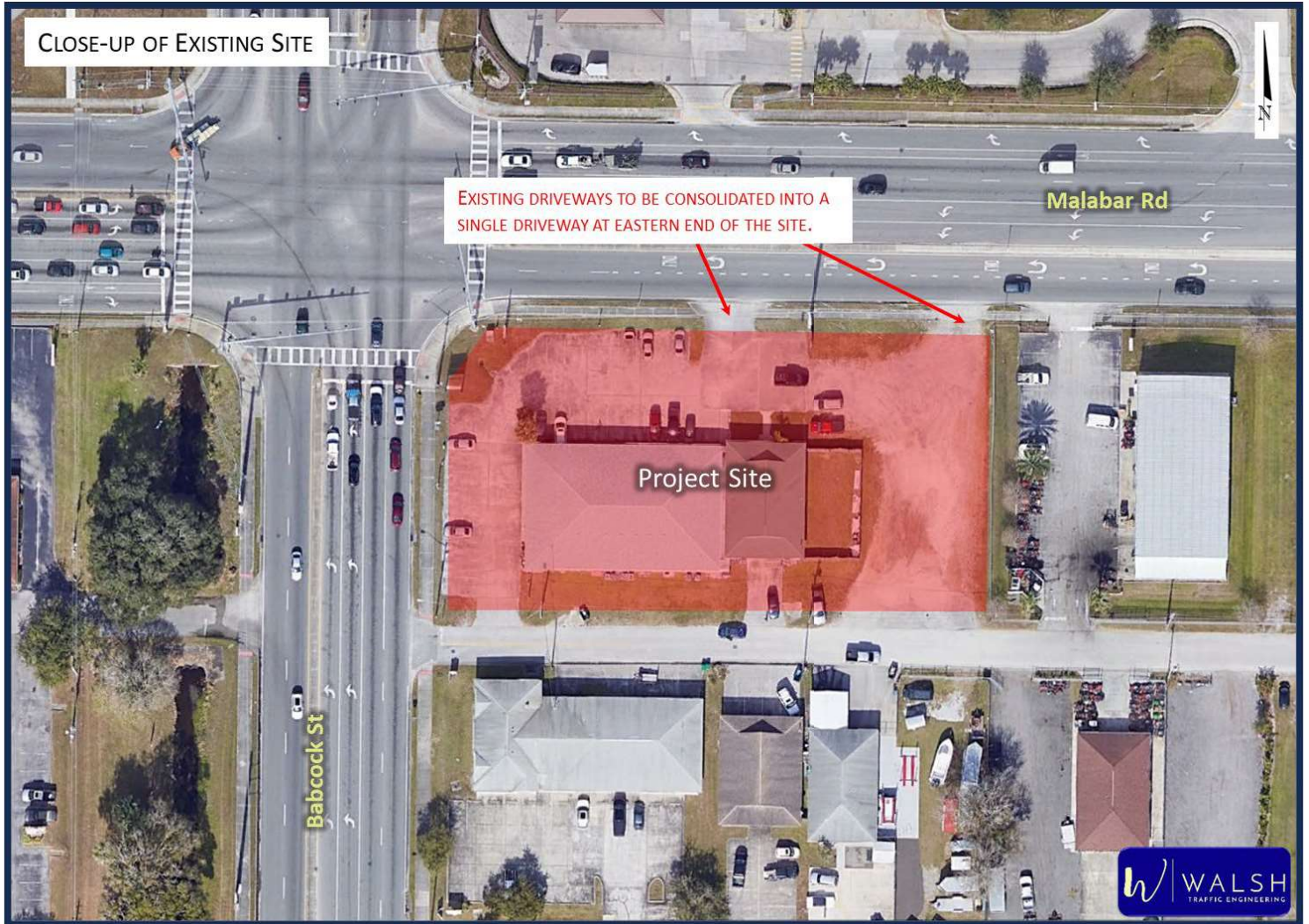


MEMORANDUM

To: Mr. Chad Lingenfelter, AICP, PTP, RSP₁ – Traffic Services Manager, FDOT District 5
From: Mr. Chris J. Walsh, P.E.
Date: April 15, 2024
Subject: Malabar Road 7-Eleven Access Evaluation – Malabar, Florida

Walsh Traffic Engineering, LLC (Walsh Traffic) has been retained to conduct an access evaluation for the proposed 7-Eleven service station to be located in the southeast quadrant of the Malabar Road at Babcock Street intersection in Malabar, Florida (see **Site Location Map** below). The development is proposed to consist of 4,000 square feet of convenience store and 12 vehicle fueling positions. A copy of the preliminary site plan is attached. The development is proposed to be constructed by year 2025. The property is currently occupied by a low trip-generating development which will be replaced by the proposed 7-Eleven. Additionally, as shown in the preliminary site plan, the existing driveways on Malabar Road will be replaced with a consolidated driveway located at the eastern end of the property and a longer driveway throat provided (see **Close-Up** figure on the following page). This memorandum evaluates the proposed consolidated access on Malabar Road.





Trip Generation

The total daily, AM peak-hour, and PM peak-hour trip generation potential for the proposed development was determined based on trip generation equations/rates for Land Use Code 945 (Convenience Store/Gas Station) as provided in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, 11th Edition*. As summarized in **Table 1**, the proposed development is projected to generate 2,802 total daily trips, 226 total AM peak-hour trips (113 in, 113 out), and 218 total PM peak-hour trips (109 in, 109 out).

Table 1 – Total Trip Generation Summary

Land Use	ITE Land Use Code	Intensity	Daily		
			Total Trips		
			In	Out	Total
7-Eleven (9-15 VFP)	945	4 KSF	1,401	1,401	2,802

Land Use	ITE Land Use Code	Intensity	AM Peak Hour		
			Total Trips		
			In	Out	Total
7-Eleven (9-15 VFP)	945	4 KSF	113	113	226

Land Use	ITE Land Use Code	Intensity	PM Peak Hour		
			Total Trips		
			In	Out	Total
7-Eleven (9-15 VFP)	945	4 KSF	109	109	218

Based on ITE, 76% of the AM peak-hour trips and 75% of the PM peak-hour trips will be pass-by. Upon removing the pass-by trips (see **Table 2**) the proposed development is projected to generate 54 new external AM trips (27 in, 27 out) and 54 new external PM trips (27 in, 27 out). It should be noted that the existing daily volume is 19,100 vehicles per day (vpd) and 12,900 vpd on Malabar Road and Babcock Street, respectively, adjacent to the site. When applying a K-factor of 0.09 to this combined daily volume of 32,000, it equates to a peak-hour volume of 2,880 vehicles per hour. The calculated pass-by trips for the site (172 AM trips and 164 PM trips) are well below 10% of the peak-hour traffic ($2,880 \times 10\% = 288$) on the adjacent streets.

