LOS	F	
Timer - Assigned Phs		

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2024 Existing Conditions
AM Peak Hour

							
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	0.44	0.21	0.82	0.55	0.62	0.60
Control Delay (s/veh)	69.4	22.8	8.4	93.5	20.7	45.5	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	69.4	22.8	8.4	93.5	20.7	45.5	25.6
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

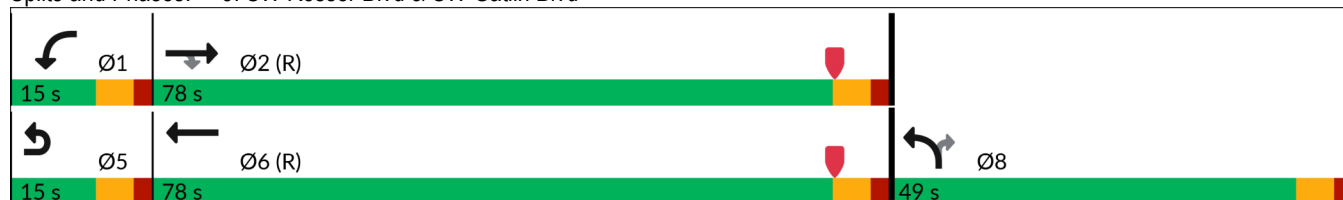
Natural Cycle: 60

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



Timings
Langan

Synchro 12 Report
Page 5

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2024 Existing Conditions
AM Peak Hour

							
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+l1), 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.							

Murphy Oil - Gatlin Blvd
1: SW Import Rd & SW Oakwood Rd

2024 Existing Conditions
PM Peak Hour

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 Ctrl Dly, 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 Ctrl Dly (s/v)	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	-	-

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2024 Existing Conditions
PM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	164	2023	199	189	1286	74	248	83	130	82	76
Future Volume (vph)	164	2023	199	189	1286	74	248	83	130	82	76
Lane Group Flow (vph)	286	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	0.80	0.24	0.72	0.62	0.10	1.20	0.25	0.34	0.27	0.54
Control Delay (s/veh)	93.5	37.7	10.3	93.5	42.4	0.7	179.3	65.9	10.9	53.5	58.4
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)	93.5	37.7	10.3	93.5	42.4	0.7	179.3	65.9	10.9	53.5	58.4
Queue Length 50th (ft)	336	760	53	138	465	0	~340	92	0	81	181
Queue Length 95th (ft)	428	842	109	187	565	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	2197	754	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

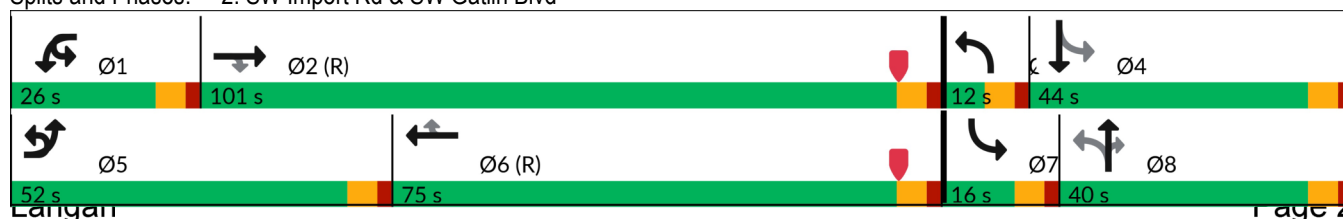
~ Volume exceeds capacity, queue is theoretically infinite.

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



Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2024 Existing Conditions
PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	103	164	2023	199	24	189	1286	74	248	83	130	82
Future Volume (veh/h)	103	164	2023	199	24	189	1286	74	248	83	130	82
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		174	2152	212		201	1368	79	264	88	138	87
Peak Hour Factor		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
Cap, veh/h		195	2825	877		242	2624	814	212	354	300	300
Arrive On Green		0.11	0.56	0.56		0.07	0.52	0.52	0.03	0.19	0.19	0.05
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		174	2152	212		201	1368	79	264	88	138	87
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		17.8	59.8	12.6		10.6	32.6	4.7	6.0	7.4	14.2	7.2
Cycle Q Clear(g_c), s		17.8	59.8	12.6		10.6	32.6	4.7	6.0	7.4	14.2	7.2
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		195	2825	877		242	2624	814	212	354	300	300
V/C Ratio(X)		0.89	0.76	0.24		0.83	0.52	0.10	1.24	0.25	0.46	0.29
Avail Cap(c_a), veh/h		444	2825	877		375	2624	814	212	354	300	308
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		80.3	31.1	20.7		83.9	29.1	22.4	76.3	62.9	65.7	55.7
Incr Delay (d2), s/veh		12.9	2.0	0.7		8.0	0.7	0.2	142.8	1.7	5.0	0.5
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
%ile BackOfQ(50%),veh/ln		8.7	24.1	5.0		4.9	13.3	1.8	15.7	3.7	6.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		93.2	33.1	21.3		92.0	29.8	22.6	219.0	64.6	70.7	56.2
LnGrp LOS		F	C	C		F	C	C	F	E	E	E
Approach Vol, veh/h			2538				1648			490		
Approach Delay, s/veh			36.3				37.0			149.5		
Approach LOS			D				D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	108.1	12.0	44.0	26.2	100.8	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	12.6	61.8	8.0	22.0	19.8	34.6	9.2	16.2				
Green Ext Time (p_c), s	0.4	22.3	0.0	1.0	0.4	11.9	0.0	0.8				
Intersection Summary												
HCM 7th Control Delay, s/veh			49.5									
HCM 7th LOS			D									
Notes												
User approved ignoring U-Turning movement.												

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2024 Existing Conditions
PM Peak Hour



Movement	SBT	SBR
Lane Configurations	↰	
Traffic Volume (veh/h)	76	115
Future Volume (veh/h)	76	115
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	81	122
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	3	3
Cap, veh/h	139	209
Arrive On Green	0.21	0.21
Sat Flow, veh/h	668	1006
Grp Volume(v), veh/h	0	203
Grp Sat Flow(s),veh/h/ln	0	1674
Q Serve(g_s), s	0.0	20.0
Cycle Q Clear(g_c), s	0.0	20.0
Prop In Lane		0.60
Lane Grp Cap(c), veh/h	0	348
V/C Ratio(X)	0.00	0.58
Avail Cap(c_a), veh/h	0	348
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	65.4
Incr Delay (d2), s/veh	0.0	7.0
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	72.4
LnGrp LOS		E
Approach Vol, veh/h	290	
Approach Delay, s/veh	67.5	
Approach LOS	E	
Timer - Assigned Phs		

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2024 Existing Conditions
PM Peak Hour

							
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	0.35	0.74	0.58
Control Delay (s/veh)	92.5	25.7	15.7	86.8	9.6	82.7	11.8
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.5	26.1	15.7	86.8	9.6	82.7	11.8
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



Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2024 Existing Conditions
PM Peak Hour

							
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+l1), 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	82.6	C	22.9
	PM			F	92.6	C	24.2
EBT	AM			B	18.5	C	22.9
	PM			D	35.3	C	21.4
EBR	AM			B	14.8	C	20.3
	PM			C	21.8	C	21.4
EB Approach	AM	A	9.4	C	21.4	C	22.6
	PM	B	10.0	D	38.1	C	23.7
WBL	AM	N/A		E	72.8	F	92.0
	PM			F	92.7	F	88.0
WBT	AM			C	25.6	B	16.6
	PM			C	31.1	A	6.2
WBR	AM			B	14.7	N/A	
	PM			C	23.2		
WB Approach	AM	A	9.9	C	27.4	C	24.1
	PM	B	10.9	D	38.2	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		C	32.9	C	30.0
	PM			D	53.6	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 Lengths (ft)															
		EBL		EBR		WBL		WBR		NBL		NBR		SBL		SBR	
		Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %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	#207	250	22	608	86	138	0	204	#198	N/A		N/A		90	#212
	PM		446		118		196		7		#629						291
(3) SW GATLIN BLVD & SW ROSSER BLVD	AM	93	44	93	85	420	#158	N/A		236 ^[1]	343	N/A		N/A		N/A	
	PM		59		338		321				311						

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

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

[1] Dual left turn lane with one lane with storage and one continuous lane

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 Ctrl Dly, s/v	9.37	9.92	1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	224	-	-	869	736	1454	-
HCM Lane V/C Ratio	0.014	-	-	0.052	0.006	-	-
HCM Ctrl Dly (s/v)	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	-

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 No Build Conditions
AM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	63	1119	88	91	1925	47	141	27	57	81	34
Future Volume (vph)	63	1119	88	91	1925	47	141	27	57	81	34
Lane Group Flow (vph)	121	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	0.46	0.11	0.48	0.81	0.06	0.70	0.11	0.19	0.28	0.71
Control Delay (s/veh)	93.7	21.5	2.3	71.1	32.6	0.1	61.2	55.3	1.4	43.6	45.4
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)	93.7	21.5	2.3	71.1	32.6	0.1	61.2	55.3	1.4	43.6	45.4
Queue Length 50th (ft)	113	253	0	54	603	0	118	25	0	65	112
Queue Length 95th (ft)	#207	305	22	86	668	0	#198	58	2	113	#212
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	169	2702	893	304	2602	864	226	283	336	349	315
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	0.71

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

 Ø1	 Ø2 (R)	 Ø3	 Ø4
19 s	81 s	19 s	26 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	80 s	19 s	26 s