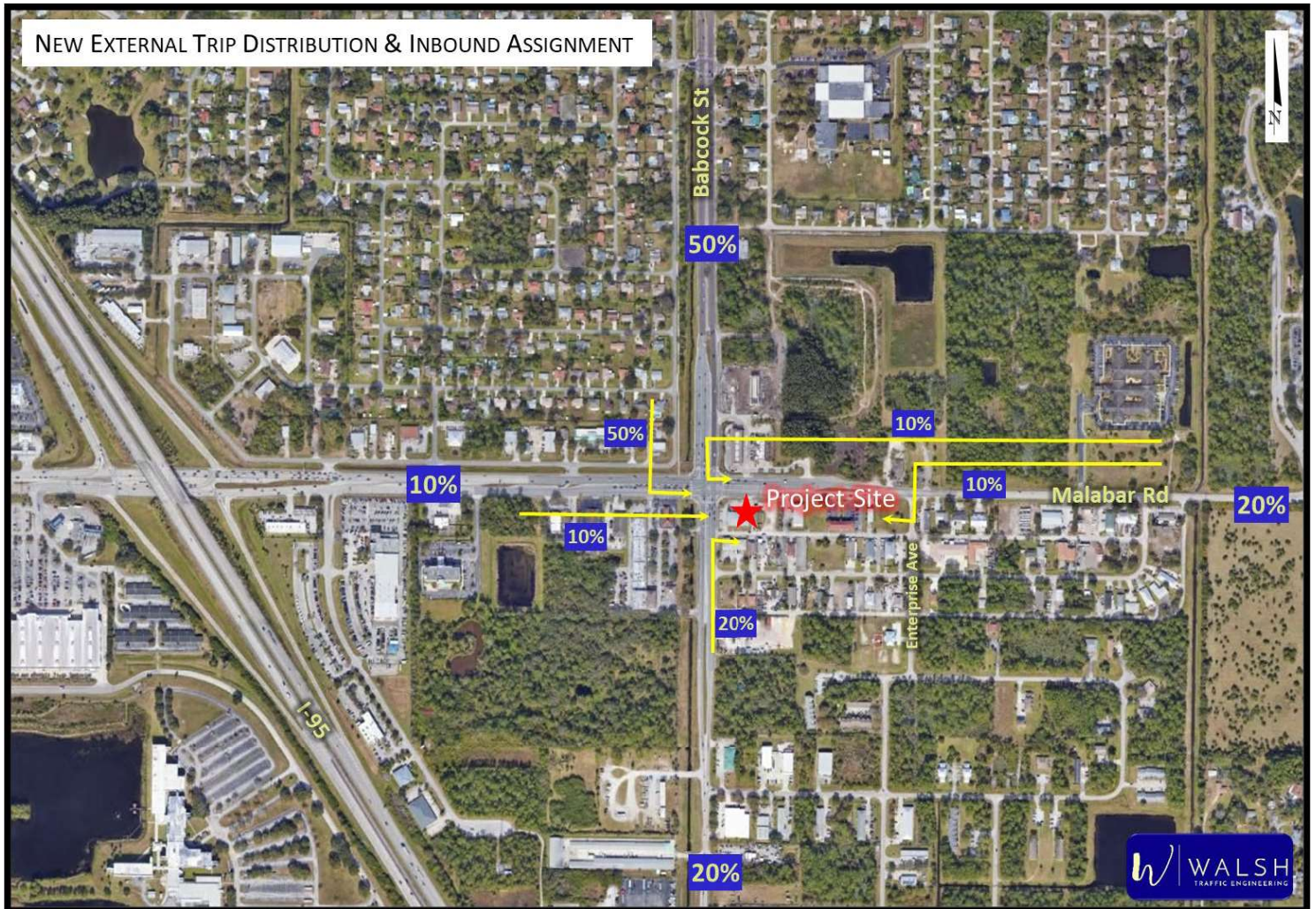
Table 2 – New External Trip Generation Summary

Land Use	ITE Land Use Code	Intensity	AM Peak Hour									
			Total Trips			Pass-By Trips				Net New External Trips		
			In	Out	Total	%	In	Out	Total	In	Out	Total
7-Eleven (9-15 VFP)	945	4 KSF	113	113	226	76.0%	86	86	172	27	27	54

Land Use	ITE Land Use Code	Intensity	PM Peak Hour									
			Total Trips			Pass-By Trips				Net New External Trips		
			In	Out	Total	%	In	Out	Total	In	Out	Total
7-Eleven (9-15 VFP)	945	4 KSF	109	109	218	75.0%	82	82	164	27	27	54

New External Trip Distribution

The trip distribution for the new external trips was estimated using engineering judgment taking into consideration the location of trip generators (homes), competing uses, and the roadway network. The new external trip distribution/assignment on the following figures.