Timings
Langan

Synchro 12 Report
Page 2

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 No Build Conditions
AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	48	63	1119	88	13	91	1925	47	141	27	57	81
Future Volume (veh/h)	48	63	1119	88	13	91	1925	47	141	27	57	81
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		69	1230	97		100	2115	52	155	30	63	89
Peak Hour Factor		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
Cap, veh/h		88	2868	890		146	2833	880	205	316	268	326
Arrive On Green		0.05	0.57	0.57		0.04	0.56	0.56	0.09	0.17	0.17	0.06
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		69	1230	97		100	2115	52	155	30	63	89
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		5.6	20.2	4.1		4.2	45.8	2.2	10.7	2.0	5.0	6.2
Cycle Q Clear(g_c), s		5.6	20.2	4.1		4.2	45.8	2.2	10.7	2.0	5.0	6.2
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		88	2868	890		146	2833	880	205	316	268	326
V/C Ratio(X)		0.79	0.43	0.11		0.68	0.75	0.06	0.76	0.10	0.24	0.27
Avail Cap(c_a), veh/h		171	2868	890		307	2833	880	208	316	268	386
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		68.2	18.0	14.5		68.4	24.2	14.6	48.6	50.7	52.0	49.7
Incr Delay (d2), s/veh		14.4	0.5	0.2		4.3	1.4	0.1	14.5	0.6	2.1	0.4
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
%ile BackOfQ(50%),veh/ln		2.8	7.6	1.6		1.9	17.5	0.8	5.6	1.0	2.2	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		82.6	18.5	14.8		72.8	25.6	14.7	63.1	51.3	54.1	50.1
LnGrp LOS		F	B	B		E	C	B	E	D	D	D
Approach Vol, veh/h			1396				2267			248		
Approach Delay, s/veh			21.4				27.4			59.4		
Approach LOS			C				C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	88.1	18.7	26.0	13.2	87.1	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+l1), s	6.2	22.2	12.7	22.0	7.6	47.8	8.2	7.0				
Green Ext Time (p_c), s	0.1	11.3	0.0	0.0	0.1	17.9	0.1	0.2				
Intersection Summary												
HCM 7th Control Delay, s/veh			32.9									
HCM 7th LOS			C									
Notes												
User approved ignoring U-Turning movement.												

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 No Build Conditions
AM Peak Hour



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	34	170
Future Volume (veh/h)	34	170
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	37	187
Peak Hour Factor	0.91	0.91
Percent Heavy Veh, %	3	3
Cap, veh/h	37	186
Arrive On Green	0.14	0.14
Sat Flow, veh/h	266	1347
Grp Volume(v), veh/h	0	224
Grp Sat Flow(s),veh/h/ln	0	1613
Q Serve(g_s), s	0.0	20.0
Cycle Q Clear(g_c), s	0.0	20.0
Prop In Lane		0.83
Lane Grp Cap(c), veh/h	0	223
V/C Ratio(X)	0.00	1.01
Avail Cap(c_a), veh/h	0	223
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	62.5
Incr Delay (d2), s/veh	0.0	62.1
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.1
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	124.6
LnGrp LOS		F
Approach Vol, veh/h	313	
Approach Delay, s/veh	103.4	
Approach LOS	F	
Timer - Assigned Phs		

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 No Build Conditions
AM Peak Hour

							
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	0.21	0.46	0.23	0.86	0.58	0.65	0.63
Control Delay (s/veh)	69.8	23.2	8.9	99.0	21.4	46.4	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	69.8	23.2	8.9	99.0	21.4	46.4	28.6
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

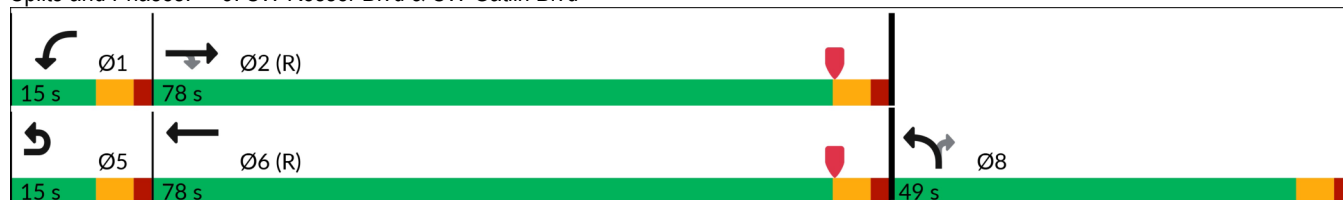
Natural Cycle: 60

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



Timings
Langan

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 No Build Conditions
AM Peak Hour

							
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+l1), 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.							

Murphy Oil - Gatlin Blvd
1: SW Import Rd & SW Oakwood Rd

2027 No Build Conditions
PM Peak Hour

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 Ctrl Dly, s/v	10.01		10.86		0.6		0.03	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	136	-	-	757	619	7	-
HCM Lane V/C Ratio	0.023	-	-	0.051	0.007	0.001	-
HCM Ctrl Dly (s/v)	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	-

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 No Build Conditions
PM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	172	2124	209	198	1350	78	260	87	137	86	80
Future Volume (vph)	172	2124	209	198	1350	78	260	87	137	86	80
Lane Group Flow (vph)	300	2260	222	239	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	0.86	0.84	0.25	0.73	0.66	0.11	1.31	0.27	0.35	0.29	0.57
Control Delay (s/veh)	93.1	40.4	11.0	93.9	44.5	1.2	220.0	66.2	10.8	53.8	59.7
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)	93.1	40.4	11.0	93.9	44.5	1.2	220.0	66.2	10.8	53.8	59.7
Queue Length 50th (ft)	353	835	60	146	504	0	~387	97	0	85	193
Queue Length 95th (ft)	446	916	118	196	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	2160	743	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

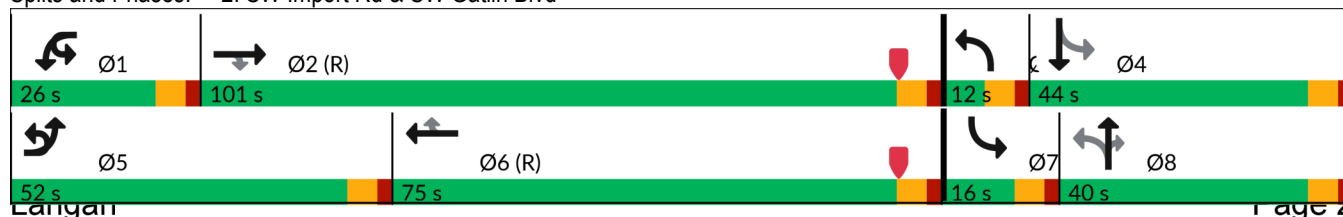
~ Volume exceeds capacity, queue is theoretically infinite.

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



Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 No Build Conditions
PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	108	172	2124	209	26	198	1350	78	260	87	137	86
Future Volume (veh/h)	108	172	2124	209	26	198	1350	78	260	87	137	86
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		183	2260	222		211	1436	83	277	93	146	91
Peak Hour Factor		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
Cap, veh/h		204	2810	872		252	2597	806	203	350	297	296
Arrive On Green		0.12	0.55	0.55		0.07	0.51	0.51	0.03	0.19	0.19	0.05
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		183	2260	222		211	1436	83	277	93	146	91
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		18.7	65.6	13.4		11.1	35.3	5.0	6.0	7.8	15.2	7.5
Cycle Q Clear(g_c), s		18.7	65.6	13.4		11.1	35.3	5.0	6.0	7.8	15.2	7.5
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		204	2810	872		252	2597	806	203	350	297	296
V/C Ratio(X)		0.90	0.80	0.25		0.84	0.55	0.10	1.36	0.27	0.49	0.31
Avail Cap(c_a), veh/h		444	2810	872		375	2597	806	203	350	297	301
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		79.8	32.7	21.1		83.7	30.3	22.9	76.4	63.4	66.4	55.8
Incr Delay (d2), s/veh		12.8	2.6	0.7		9.1	0.8	0.2	191.6	1.8	5.7	0.6
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
%ile BackOfQ(50%),veh/ln		9.2	26.6	5.3		5.2	14.3	2.0	17.6	3.9	6.6	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		92.6	35.3	21.8		92.7	31.1	23.2	268.0	65.2	72.1	56.4
LnGrp LOS		F	D	C		F	C	C	F	E	E	E
Approach Vol, veh/h	2665				1730				516			
Approach Delay, s/veh	38.1				38.2				176.0			
Approach LOS	D				D				F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	107.5	12.0	44.0	27.2	99.8	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+l1), s	13.1	67.6	8.0	23.3	20.7	37.3	9.5	17.2				
Green Ext Time (p_c), s	0.4	20.4	0.0	1.0	0.5	12.4	0.0	0.9				
Intersection Summary												
HCM 7th Control Delay, s/veh	53.6											
HCM 7th LOS	D											
Notes												
User approved ignoring U-Turning movement.												