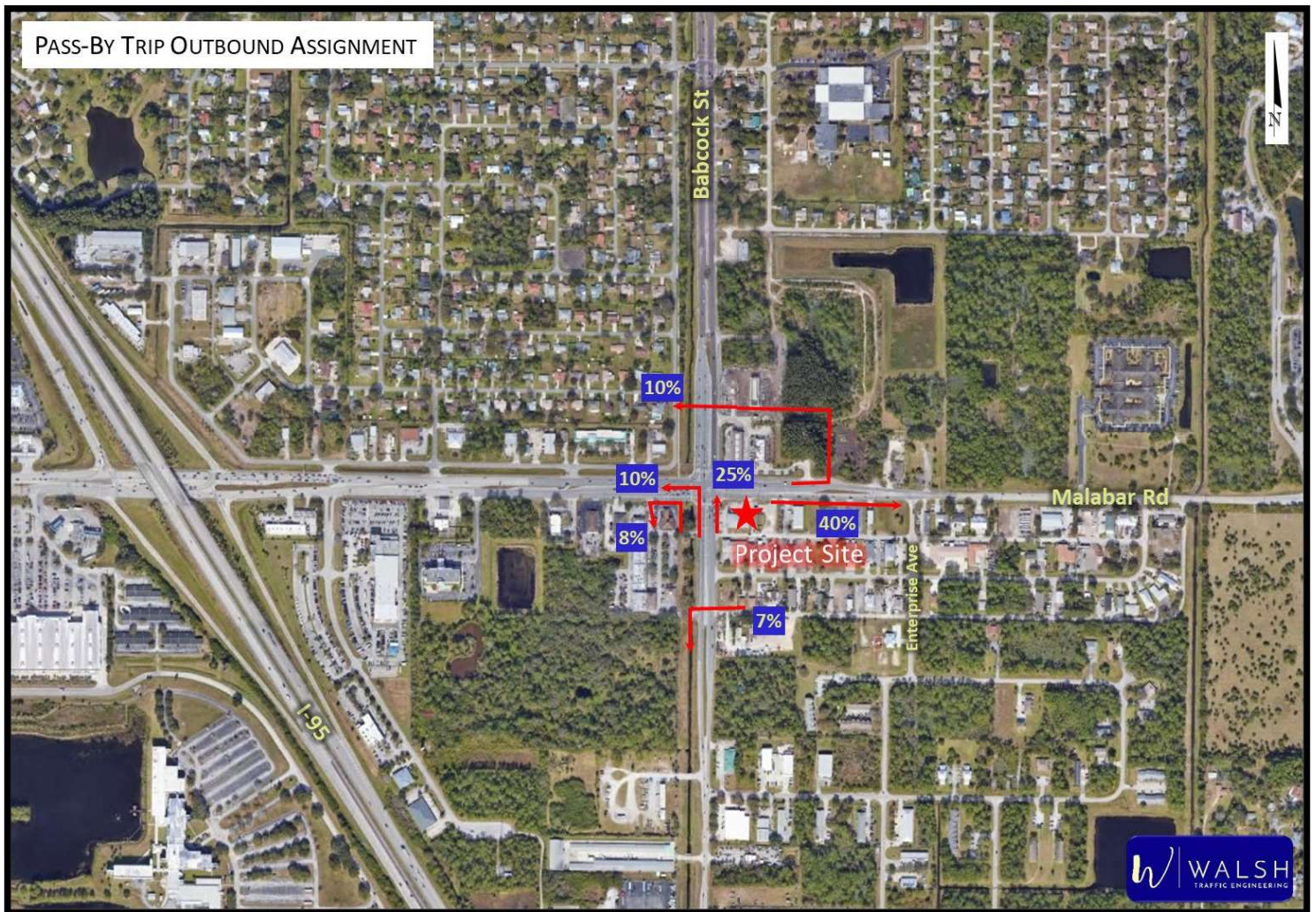


Pass-By Trip Assignment

Pass-by trips were assigned based on the volume on the adjacent streets and the ease of access relative to making right turn movements versus left-turn movements. Ultimately, pass-by trips assignment is summarized below and shown in the following figures:

- 40% - eastbound on Malabar Road
- 20% - westbound on Malabar Road
- 25% - northbound on Babcock Street
- 15% - southbound on Babcock Street





Future Buildout Driveway Volumes

The future buildout volumes (year 2025) for the proposed driveway on Malabar Road were calculated by factoring the existing volumes from 2024 to 2025 based on a historical 2% annual growth rate and then adding the project trips. The historical volumes on Malabar Road and printout of the trends spreadsheet is attached. The resulting turning movement projections are summarized in the following figures and turning movement worksheets attached.

Given that the inside eastbound through lane on Malabar Road transition to a U-turn lane drop just east of the site and that the majority of eastbound traffic at the project driveway is in the outside lane, the traffic volumes were presented showing the volumes in the eastbound inside lane versus the outside lane. The eastbound volume is split approximately 90% in the outside lane and 10% in the inside lane.

Future Buildout Analyses

The AM and PM peak-hour operating conditions of the project driveway on Malabar Road were analyzed based on HCM methodologies using Synchro 11 software. It is important to note that given that approximately 90% of the eastbound traffic within the outside through lane, the analyses were conducted on a conservative basis using a single eastbound through lane and the volume associated with the outside lane recognizing this better represents the delays anticipated for motorists exiting the proposed 7-Eleven. Based on the analyses, northbound right-turning motorists exiting the 7-Eleven are projected to experience 20.7 seconds of delay per vehicle (level of service C) in the AM peak hour and 16.1 seconds of delay per vehicle (level of service C) in the PM peak hour. The projected 95th percentile for this queue is less than one vehicle for both the AM and PM peak hours. Thus, the movement is anticipated to operate without excessive delays or queues. Additionally, gaps will also be provided given the close proximity of the traffic signal upstream at the Babcock Street intersection.

The need for an eastbound right-turn lane was evaluated for the proposed project driveway on Malabar Road based on guidance in Chapter 6 of FDOT's *Multimodal Access Management Guidebook* (October 2023). Based on the NCHRP 457 assessment, the projected AM and PM peak-hour volumes exceed the thresholds for a right-turn lane. However, there is a lack of right of way to provide a right-turn lane of sufficient width and length. Additionally, a large transmission pole located in between the two existing driveways impedes the ability to provide a right-turn lane. With that being said, upon receipt of feedback on an initial site plan from FDOT staff at a pre-application meeting, the development team made several enhancements. Key aspects of the proposed plan include:

1. Removal of the existing western driveway, closest to the Babcock Street intersection.
2. Consolidation of all turning movements into a single driveway located as far east on the site as possible to get as far from the Babcock Street intersection as possible.
3. Use of a larger radius return at the driveway to allow for vehicles to enter the driveway at slightly higher speeds to reduce disruption to eastbound motorists on Malabar Road
4. Installation of a longer driveway throat such that entering motorists will not be impeded by internal vehicular queues within the site and can readily turn off Malabar Road.
5. Installation of a cross-access connection to the property to the east to allow for additional driveway consolidation should redevelopment of the parcel to the east occur.

Site Map: The map shows the intersection of Malabar Road and Babcock St. The Project Site is located on the east side of Malabar Road, south of Babcock St. Driveway #1 is located on the south side of the Project Site. A north arrow is located in the top right corner.

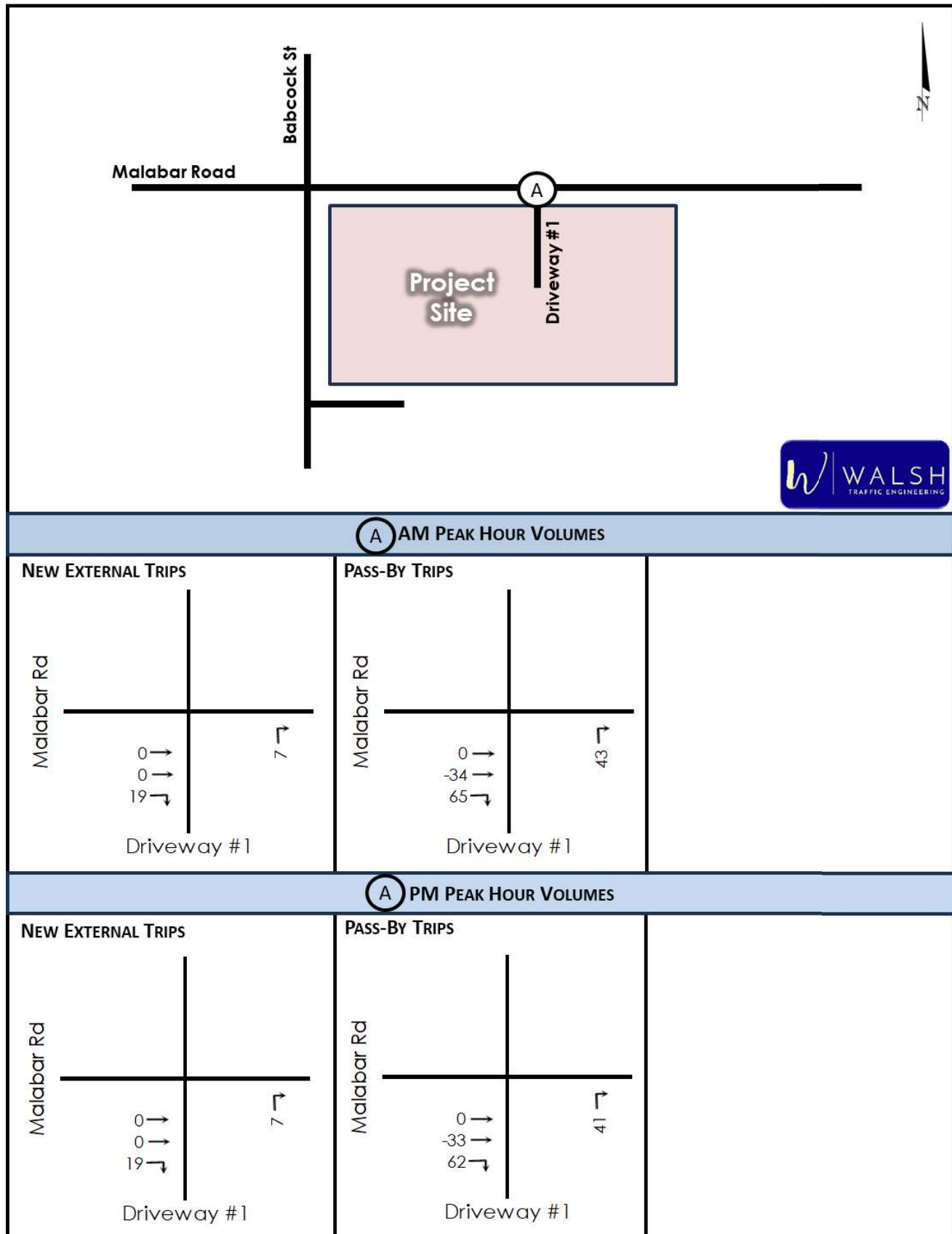
AM Peak Hour Volumes:

Direction	Existing	Future Background (2025)
Malabar Rd (Northbound)	80	82
Malabar Rd (Southbound)	955	974
Driveway #1 (Left Turn)	0	0

PM Peak Hour Volumes:

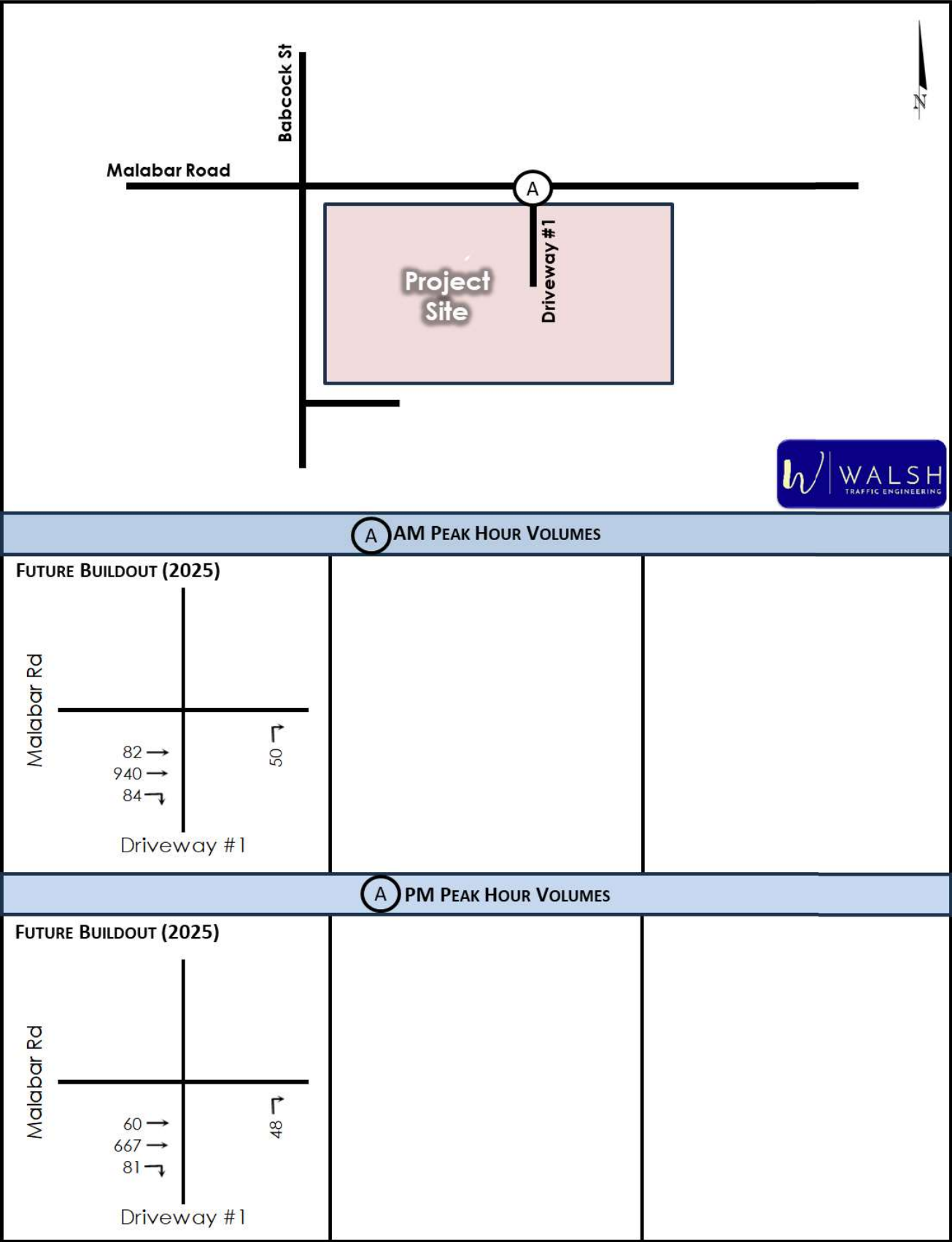
Direction	Existing	Future Background (2025)
Malabar Rd (Northbound)	59	60
Malabar Rd (Southbound)	686	700
Driveway #1 (Left Turn)	0	0

Project Peak-Hour Trips





Future Buildout Volumes (Year 2025)



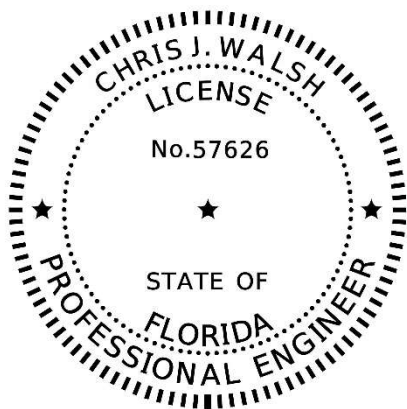
Conclusions

An access evaluation was conducted for the proposed 7-Eleven service station to be located in the southeast quadrant of the Malabar Road at Babcock Street intersection in Malabar, Florida. The development is proposed to consist of 4,000 square feet of convenience store and 12 vehicle fueling positions.