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 No Build Conditions
PM Peak Hour



Movement	SBT	SBR
Lane Configurations	↰	
Traffic Volume (veh/h)	80	121
Future Volume (veh/h)	80	121
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	85	129
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	3	3
Cap, veh/h	138	210
Arrive On Green	0.21	0.21
Sat Flow, veh/h	665	1009
Grp Volume(v), veh/h	0	214
Grp Sat Flow(s),veh/h/ln	0	1674
Q Serve(g_s), s	0.0	21.3
Cycle Q Clear(g_c), s	0.0	21.3
Prop In Lane		0.60
Lane Grp Cap(c), veh/h	0	348
V/C Ratio(X)	0.00	0.62
Avail Cap(c_a), veh/h	0	348
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	65.9
Incr Delay (d2), s/veh	0.0	7.9
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	73.8
LnGrp LOS		E
Approach Vol, veh/h	305	
Approach Delay, s/veh	68.6	
Approach LOS	E	
Timer - Assigned Phs		

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 No Build Conditions
PM Peak Hour

							
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	0.48	0.82	0.36	0.78	0.59
Control Delay (s/veh)	92.8	27.5	16.9	86.3	9.9	85.0	11.8
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.8	28.0	16.9	86.3	9.9	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



Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 No Build Conditions
PM Peak Hour

							
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+l1), 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	90.2	E	77.6	C	23.0	C	24.1	N/A		[2]					
	PM			F	92.6	F	92.5	B	15.6	C	24.4								
EBT	AM			B	18.4	C	21.4	C	23.0	C	24.1								
	PM			C	34.5	D	49.7	B	15.6	C	24.4								
EBR	AM			B	14.9	B	17.3	C	20.4	C	21.3								
	PM			C	21.8	C	29.5	B	13.8	C	21.4								
EB Approach	AM			A	9.4	C	24.0	C	25.7	C	22.7					C	23.7	A	9.4
	PM			B	10.1	D	37.5	D	51.0	B	15.3					C	23.9	A	9.4
WBL	AM	N/A		E	72.8	E	72.9	F	92.0	F	82.0	N/A		[2]					
WBT	PM			F	92.7	F	89.1	F	89.8	F	90.5								
	AM			C	29.5	C	35.0	B	16.6	B	17.2								
WBR	PM			C	31.3	D	41.4	A	6.3	B	11.7								
	AM			B	16.6	B	19.3	N/A		N/A									
WB Approach	PM			C	23.2	C	30.4												
	AM			A	9.9	C	31.1	D	36.3	C	24.1					C	23.7		
	PM			B	10.9	D	38.3	D	46.6	B	15.9					C	20.8		
	AM	[2]		E	63.9	D	50.7	D	45.9	D	44.8	[2]		N/A					
NBL	PM			F	293.1	E	74.2	F	84.6	E	62.1								
	AM			E	55.1	D	50.2	N/A		N/A									
NBT	PM			E	65.8	E	58.7												
	AM			E	58.7	D	52.7	E	57.6	E	55.4								
NBR	PM			E	72.9	E	63.6	F	193.1	E	78.6								
	AM			E	61.6	D	51.2	D	50.1	D	48.6								
NB Approach	PM			F	190.6	E	68.5	F	129.0	E	68.9								
	AM	[2]		D	48.5	D	43.7	N/A		N/A	[2]		N/A						
SBL	PM			E	62.5	D	52.7												
	AM			F	132.5	E	77.0												
SBT	PM			E	74.7	E	78.4												
	AM			F	132.5	E	77.0												
SBR	PM			E	74.7	E	78.4												
	AM			F	99.6	E	63.9												
SB Approach	PM			E	69.6	E	67.6												
	AM	N/A		D	36.6	D	36.1	C	30.0	C	29.7	N/A		N/A					
PM	E			55.2	D	52.5	C	32.5	C	29.6									

[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 Lengths (ft)																	
		EBL		EBR		WBL		WBR		NBL		NBR		SBL		SBR			
		Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %tile	Storage (ft)	95 th %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	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A			
(2) SW GATLIN BLVD & SW IMPORT DRIVE	AM	193	#338	250	608	86	138	0	204	#207	N/A	N/A	90	#255					
	AM ⁽¹⁾		235												22	88	0	179	169
	PM		#567												117	196	7	#647	302
	PM ⁽¹⁾		523												169	192	8	#350	307
(3) SW GATLIN BLVD & SW ROSSER BLVD	AM	93	44	93	420	#158	N/A	236 ⁽²⁾	344	N/A	N/A	N/A	N/A	N/A					
	AM ⁽¹⁾		45												92	#146	341		
	PM		59												267	149	314		
	PM ⁽¹⁾		59												337	149	282		
(4) SW IMPORT DRIVE & EAST DRIVEWAY	AM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A			
	PM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A			
(5) SOUTH DRIVEWAY & SW GATLIN BLVD	AM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A			
	PM	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A			

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.

[2] Dual left turn lane with one lane with storage and one continuous lane

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 Ctrl Dly, s/v	9.43	9.94	1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	224	-	-	860	733	1454	-
HCM Lane V/C Ratio	0.014	-	-	0.055	0.006	-	-
HCM Ctrl Dly (s/v)	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	-

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions
AM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	103	1079	88	91	1941	47	144	27	57	136	37
Future Volume (vph)	103	1079	88	91	1941	47	144	27	57	136	37
Lane Group Flow (vph)	177	1186	97	114	2133	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	1.05	0.44	0.11	0.48	0.83	0.06	0.73	0.11	0.20	0.44	0.76
Control Delay (s/veh)	143.5	21.2	2.3	71.1	33.8	0.1	64.0	56.1	1.6	47.4	52.9
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)	143.5	21.2	2.3	71.1	33.8	0.1	64.0	56.1	1.6	47.4	52.9
Queue Length 50th (ft)	~181	241	0	54	611	0	121	25	0	113	132
Queue Length 95th (ft)	#338	291	22	86	679	0	#207	58	2	178	#255
Internal Link Dist (ft)		357			890			1220			110
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	169	2702	893	304	2570	855	220	262	319	348	304
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	1.05	0.44	0.11	0.38	0.83	0.06	0.72	0.11	0.20	0.43	0.76

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

	Ø1		Ø2 (R)		Ø3		Ø4
19 s		81 s		19 s		26 s	
	Ø5		Ø6 (R)		Ø7		Ø8
20 s		80 s		19 s		26 s	

Langan

Page 2

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions
AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	58	103	1079	88	13	91	1941	47	144	27	57	136
Future Volume (veh/h)	58	103	1079	88	13	91	1941	47	144	27	57	136
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		113	1186	97		100	2133	52	158	30	63	149
Peak Hour Factor		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
Cap, veh/h		135	2859	888		146	2688	834	208	264	224	366
Arrive On Green		0.08	0.56	0.56		0.04	0.53	0.53	0.09	0.14	0.14	0.09
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		113	1186	97		100	2133	52	158	30	63	149
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		9.1	19.3	4.2		4.2	49.5	2.3	11.0	2.0	5.2	10.4
Cycle Q Clear(g_c), s		9.1	19.3	4.2		4.2	49.5	2.3	11.0	2.0	5.2	10.4
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		135	2859	888		146	2688	834	208	264	224	366
V/C Ratio(X)		0.84	0.41	0.11		0.68	0.79	0.06	0.76	0.11	0.28	0.41
Avail Cap(c_a), veh/h		171	2859	888		307	2688	834	208	264	224	374
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		66.1	18.0	14.7		68.4	27.6	16.5	48.9	54.2	55.6	47.8
Incr Delay (d2), s/veh		24.1	0.4	0.2		4.3	1.9	0.1	15.0	0.9	3.1	0.7
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
%ile BackOfQ(50%),veh/ln		5.0	7.3	1.6		1.9	19.3	0.9	5.8	1.0	2.3	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		90.2	18.4	14.9		72.8	29.5	16.6	63.9	55.1	58.7	48.5
LnGrp LOS		F	B	B		E	C	B	E	E	E	D
Approach Vol, veh/h			1396				2285			251		
Approach Delay, s/veh			24.0				31.1			61.6		
Approach LOS			C				C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	87.8	19.0	26.0	17.1	82.9	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	6.2	21.3	13.0	22.0	11.1	51.5	12.4	7.2				
Green Ext Time (p_c), s	0.1	10.7	0.0	0.0	0.1	16.2	0.0	0.2				
Intersection Summary												
HCM 7th Control Delay, s/veh			36.6									
HCM 7th LOS			D									
Notes												
User approved ignoring U-Turning movement.												

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions
AM Peak Hour

	↓	↙
Movement	SBT	SBR
Lane Configurations	↶	
Traffic Volume (veh/h)	37	173
Future Volume (veh/h)	37	173
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	41	190
Peak Hour Factor	0.91	0.91
Percent Heavy Veh, %	3	3
Cap, veh/h	40	183
Arrive On Green	0.14	0.14
Sat Flow, veh/h	287	1329
Grp Volume(v), veh/h	0	231
Grp Sat Flow(s),veh/h/ln	0	1616
Q Serve(g_s), s	0.0	20.0
Cycle Q Clear(g_c), s	0.0	20.0
Prop In Lane		0.82
Lane Grp Cap(c), veh/h	0	223
V/C Ratio(X)	0.00	1.04
Avail Cap(c_a), veh/h	0	223
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	62.5
Incr Delay (d2), s/veh	0.0	70.0
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.6
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	132.5
LnGrp LOS		F
Approach Vol, veh/h	380	
Approach Delay, s/veh	99.6	
Approach LOS	F	
Timer - Assigned Phs		

Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
July 2025
341021701
SW Import Drive & SW Gatlin Boulevard

Morning Peak Hour

Existing Timing

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



Optimized Timing

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



London

Page 1

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions + Optimizations
AM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	103	1079	88	91	1941	47	144	27	57	136	37
Future Volume (vph)	103	1079	88	91	1941	47	144	27	57	136	37
Lane Group Flow (vph)	177	1186	97	114	2133	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)	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%	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
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	0.46	0.11	0.53	0.97	0.07	0.61	0.10	0.16	0.38	0.56
Control Delay (s/veh)	77.7	23.8	2.4	74.5	53.8	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)	77.7	23.8	2.4	74.5	53.8	0.2	51.4	54.7	0.9	41.7	27.1
Queue Length 50th (ft)	163	260	0	54	714	0	115	25	0	107	77
Queue Length 95th (ft)	235	301	22	88	#920	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)	338	2560	852	234	2193	771	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	0.52	0.46	0.11	0.49	0.97	0.07	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

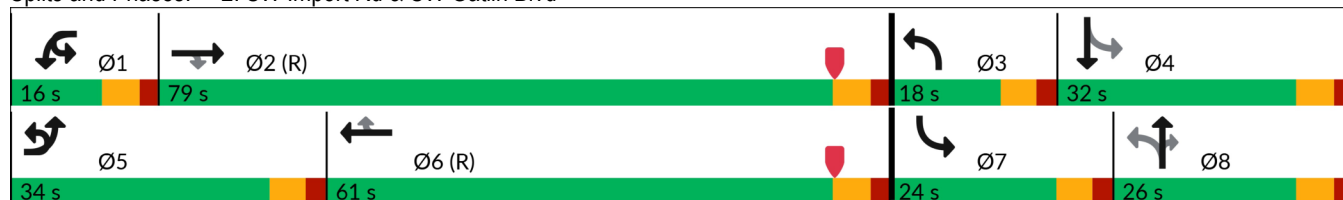
Natural Cycle: 90

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



Timings

Langan

Synchro 12 Report

Page 1

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions + Optimizations
AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	58	103	1079	88	13	91	1941	47	144	27	57	136
Future Volume (veh/h)	58	103	1079	88	13	91	1941	47	144	27	57	136
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		113	1186	97		100	2133	52	158	30	63	149
Peak Hour Factor		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
Cap, veh/h		137	2685	834		145	2507	778	244	333	282	410
Arrive On Green		0.08	0.53	0.53		0.04	0.49	0.49	0.08	0.18	0.18	0.08
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		113	1186	97		100	2133	52	158	30	63	149
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		9.1	20.8	4.5		4.2	53.3	2.5	10.5	2.0	5.0	9.9
Cycle Q Clear(g_c), s		9.1	20.8	4.5		4.2	53.3	2.5	10.5	2.0	5.0	9.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		137	2685	834		145	2507	778	244	333	282	410
V/C Ratio(X)		0.82	0.44	0.12		0.69	0.85	0.07	0.65	0.09	0.22	0.36
Avail Cap(c_a), veh/h		341	2685	834		236	2507	778	244	333	282	483
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		65.9	20.9	17.1		68.5	32.0	19.1	44.9	49.6	50.9	43.1
Incr Delay (d2), s/veh		11.7	0.5	0.3		4.4	3.0	0.1	5.8	0.5	1.8	0.5
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
%ile BackOfQ(50%),veh/ln		4.5	8.1	1.7		1.9	21.3	1.0	5.0	1.0	2.1	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		77.6	21.4	17.3		72.9	35.0	19.3	50.7	50.2	52.7	43.7
LnGrp LOS		E	C	B		E	C	B	D	D	D	D
Approach Vol, veh/h	1396			2285			251					
Approach Delay, s/veh	25.7			36.3			51.2					
Approach LOS	C			D			D					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	82.9	18.0	32.0	17.2	77.8	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+l1), s	6.2	22.8	12.5	21.8	11.1	55.3	11.9	7.0				
Green Ext Time (p_c), s	0.1	10.6	0.0	0.5	0.2	0.0	0.2	0.2				
Intersection Summary												
HCM 7th Control Delay, s/veh	36.1											
HCM 7th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved ignoring U-Turning movement.												

	↓	↙
Movement	SBT	SBR
Lane Configurations	↶	
Traffic Volume (veh/h)	37	173
Future Volume (veh/h)	37	173
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	41	190
Peak Hour Factor	0.91	0.91
Percent Heavy Veh, %	3	3
Cap, veh/h	51	238
Arrive On Green	0.18	0.18
Sat Flow, veh/h	287	1329
Grp Volume(v), veh/h	0	231
Grp Sat Flow(s),veh/h/ln	0	1616
Q Serve(g_s), s	0.0	19.8
Cycle Q Clear(g_c), s	0.0	19.8
Prop In Lane		0.82
Lane Grp Cap(c), veh/h	0	290
V/C Ratio(X)	0.00	0.80
Avail Cap(c_a), veh/h	0	290
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	57.0
Incr Delay (d2), s/veh	0.0	20.0
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.7
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	77.0
LnGrp LOS		E
Approach Vol, veh/h	380	
Approach Delay, s/veh	63.9	
Approach LOS	E	
Timer - Assigned Phs		

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 Build Conditions
AM Peak Hour

							
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	16	1075	177	168	1531	608	340
Future Volume (vph)	16	1075	177	168	1531	608	340
Lane Group Flow (vph)	18	1181	195	185	1682	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	0.58	0.65	0.63
Control Delay (s/veh)	69.8	23.3	9.1	99.0	21.5	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	21.5	46.5	28.7
Queue Length 50th (ft)	16	251	40	89	314	276	169
Queue Length 95th (ft)	44	291	87	#158	464	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	0.58	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

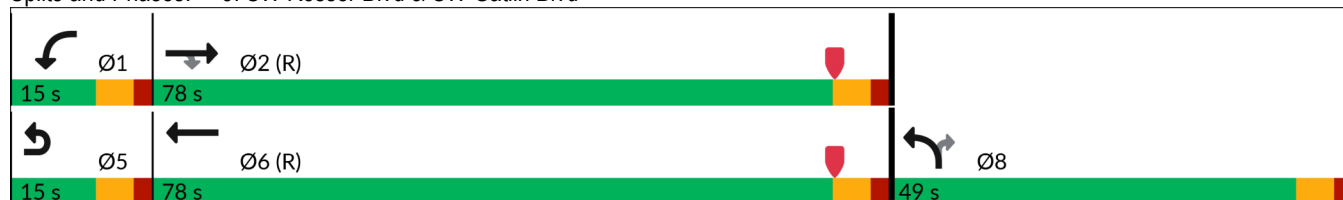
Natural Cycle: 60

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



Timings
Langan

Synchro 12 Report
Page 5

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 Build Conditions
AM Peak Hour

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	16	1075	177	168	1531	608	340
Future Volume (veh/h)	16	1075	177	168	1531	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	1682	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	1682	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	27.3	24.0	30.9
Cycle Q Clear(g_c), s		21.3	9.9	7.6	27.3	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	0.54	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)		0.91	0.91	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		22.5	19.7	65.8	15.9	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	10.0	10.5	13.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		23.0	20.4	92.0	16.6	45.9	57.6
LnGrp LOS		C	C	F	B	D	E
Approach Vol, veh/h		1376			1867	1042	
Approach Delay, s/veh		22.7			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+l1), s	9.6	23.3			29.3	32.9	
Green Ext Time (p_c), s	0.0	11.1			16.8	3.0	
Intersection Summary							
HCM 7th Control Delay, s/veh			30.0				
HCM 7th LOS			C				
Notes							
User approved ignoring U-Turning movement.							

Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
July 2025
341021701
SW Rosser Boulevard & SW Gatlin Boulevard

Morning Peak Hour

Existing Timing

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



Optimized Timing

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



							
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	16	1075	177	168	1531	608	340
Future Volume (vph)	16	1075	177	168	1531	608	340
Lane Group Flow (vph)	18	1181	195	185	1682	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	76.0	76.0	16.0	81.0	50.0	50.0
Total Split (%)	7.7%	53.5%	53.5%	11.3%	57.0%	35.2%	35.2%
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	0.48	0.24	0.78	0.58	0.63	0.66
Control Delay (s/veh)	79.3	24.6	9.8	86.6	20.9	45.4	35.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	79.3	24.6	9.8	86.6	20.9	45.4	35.7
Queue Length 50th (ft)	17	258	43	88	321	273	213
Queue Length 95th (ft)	45	300	92	#146	442	341	332
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	61	2483	826	239	2893	1053	563
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	0.48	0.24	0.77	0.58	0.63	0.66

Intersection Summary

Cycle Length: 142

Actuated Cycle Length: 142

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

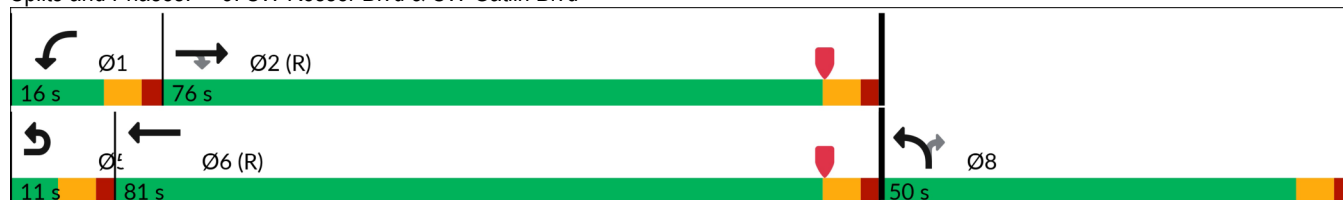
Natural Cycle: 60

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



Timings
Langan

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 Build Conditions + Optimizations
AM Peak Hour

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	16	1075	177	168	1531	608	340
Future Volume (veh/h)	16	1075	177	168	1531	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	1682	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		2512	780	231	3068	1062	487
Arrive On Green		0.50	0.50	0.07	0.61	0.31	0.31
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		1181	195	185	1682	668	374
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		21.8	10.1	7.6	27.8	23.7	30.6
Cycle Q Clear(g_c), s		21.8	10.1	7.6	27.8	23.7	30.6
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		2512	780	231	3068	1062	487
V/C Ratio(X)		0.47	0.25	0.80	0.55	0.63	0.77
Avail Cap(c_a), veh/h		2512	780	241	3068	1062	487
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		23.5	20.6	65.3	16.5	42.0	44.4
Incr Delay (d2), s/veh		0.6	0.7	16.7	0.7	2.8	11.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.5	3.8	3.8	10.2	10.3	13.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		24.1	21.3	82.0	17.2	44.8	55.4
LnGrp LOS		C	C	F	B	D	E
Approach Vol, veh/h		1376			1867	1042	
Approach Delay, s/veh		23.7			23.7	48.6	
Approach LOS		C			C	D	
Timer - Assigned Phs	1	2			6	8	
Phs Duration (G+Y+Rc), s	15.6	76.4			92.0	50.0	
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0	
Max Green Setting (Gmax), s	10.0	70.0			75.0	44.0	
Max Q Clear Time (g_c+l1), s	9.6	23.8			29.8	32.6	
Green Ext Time (p_c), s	0.0	11.0			17.1	3.2	
Intersection Summary							
HCM 7th Control Delay, s/veh			29.7				
HCM 7th LOS			C				
Notes							
User approved ignoring U-Turning movement.							