Based on this access evaluation, the proposed right-in/right-out driveway is projected to have acceptable operating conditions in the AM and PM peak hours. While the projected volumes exceed the thresholds for a right-turn lane on Malabar Road, an eastbound right-turn lane cannot be provided due to a lack of right of way and a large transmission pole located in between the two existing driveways. With that being said, it is recommended that the driveway as proposed, without an eastbound right-turn lane, be approved for the following reasons:

- The proposed development will remove the existing western driveway, closest to the Babcock Street intersection and consolidate all turning movements into a single driveway located as far east on the site as possible to get as far from the Babcock Street intersection as possible.
- A larger radius return is proposed at the driveway to allow vehicles to enter the driveway at slightly higher speeds to reduce disruption to eastbound motorists on Malabar Road.
- A longer driveway throat will be provided such that entering motorists will not be impeded by internal vehicular queues within the site and can readily turn off Malabar Road.
- A cross-access connection to the property to the east will be provided to allow for additional driveway consolidation should redevelopment of the parcel to the east occur.

You may contact us at (386) 801-5682 should you have any questions.



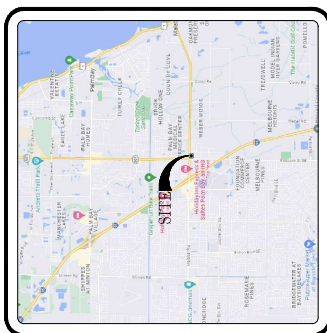
THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Chris J Walsh  Date: 2024.04.15 15:21:55
-04'00'

ON THE DATE ADJACENT TO THE SEAL
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND
THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES



Attachments

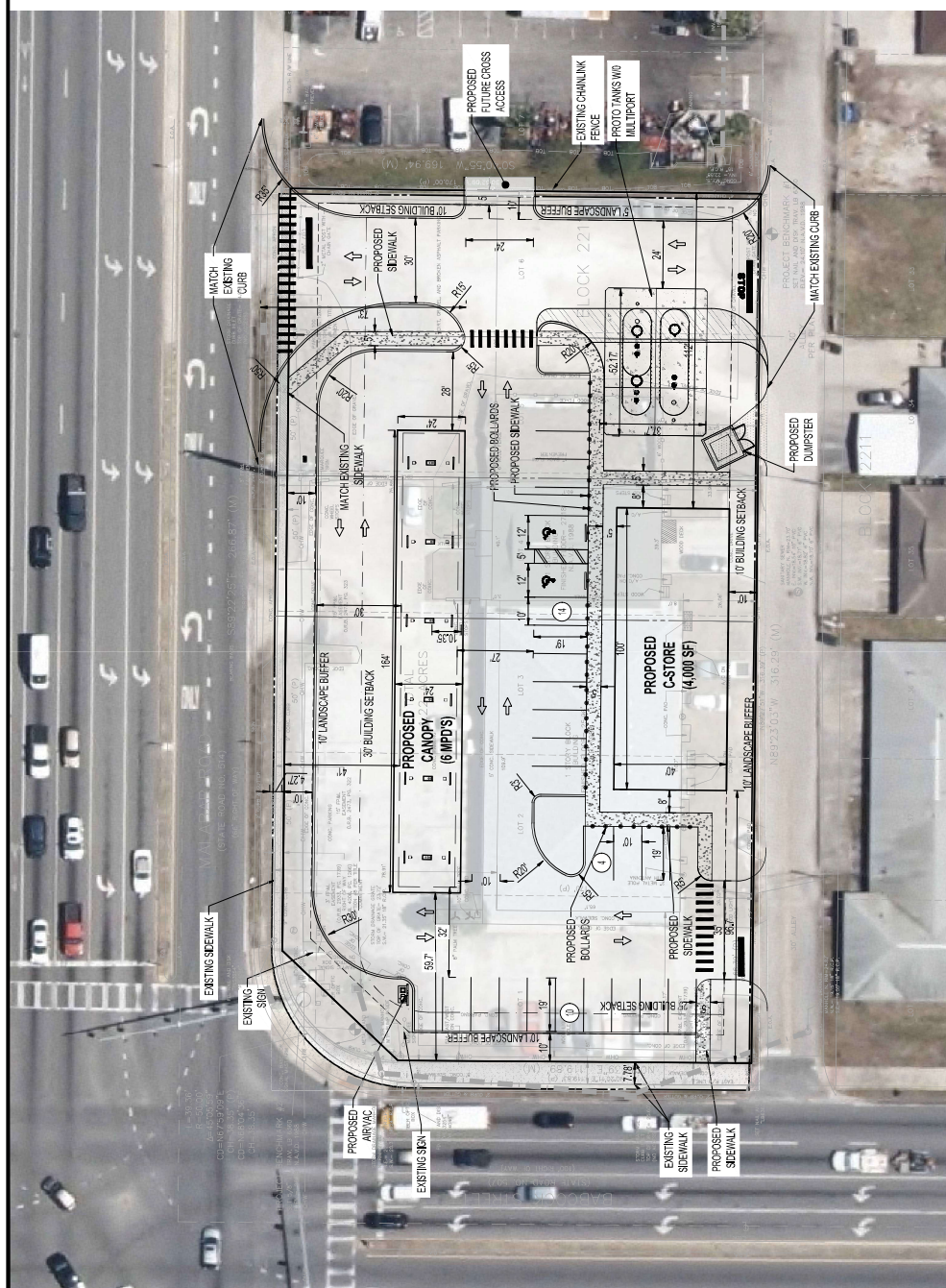


VICINITY MAP

NTS

SITE DATA:

TOTAL PARCEL SIZE	1.11 AC (483,904 SF) + 0.08 AC (32,264 SF) + 0.19 AC (82,074 SF) + 0.19 AC (82,074 SF) + 0.19 AC (82,074 SF) + 0.19 AC (82,074 SF)
PARCEL 1	1300, 1308, 1310 & 1312 MALABAR RD SE
PARCEL 2	PALM BAY FL 32009
PARCEL 3	CITY OF PALM BAY
PARCEL 4	GENERAL COMMERCIAL
LANDSCAPE BUFFERS	10' FRONT 10' SIDE STREET W 10' SIDE STREET W 10' REAR S
REQUIRED SETBACKS	10' FRONT 10' SIDE STREET W 10' SIDE STREET W 10' REAR S
MINIMUM PARKING	10:10' PER 100 SF
PROPOSED	28.31' (3 SPACES SF)
REQUIRED	21.50' (3 SPACES SF)



National Data & Surveying Services
Intersection Turning Movement Count

Location: Island Bead Company E/W Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-001
Date: 4/4/2024

Data - Total

NS/EW Streets:		Island Bead Company E/W Dwy				Island Bead Company E/W Dwy				Malabar Rd/SR 514				Malabar Rd/SR 514				ORTHBOUND2				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				N2R2	TOTAL			
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR			WU		
	7:00 AM	0	0	0	0	0	0	0	0	0	0	176	0	0	0	0	0	0	176			
	7:15 AM	0	0	0	0	0	0	0	0	0	239	0	0	0	0	0	0	0	239			
	7:30 AM	0	0	0	0	0	0	0	0	0	230	0	0	0	0	0	0	0	230			
	7:45 AM	0	0	0	0	0	0	0	0	0	247	0	0	0	0	0	0	0	247			
	8:00 AM	0	0	2	0	0	0	0	0	0	237	0	0	0	0	0	0	0	239			
	8:15 AM	0	0	0	0	0	0	0	0	0	241	0	0	0	0	0	0	0	241			
	8:30 AM	0	0	0	0	0	0	0	0	0	202	0	0	0	0	0	0	0	202			
	8:45 AM	0	0	0	0	0	0	0	0	0	194	0	0	0	0	0	0	0	194			
TOTAL VOLUMES		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	N2R2	TOTAL		
APPROACH %'s		0.00%	0.00%	100.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	0	0	0	0	0	1768		
PEAK HR		07:30 AM - 08:30 AM																		TOTAL		
PEAK HR VOL		0				0				955				0				957		TOTAL		
PEAK HR FACTOR		0.000				0.000				0.967				0.000				0.969				TOTAL
		0.250																		TOTAL		
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				N2R2	TOTAL			
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR			WU		
	4:00 PM	0	0	0	0	0	0	0	0	0	185	0	0	0	0	0	0	0	185			
	4:15 PM	0	0	0	0	0	0	0	0	0	221	0	0	0	0	0	0	0	221			
	4:30 PM	0	0	0	0	0	0	0	0	0	179	0	0	0	0	0	0	0	179			
	4:45 PM	0	0	0	0	0	0	0	0	0	160	0	0	0	0	0	0	0	160			
	5:00 PM	0	0	0	0	0	0	0	0	0	181	0	0	0	0	0	0	0	181			
	5:15 PM	0	0	1	0	0	0	0	0	0	180	0	0	0	0	0	0	0	181			
	5:30 PM	0	0	1	0	0	0	0	0	0	165	0	0	0	0	0	0	0	166			
	5:45 PM	0	0	0	0	0	0	0	0	0	163	0	0	0	0	0	0	0	163			
TOTAL VOLUMES		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	N2R2	TOTAL		
APPROACH %'s		0.00%	0.00%	100.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	0	0	0	0	0	1436		
PEAK HR		04:00 PM - 05:00 PM																		TOTAL		
PEAK HR VOL		0				0				745				0				745		TOTAL		
PEAK HR FACTOR		0.000				0.000				0.843				0.000				0.843				TOTAL

#DIV/0! #DIV/0! 0 #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! 3% #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!
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Explanation for extra leg movements
Movements entering the extra leg
ER2 Movements coming from EB on Malabar Rd/SR 514 entering into the Extra Leg (Island Bead Company East Dwy)
Movements exiting the extra leg
N2R2 Movements exiting from Extra Leg (Island Bead Company East Dwy) entering into Malabar Rd/SR 514 going EB

National Data & Surveying Services

Intersection Turning Movement Count

Location: Island Bead Company E/W Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-001
Date: 4/4/2024

Data - Cars

NS/EW Streets:	Island Bead Company E/W Dwy				Island Bead Company E/W Dwy				Malabar Rd/SR 514					Malabar Rd/SR 514				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND					WESTBOUND				DRTHBOUND2
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	N2R2
7:00 AM	0	0	0	0	0	0	0	0	0	169	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	231	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	238	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	0	0	0	0	0	0	232	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	233	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	191	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	184	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	N2R2
APPROACH %'s :	0	0	2	0	0	0	0	0	0	1701	0	0	0	0	0	0	0	0
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																	
PEAK HR VOL :	0	0	2	0	0	0	0	0	0	926	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.973	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			0.250								0.973							0.975

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND					WESTBOUND				DRTHBOUND2
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	N2R2
4:00 PM	0	0	0	0	0	0	0	0	0	178	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	214	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	172	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	156	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	176	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	178	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	163	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	160	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	ER2	WL	WT	WR	WU	N2R2
APPROACH %'s :	0	0	2	0	0	0	0	0	0	1397	0	0	0	0	0	0	0	0
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	720	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.841	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
											0.841							0.841

National Data & Surveying Services

Intersection Turning Movement Count

Location: Island Bead Company E/W Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-001
Date: 4/4/2024

Data - HT

NS/EW Streets:	Island Bead Company E/W Dwy				Island Bead Company E/W Dwy				Malabar Rd/SR 514					Malabar Rd/SR 514					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND					WESTBOUND				DRTHBOUND2	
	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 ER2	0 WL	0 WT	0 WR	0 WU	0 N2R2	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
7:15 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8
7:30 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
7:45 AM	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9
8:00 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
8:15 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	11
8:45 AM	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	10
TOTAL VOLUMES : APPROACH %'s :	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	65 100.00%	0 100.00%	0 0.00%	0 0.00%	0 0.00%	0 0	0 0	0 0	0 0	65
PEAK HR :	07:30 AM - 08:30 AM																		TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	29
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.806	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.806

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND					WESTBOUND				0	
	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 ER2	0 WL	0 WT	0 WR	0 WU	0 N2R2	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
4:15 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
4:30 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
4:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
TOTAL VOLUMES : APPROACH %'s :	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	37 100.00%	0 100.00%	0 0.00%	0 0.00%	0 0.00%	0 0	0 0	0 0	0 0	37
PEAK HR :	04:00 PM - 05:00 PM																		TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	25
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.893	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.893

Location: Island Bead Company E/W Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-001
Date: 4/4/2024

[illegible]

National Data & Surveying Services
Intersection Turning Movement Count

Location: Island Bead Company E/W Dwy & Malabar Rd/SR 514
City: Palm Bay

Project ID: 24-130112-001
Date: 4/4/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Island Bead Company E/W Dwy		Island Bead Company E/W Dwy		Malabar Rd/SR 514		Malabar Rd/SR 514				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES : APPROACH %'s :	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL 1
	0	0	0	0	0	0	1 100.00%	0 0.00%	0	0	
PEAK HR :	07:30 AM - 08:30 AM										TOTAL 0
PEAK HR VOL : PEAK HR FACTOR :	0 0		0 0		0 0		0 0		0 0		