Murphy Oil - Gatlin Blvd
1: SW Import Rd & SW Oakwood Rd

2027 Build Conditions
PM Peak Hour

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 Ctrl Dly, 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 Ctrl Dly (s/v)	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	-	-

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions
PM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	172	2078	209	198	1369	78	264	87	137	151	84
Future Volume (vph)	172	2078	209	198	1369	78	264	87	137	151	84
Lane Group Flow (vph)	360	2211	222	239	1456	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	0.91	0.82	0.25	0.73	0.72	0.12	1.37	0.27	0.36	0.50	0.59
Control Delay (s/veh)	95.6	39.3	10.8	93.9	49.1	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	0.0
Total Delay (s/veh)	95.6	39.3	10.8	93.9	49.1	1.2	241.4	66.4	10.8	60.6	61.2
Queue Length 50th (ft)	421	803	59	146	549	0	~404	97	0	156	203
Queue Length 95th (ft)	#567	882	117	196	621	7	#647	159	68	232	302
Internal Link Dist (ft)		335			890			1220			110
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	440	2681	892	371	2025	705	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	0.82	0.82	0.25	0.64	0.72	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

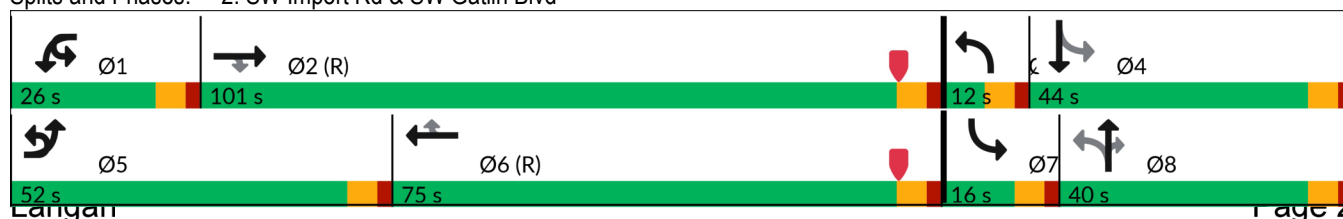
~ Volume exceeds capacity, queue is theoretically infinite.

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



Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions
PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	166	172	2078	209	26	198	1369	78	264	87	137	151
Future Volume (veh/h)	166	172	2078	209	26	198	1369	78	264	87	137	151
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		183	2211	222		211	1456	83	281	93	146	161
Peak Hour Factor		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
Cap, veh/h		204	2810	872		252	2597	806	198	345	292	298
Arrive On Green		0.12	0.55	0.55		0.07	0.51	0.51	0.03	0.19	0.19	0.05
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		183	2211	222		211	1456	83	281	93	146	161
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		18.7	63.1	13.4		11.1	36.0	5.0	6.0	7.9	15.3	10.0
Cycle Q Clear(g_c), s		18.7	63.1	13.4		11.1	36.0	5.0	6.0	7.9	15.3	10.0
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		204	2810	872		252	2597	806	198	345	292	298
V/C Ratio(X)		0.90	0.79	0.25		0.84	0.56	0.10	1.42	0.27	0.50	0.54
Avail Cap(c_a), veh/h		444	2810	872		375	2597	806	198	345	292	298
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		79.8	32.2	21.1		83.7	30.5	22.9	76.6	63.9	66.9	60.5
Incr Delay (d2), s/veh		12.8	2.3	0.7		9.0	0.8	0.2	216.5	1.9	6.0	2.0
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
%ile BackOfQ(50%),veh/ln		9.2	25.5	5.3		5.2	14.6	2.0	18.4	4.0	6.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		92.6	34.5	21.8		92.7	31.3	23.2	293.1	65.8	72.9	62.5
LnGrp LOS		F	C	C		F	C	C	F	E	E	E
Approach Vol, veh/h			2616				1750			520		
Approach Delay, s/veh			37.5				38.3			190.6		
Approach LOS			D				D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	107.5	12.0	44.0	27.2	99.8	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+l1), s	13.1	65.1	8.0	24.0	20.7	38.0	12.0	17.3				
Green Ext Time (p_c), s	0.4	21.4	0.0	1.1	0.5	12.5	0.0	0.9				
Intersection Summary												
HCM 7th Control Delay, s/veh			55.2									
HCM 7th LOS			E									
Notes												
User approved ignoring U-Turning movement.												

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions
PM Peak Hour



Movement	SBT	SBR
Lane Configurations	↰	
Traffic Volume (veh/h)	84	124
Future Volume (veh/h)	84	124
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	89	132
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	3	3
Cap, veh/h	140	208
Arrive On Green	0.21	0.21
Sat Flow, veh/h	675	1001
Grp Volume(v), veh/h	0	221
Grp Sat Flow(s),veh/h/ln	0	1675
Q Serve(g_s), s	0.0	22.0
Cycle Q Clear(g_c), s	0.0	22.0
Prop In Lane		0.60
Lane Grp Cap(c), veh/h	0	348
V/C Ratio(X)	0.00	0.64
Avail Cap(c_a), veh/h	0	348
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	66.2
Incr Delay (d2), s/veh	0.0	8.6
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	74.7
LnGrp LOS		E
Approach Vol, veh/h	382	
Approach Delay, s/veh	69.6	
Approach LOS	E	
Timer - Assigned Phs		

Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
July 2025
341021701
SW Import Drive & SW Gatlin Boulevard

Afternoon Peak Hour

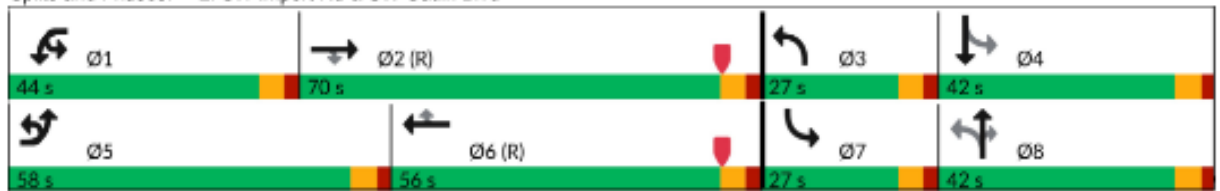
Existing Timing

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



Optimized Timing

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



Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions + Optimizations
PM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	172	2078	209	198	1369	78	264	87	137	151	84
Future Volume (vph)	172	2078	209	198	1369	78	264	87	137	151	84
Lane Group Flow (vph)	360	2211	222	239	1456	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)	58.0	70.0	70.0	44.0	56.0	56.0	27.0	42.0	42.0	27.0	42.0
Total Split (%)	31.7%	38.3%	38.3%	24.0%	30.6%	30.6%	14.8%	23.0%	23.0%	14.8%	23.0%
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	0.88	0.96	0.29	0.71	0.89	0.14	0.85	0.23	0.32	0.39	0.62
Control Delay (s/veh)	90.4	58.9	19.3	91.2	66.1	1.7	71.6	62.0	10.0	46.7	64.1
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)	90.4	58.9	19.3	91.2	66.1	1.7	71.6	62.0	10.0	46.7	64.1
Queue Length 50th (ft)	421	935	94	146	615	0	265	94	0	140	207
Queue Length 95th (ft)	523	#1102	169	192	#795	8	#350	156	67	209	307
Internal Link Dist (ft)		1623			890			1220			814
Turn Bay Length (ft)	193		250	608		138	204				
Base Capacity (vph)	497	2305	767	706	1634	593	332	401	455	454	359
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	0.96	0.29	0.34	0.89	0.14	0.85	0.23	0.32	0.35	0.62

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

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

 Ø1	 Ø2 (R)	 Ø3	 Ø4
44 s	70 s	27 s	42 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
58 s	56 s	27 s	42 s

Timings
Langan

Synchro 12 Report
Page 1

Murphy Oil - Gatlin Blvd
2: SW Import Rd & SW Gatlin Blvd

2027 Build Conditions + Optimizations
PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	166	172	2078	209	26	198	1369	78	264	87	137	151
Future Volume (veh/h)	166	172	2078	209	26	198	1369	78	264	87	137	151
Initial Q (Qb), veh		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
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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1856	1856	1856		1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h		183	2211	222		211	1456	83	281	93	146	161
Peak Hour Factor		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
Cap, veh/h		205	2443	758		258	2237	694	328	422	358	399
Arrive On Green		0.12	0.48	0.48		0.08	0.44	0.44	0.11	0.23	0.23	0.08
Sat Flow, veh/h		1767	5066	1572		3428	5066	1572	1767	1856	1572	1767
Grp Volume(v), veh/h		183	2211	222		211	1456	83	281	93	146	161
Grp Sat Flow(s),veh/h/ln		1767	1689	1572		1714	1689	1572	1767	1856	1572	1767
Q Serve(g_s), s		18.7	73.4	15.6		11.1	41.2	5.7	21.0	7.5	14.5	13.2
Cycle Q Clear(g_c), s		18.7	73.4	15.6		11.1	41.2	5.7	21.0	7.5	14.5	13.2
Prop In Lane		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		205	2443	758		258	2237	694	328	422	358	399
V/C Ratio(X)		0.89	0.91	0.29		0.82	0.65	0.12	0.86	0.22	0.41	0.40
Avail Cap(c_a), veh/h		502	2443	758		712	2237	694	328	422	358	453
HCM Platoon Ratio		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
Uniform Delay (d), s/veh		79.8	43.5	28.6		83.4	40.0	30.1	54.7	57.5	60.2	52.1
Incr Delay (d2), s/veh		12.7	6.1	1.0		5.7	1.3	0.3	19.5	1.2	3.4	0.7
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
%ile BackOfQ(50%),veh/ln		9.2	31.2	6.3		5.1	17.2	2.3	4.5	3.7	6.2	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		92.5	49.7	29.5		89.1	41.4	30.4	74.2	58.7	63.6	52.7
LnGrp LOS		F	D	C		F	D	C	E	E	E	D
Approach Vol, veh/h			2616				1750			520		
Approach Delay, s/veh			51.0				46.6			68.5		
Approach LOS			D				D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	94.2	27.0	42.0	27.2	86.8	21.4	47.6				
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	38.0	64.0	21.0	36.0	52.0	50.0	21.0	36.0				
Max Q Clear Time (g_c+I1), s	13.1	75.4	23.0	24.3	20.7	43.2	15.2	16.5				
Green Ext Time (p_c), s	0.7	0.0	0.0	1.0	0.5	4.7	0.2	0.9				
Intersection Summary												
HCM 7th Control Delay, s/veh			52.5									
HCM 7th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved ignoring U-Turning movement.												