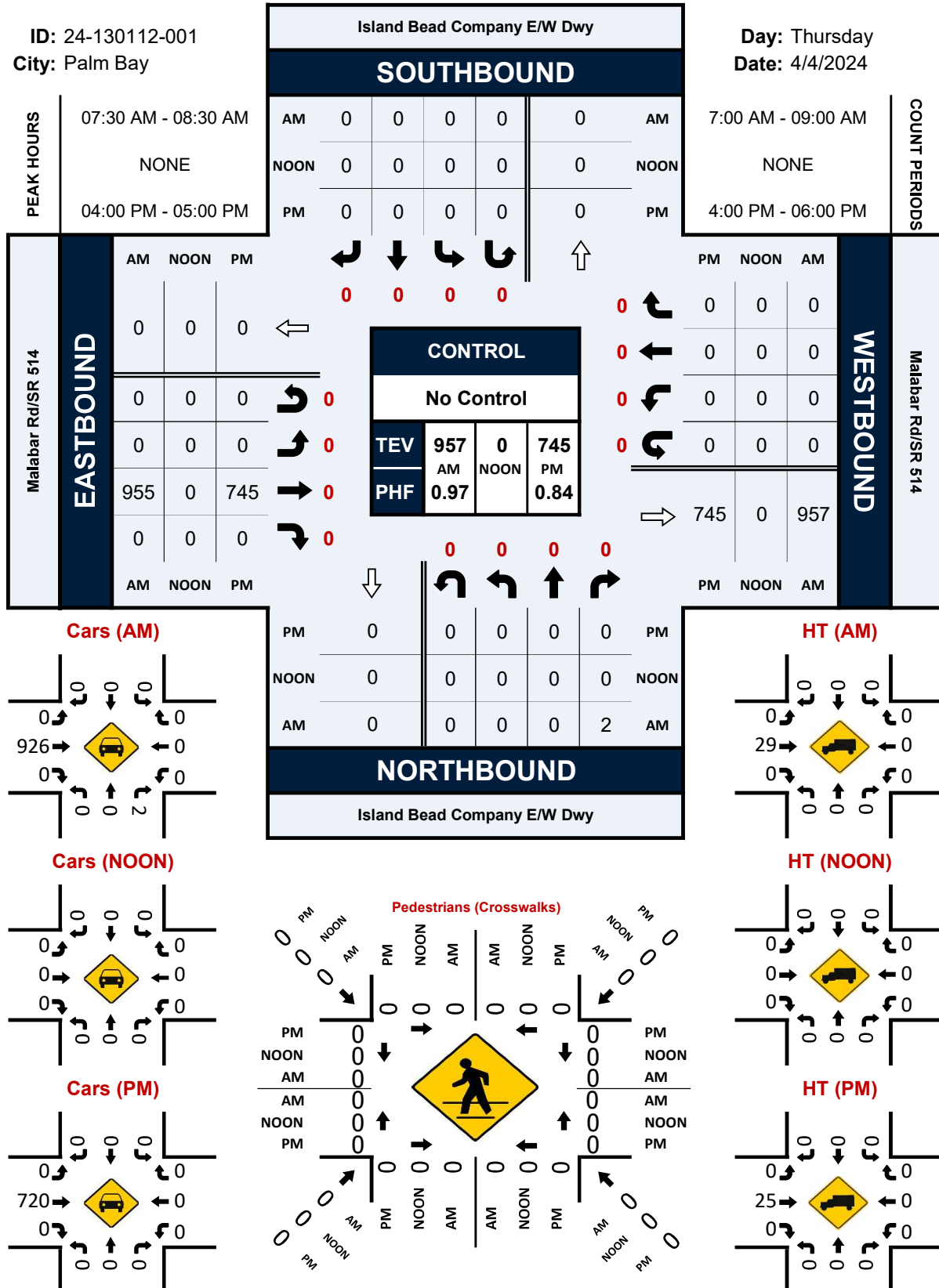
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 0	WB 0	NB 0	SB 0	NB 0	SB 0	EB 1 100.00%	WB 0 0.00%	TOTAL 1
PEAK HR :	04:00 PM - 05:00 PM		0	0	0	0	0	0	0	0	TOTAL 0
PEAK HR VOL : PEAK HR FACTOR :	0	0									

Island Bead Company E/W Dwy & Malabar Rd/SR 514

Peak Hour Turning Movement Count

ID: 24-130112-001
City: Palm Bay

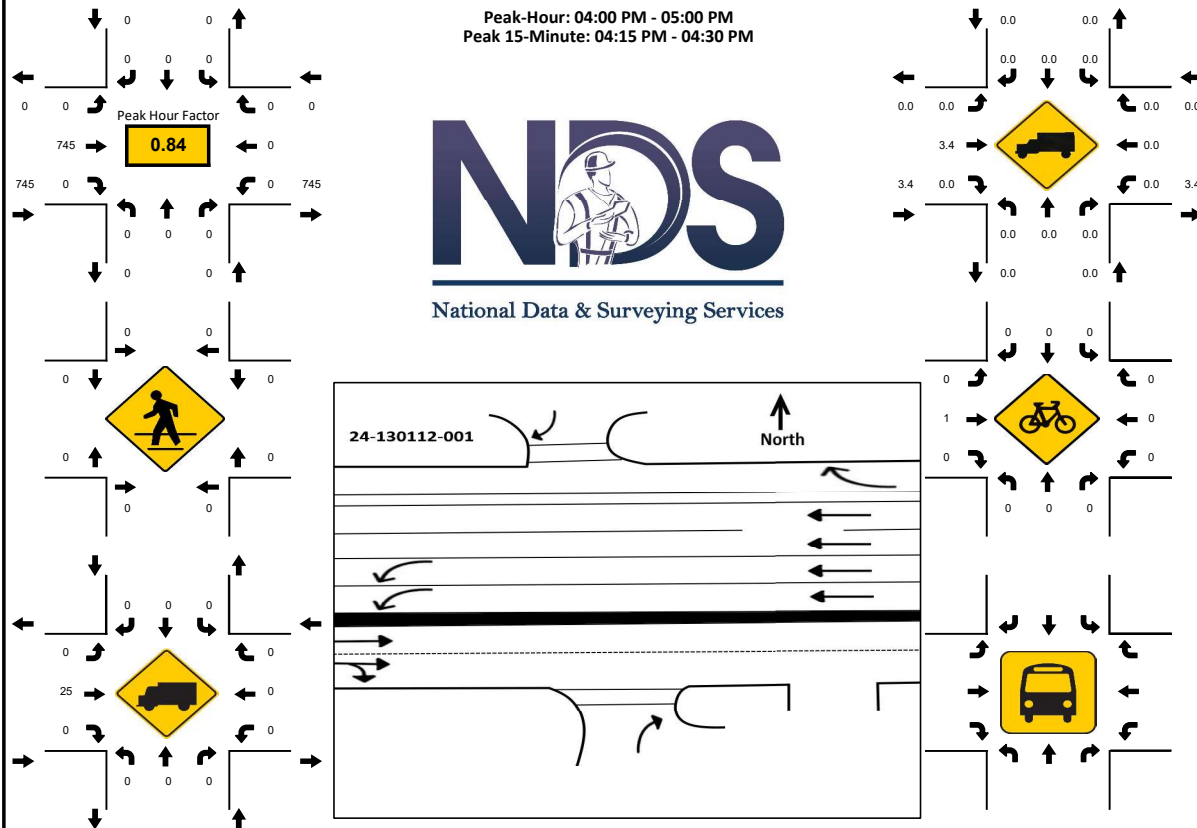
Day: Thursday
Date: 4/4/2024



PROJECT ID: 24-130112-001
DATE: Thu, Apr 04, 2024

[illegible]