HCM 7th Signalized Intersection Summary
Langan

Synchro 12 Report
Page 2

	↓	↙
Movement	SBT	SBR
Lane Configurations	↶	
Traffic Volume (veh/h)	84	124
Future Volume (veh/h)	84	124
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1856	1856
Adj Flow Rate, veh/h	89	132
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	3	3
Cap, veh/h	133	197
Arrive On Green	0.20	0.20
Sat Flow, veh/h	675	1001
Grp Volume(v), veh/h	0	221
Grp Sat Flow(s),veh/h/ln	0	1675
Q Serve(g_s), s	0.0	22.3
Cycle Q Clear(g_c), s	0.0	22.3
Prop In Lane		0.60
Lane Grp Cap(c), veh/h	0	330
V/C Ratio(X)	0.00	0.67
Avail Cap(c_a), veh/h	0	330
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	1.00
Uniform Delay (d), s/veh	0.0	68.0
Incr Delay (d2), s/veh	0.0	10.4
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.6
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	78.4
LnGrp LOS		E
Approach Vol, veh/h	382	
Approach Delay, s/veh	67.6	
Approach LOS	E	
Timer - Assigned Phs		

Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 Build Conditions
PM Peak Hour

							
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	20	1900	446	168	1286	394	274
Future Volume (vph)	20	1900	446	168	1286	394	274
Lane Group Flow (vph)	21	2000	469	177	1354	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	0.60	0.43	0.64	0.37	0.79	0.59
Control Delay (s/veh)	92.8	18.1	11.3	90.8	9.9	85.5	11.8
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.8	18.5	11.3	90.8	9.9	85.5	11.8
Queue Length 50th (ft)	25	462	174	107	224	248	0
Queue Length 95th (ft)	59	536	267	149	263	314	97
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	338	3344	1086	657	3675	525	486
Starvation Cap Reductn	0	714	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	0.43	0.27	0.37	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: 70

Control Type: Actuated-Coordinated

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



Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 Build Conditions
PM Peak Hour

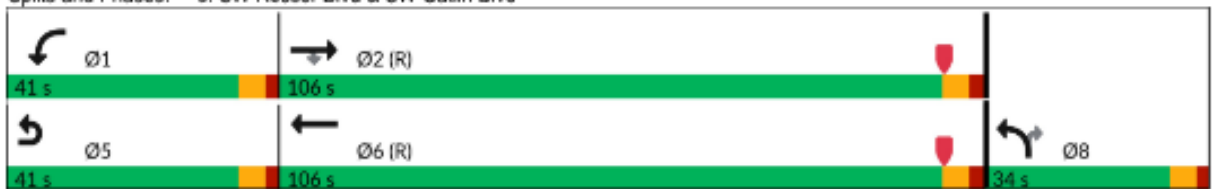
							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (veh/h)	20	1900	446	168	1286	394	274
Future Volume (veh/h)	20	1900	446	168	1286	394	274
Initial Q (Qb), veh		0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, 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	177	1354	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		3450	1071	222	3946	530	243
Arrive On Green		0.68	0.68	0.06	0.78	0.15	0.15
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		2000	469	177	1354	415	288
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		37.7	24.5	9.2	14.6	21.1	28.0
Cycle Q Clear(g_c), s		37.7	24.5	9.2	14.6	21.1	28.0
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		3450	1071	222	3946	530	243
V/C Ratio(X)		0.58	0.44	0.80	0.34	0.78	1.18
Avail Cap(c_a), veh/h		3450	1071	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		15.2	13.1	83.4	6.0	73.6	76.5
Incr Delay (d2), s/veh		0.4	0.7	6.4	0.2	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		13.9	8.5	4.3	4.7	10.1	19.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		15.6	13.8	89.8	6.3	84.6	193.1
LnGrp LOS		B	B	F	A	F	F
Approach Vol, veh/h		2469			1531	703	
Approach Delay, s/veh		15.3			15.9	129.0	
Approach LOS		B			B	F	
Timer - Assigned Phs	1	2			6	8	
Phs Duration (G+Y+Rc), s	17.7	129.3			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+l1), s	11.2	39.7			16.6	30.0	
Green Ext Time (p_c), s	0.5	30.9			12.9	0.0	
Intersection Summary							
HCM 7th Control Delay, s/veh			32.5				
HCM 7th LOS			C				
Notes							
User approved ignoring U-Turning movement.							

Murphy Oil – Gatlin Boulevard
Signal Timing Optimization Modifications
July 2025
341021701
SW Rosser Boulevard & SW Gatlin Boulevard

Afternoon Peak Hour

Existing Timing

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



Optimized Timing

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



Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 Build Conditions + Optimizations
PM Peak Hour

							
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	20	1900	446	168	1286	394	274
Future Volume (vph)	20	1900	446	168	1286	394	274
Lane Group Flow (vph)	21	2000	469	177	1354	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	105.0	105.0	27.0	115.0	49.0	49.0
Total Split (%)	9.4%	58.0%	58.0%	14.9%	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	0.68	0.49	0.64	0.42	0.51	0.59
Control Delay (s/veh)	92.8	28.1	17.3	91.1	16.6	62.6	33.9
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.8	28.7	17.3	91.1	16.6	62.6	33.9
Queue Length 50th (ft)	25	588	224	107	294	223	147
Queue Length 95th (ft)	59	672	337	149	342	282	259
Internal Link Dist (ft)		890			1119	1597	
Turn Bay Length (ft)	93		93	420		236	196
Base Capacity (vph)	106	2929	967	394	3257	807	486
Starvation Cap Reductn	0	472	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	0.81	0.49	0.45	0.42	0.51	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: 70

Control Type: Actuated-Coordinated

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



Murphy Oil - Gatlin Blvd
3: SW Rosser Blvd & SW Gatlin Blvd

2027 Build Conditions + Optimizations
PM Peak Hour

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		  		 	  	 	
Traffic Volume (veh/h)	20	1900	446	168	1286	394	274
Future Volume (veh/h)	20	1900	446	168	1286	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	177	1354	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		3034	942	219	3526	814	374
Arrive On Green		0.60	0.60	0.06	0.70	0.24	0.24
Sat Flow, veh/h		5233	1572	3428	5233	3428	1572
Grp Volume(v), veh/h		2000	469	177	1354	415	288
Grp Sat Flow(s),veh/h/ln		1689	1572	1714	1689	1714	1572
Q Serve(g_s), s		47.3	30.8	9.2	20.1	19.0	30.9
Cycle Q Clear(g_c), s		47.3	30.8	9.2	20.1	19.0	30.9
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		3034	942	219	3526	814	374
V/C Ratio(X)		0.66	0.50	0.81	0.38	0.51	0.77
Avail Cap(c_a), veh/h		3034	942	398	3526	814	374
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.34	0.34	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		24.0	20.7	83.6	11.4	59.9	64.4
Incr Delay (d2), s/veh		0.4	0.6	6.9	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		18.4	11.3	4.3	7.3	8.5	13.8
Unsig. Movement Delay, s/veh							
LnGrp Delay(d), s/veh		24.4	21.4	90.5	11.7	62.1	78.6
LnGrp LOS		C	C	F	B	E	E
Approach Vol, veh/h		2469			1531	703	
Approach Delay, s/veh		23.9			20.8	68.9	
Approach LOS		C			C	E	
Timer - Assigned Phs	1	2			6	8	
Phs Duration (G+Y+Rc), s	17.6	114.4			132.0	49.0	
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0	
Max Green Setting (Gmax), s	21.0	99.0			109.0	43.0	
Max Q Clear Time (g_c+l1), s	11.2	49.3			22.1	32.9	
Green Ext Time (p_c), s	0.4	28.1			12.9	1.9	
Intersection Summary							
HCM 7th Control Delay, s/veh			29.6				
HCM 7th LOS			C				
Notes							
User approved pedestrian interval to be less than phase max green.							
User approved ignoring U-Turning movement.							

DRIVEWAYS

Murphy Oil - Gatlin Blvd
4: SW Import Rd & East Driveway

2027 Build Conditions + Driveways
AM Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	61	0	177	287	3
Future Vol, veh/h	0	61	0	177	287	3
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	66	0	192	312	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	314	-	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	882	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	882	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.41	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 882		-	-		
HCM Lane V/C Ratio	- 0.075		-	-		
HCM Ctrl Dly (s/v)	- 9.4		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0.2		-	-		

Murphy Oil - Gatlin Blvd
5: SW Gatlin Blvd & South Driveway

2027 Build Conditions + Driveways
AM Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑↑↓			↗
Traffic Vol, veh/h	0	1328	2187	129	0	70
Future Vol, veh/h	0	1328	2187	129	0	70
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	2377	140	0	76
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	1259
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	337
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	337
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Ctrl Dly, s/v	0	0		18.76		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	337		
HCM Lane V/C Ratio	-	-	-	0.226		
HCM Ctrl Dly (s/v)	-	-	-	18.8		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.9		

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	72	0	337	263	3
Future Vol, veh/h	0	72	0	337	263	3
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	78	0	366	286	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	288	-	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	905	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	905	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.35	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 905		-	-		
HCM Lane V/C Ratio	- 0.086		-	-		
HCM Ctrl Dly (s/v)	- 9.4		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0.3		-	-		

Murphy Oil - Gatlin Blvd
5: SW Gatlin Blvd & South Driveway

2027 Build Conditions + Driveways
PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑↑↑			↑↑
Traffic Vol, veh/h	0	2625	1773	150	0	81
Future Vol, veh/h	0	2625	1773	150	0	81
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	1927	163	0	88
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	1045
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	421
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	421
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Ctrl Dly, s/v	0	0		15.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	421		
HCM Lane V/C Ratio	-	-	-	0.209		
HCM Ctrl Dly (s/v)	-	-	-	15.8		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.8		

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:	3

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.	

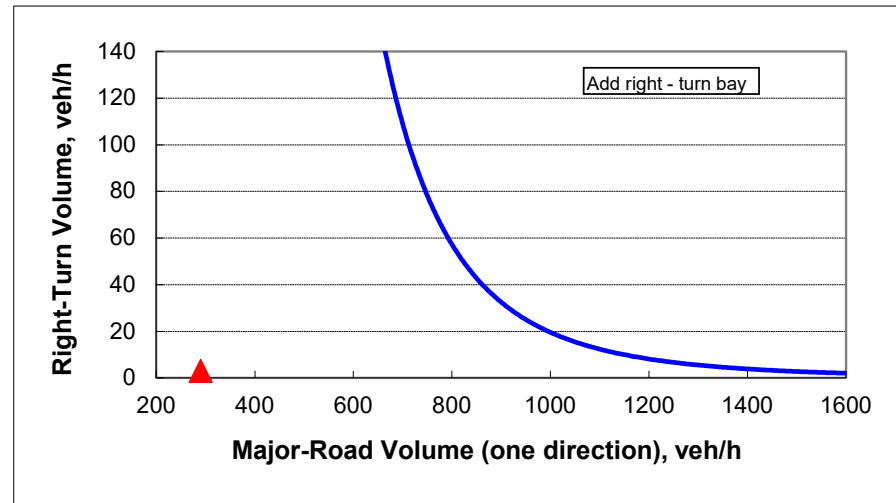


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	30
Major-road volume (one direction), veh/h:	277
Right-turn volume, veh/h:	3

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	9497
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

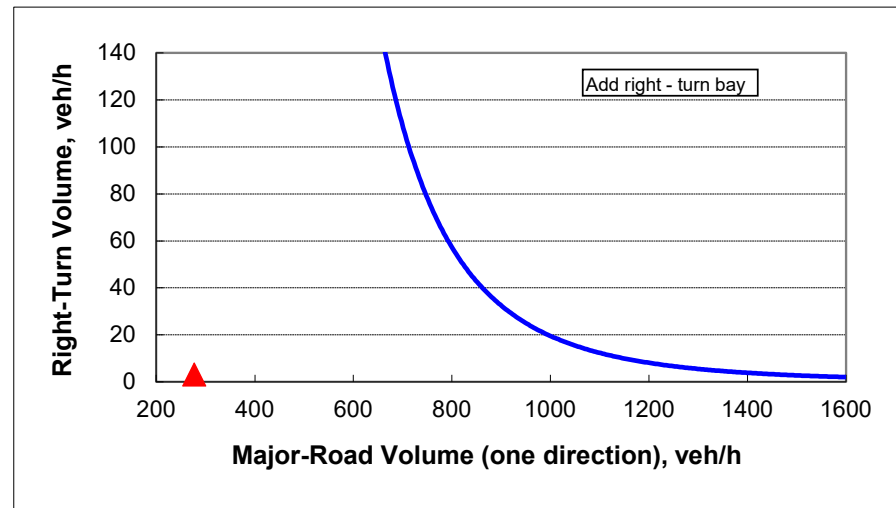


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	2316
Right-turn volume, veh/h:	129

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.	

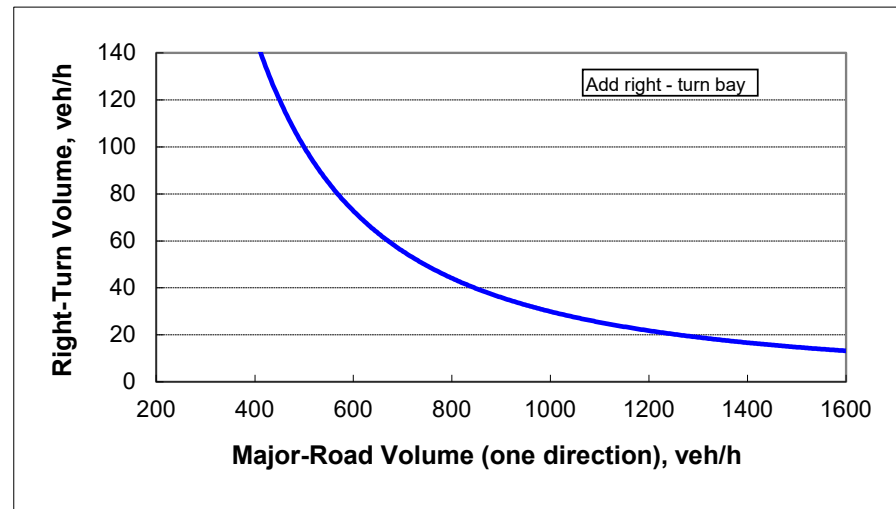


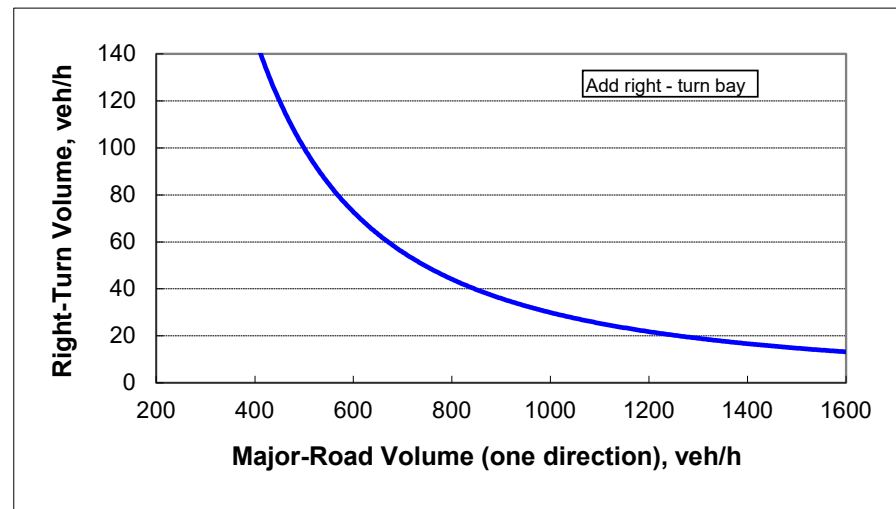
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	1923
Right-turn volume, veh/h:	150

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.	



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
<u>Proposed Uses</u> 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
<u>Proposed Uses</u> 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
<u>Proposed Uses</u> 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

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

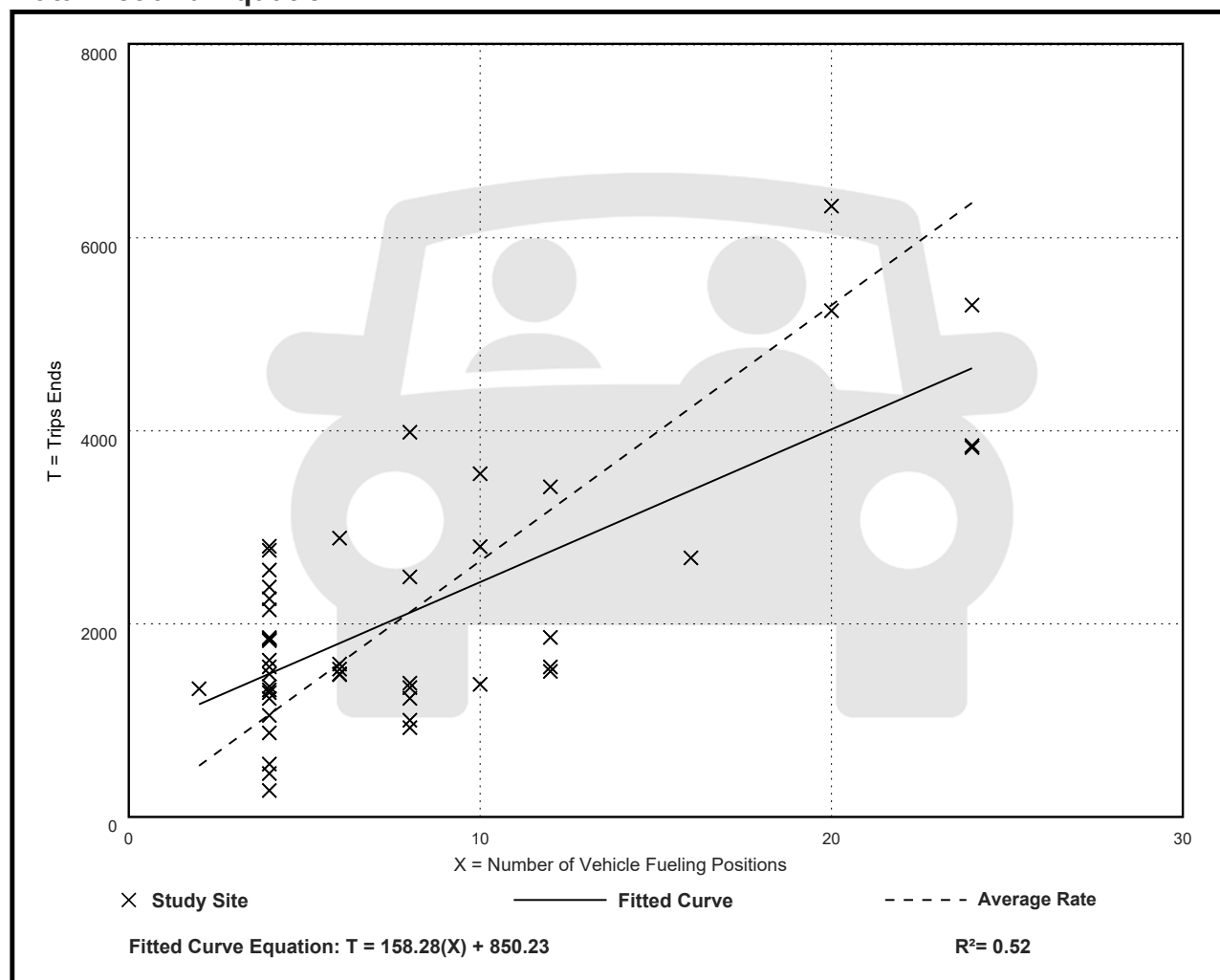
Avg. Num. of Vehicle Fueling Positions: 8

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



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

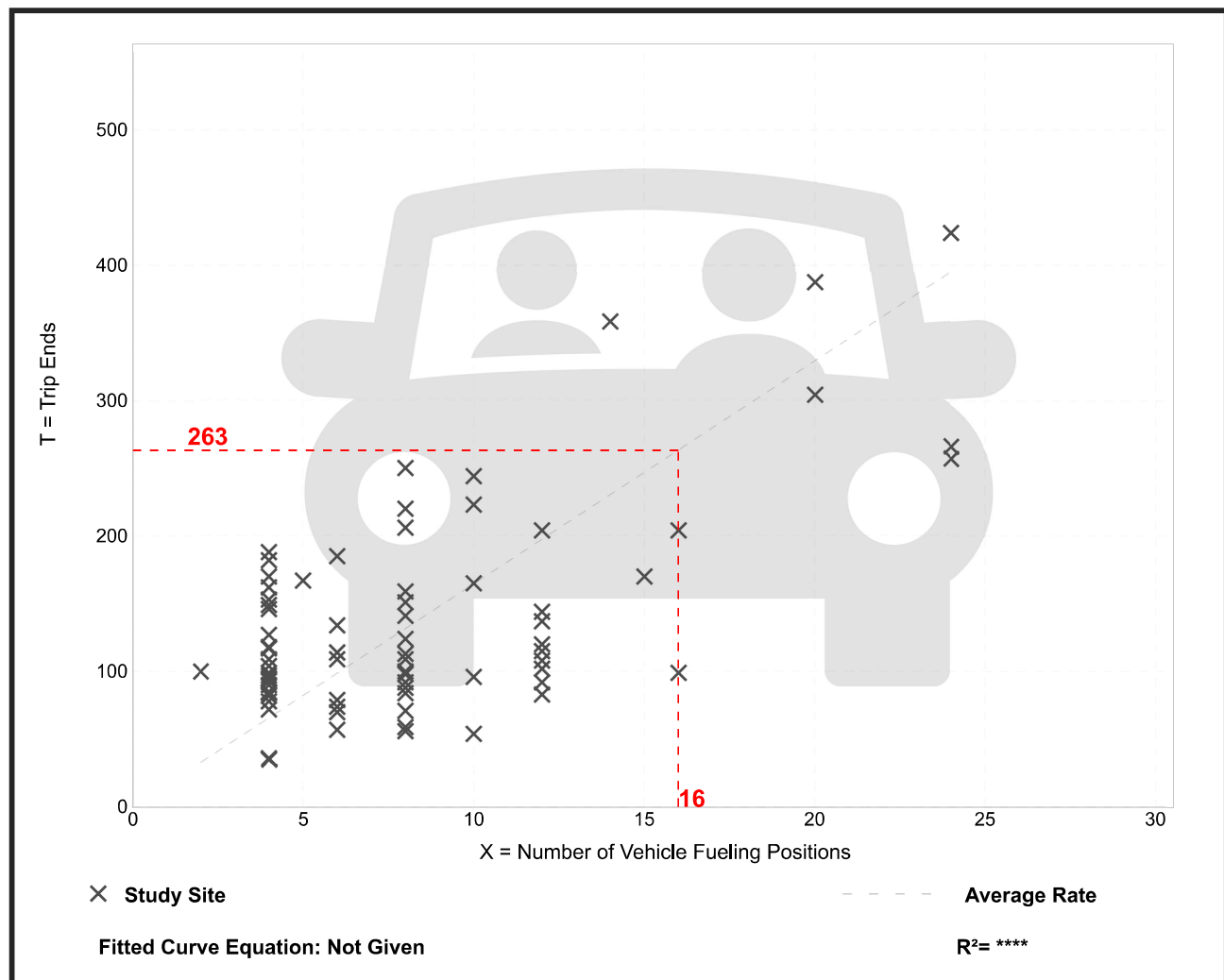
Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday,
AM Peak Hour of Generator

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



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

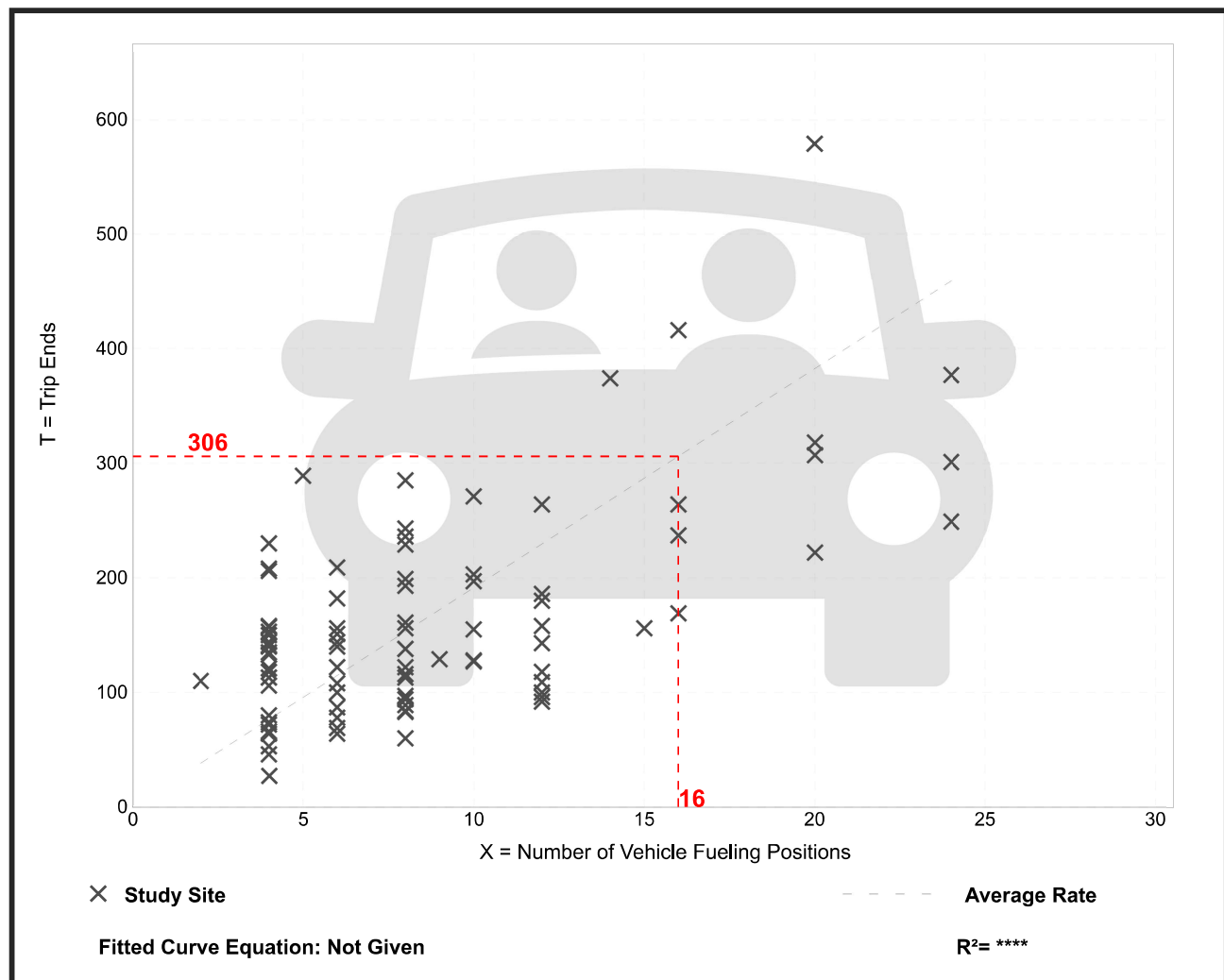
Avg. Num. of Vehicle Fueling Positions: 8

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



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									
GFA (000)	VFP	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak	
						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								

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

[illegible]

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