PROJECT ID: 24-130112-001
DATE: Thu, Apr 04, 2024

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ameri-Pest Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-002
Date: 4/4/2024

Data - Total

NS/EW Streets:	Ameri-Pest Dwy				Ameri-Pest Dwy				Malabar Rd/SR 514				Malabar Rd/SR 514				
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	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	16
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 48	WL 0	WT 0	WR 0	WU 0	TOTAL 48
APPROACH %'s :	0.00%				0.00%				0.00%				100.00%				
PEAK HR :	07:45 AM - 08:45 AM				0	0	0	0	0	0	0	32	0	0	0	0	TOTAL 32
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0.500	0	0	0	0	0.500
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	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	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 51	WL 0	WT 0	WR 0	WU 1	TOTAL 52
APPROACH %'s :	0.00%				0.00%				0.00%				100.00%				
PEAK HR :	04:30 PM - 05:30 PM				0	0	0	0	0	0	0	29	0	0	0	1	TOTAL 30
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0.659	0	0	0	0.250	0.682
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.659	0.000	0.000	0.000	0.250	0.682

National Data & Surveying Services

Intersection Turning Movement Count

Location: Ameri-Pest Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-002
Date: 4/4/2024

Data - Cars

NS/EW Streets:	Ameri-Pest Dwy				Ameri-Pest Dwy				Malabar Rd/SR 514				Malabar Rd/SR 514				
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	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	15
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 47	WL 0	WT 0	WR 0	WU 0	TOTAL 47
APPROACH %'s :	0.00%				0.00%				0.00%				100.00%				
PEAK HR :	07:45 AM - 08:45 AM				0	0	0	0	0	0	0	31	0	0	0	0	TOTAL 31
PEAK HR VOL :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.517	0.000	0.000	0.000	0.000	0.517
									0.517								
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	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 50	WL 0	WT 0	WR 0	WU 1	TOTAL 51
APPROACH %'s :	0.00%				0.00%				0.00%				100.00%				
PEAK HR :	04:30 PM - 05:30 PM				0	0	0	0	0	0	0	28	0	0	0	1	TOTAL 29
PEAK HR VOL :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.700	0.000	0.000	0.000	0.250	0.725
PEAK HR FACTOR :									0.700				0.250				

Intersection Turning Movement Count

Location: Ameri-Pest Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-002
Date: 4/4/2024

Data - HT

NS/ EW Streets:		Ameri-Pest Dwy				Ameri-Pest Dwy				Malabar Rd/SR 514				Malabar Rd/SR 514				
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES : APPROACH %'s :		NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 0	ER 0	EU 1	WL 0	WT 0	WR 0	WU 0	TOTAL 1
PEAK HR :		07:45 AM - 08:45 AM				0				0				0				TOTAL 1
PEAK HR VOL :		0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
PEAK HR FACTOR :		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250

Location: Ameri-Pest Dwy & Malabar Rd/SR 514
City: Palm Bay
Control: No Control

Project ID: 24-130112-002
Date: 4/4/2024

Data - Bikes

[illegible]

National Data & Surveying Services

Project ID: 24-130112-002
Date: 4/4/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Ameri-Pest Dwy		Ameri-Pest Dwy		Malabar Rd/SR 514		Malabar Rd/SR 514		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
	7:00 AM	0	0	0	0	0	0	0	
	7:15 AM	0	0	0	0	0	0	0	
	7:30 AM	0	0	0	0	0	0	0	
	7:45 AM	0	0	0	0	0	0	0	
	8:00 AM	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	
8:45 AM	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES : APPROACH %'s :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
	1	0	0	0	0	0	0	0	1
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL : PEAK HR FACTOR :	0	0	0	0	0	0	0	0	0

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES : APPROACH %'s :	EB 0	WB 0	EB 0	WB 0	NB 0	SB 0	NB 0	SB 0	TOTAL 0
PEAK HR :	04:30 PM - 05:30 PM		0	0	0	0	0	0	TOTAL 0
PEAK HR VOL :	0	0							
PEAK HR FACTOR :									

PROJECT ID: 24-130112-002
DATE: Thu, Apr 04, 2024

[illegible]

PROJECT ID: 24-130112-002
DATE: Thu, Apr 04, 2024

[illegible]

2022 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 7000 BREVARD COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.93 PSCF
1	01/01/2022 - 01/01/2022	1.03	1.11
2	01/02/2022 - 01/08/2022	1.02	1.10
3	01/09/2022 - 01/15/2022	1.01	1.09
4	01/16/2022 - 01/22/2022	0.99	1.06
5	01/23/2022 - 01/29/2022	0.98	1.05
* 6	01/30/2022 - 02/05/2022	0.96	1.03
* 7	02/06/2022 - 02/12/2022	0.94	1.01
* 8	02/13/2022 - 02/19/2022	0.92	0.99
* 9	02/20/2022 - 02/26/2022	0.92	0.99
*10	02/27/2022 - 03/05/2022	0.91	0.98
*11	03/06/2022 - 03/12/2022	0.91	0.98
*12	03/13/2022 - 03/19/2022	0.90	0.97
*13	03/20/2022 - 03/26/2022	0.91	0.98
*14	03/27/2022 - 04/02/2022	0.92	0.99
*15	04/03/2022 - 04/09/2022	0.93	1.00
*16	04/10/2022 - 04/16/2022	0.94	1.01
*17	04/17/2022 - 04/23/2022	0.95	1.02
*18	04/24/2022 - 04/30/2022	0.96	1.03
19	05/01/2022 - 05/07/2022	0.97	1.04
20	05/08/2022 - 05/14/2022	0.98	1.05
21	05/15/2022 - 05/21/2022	0.99	1.06
22	05/22/2022 - 05/28/2022	1.00	1.08
23	05/29/2022 - 06/04/2022	1.02	1.10
24	06/05/2022 - 06/11/2022	1.04	1.12
25	06/12/2022 - 06/18/2022	1.05	1.13
26	06/19/2022 - 06/25/2022	1.05	1.13
27	06/26/2022 - 07/02/2022	1.05	1.13
28	07/03/2022 - 07/09/2022	1.05	1.13
29	07/10/2022 - 07/16/2022	1.05	1.13
30	07/17/2022 - 07/23/2022	1.04	1.12
31	07/24/2022 - 07/30/2022	1.04	1.12
32	07/31/2022 - 08/06/2022	1.04	1.12
33	08/07/2022 - 08/13/2022	1.04	1.12
34	08/14/2022 - 08/20/2022	1.04	1.12
35	08/21/2022 - 08/27/2022	1.05	1.13
36	08/28/2022 - 09/03/2022	1.06	1.14
37	09/04/2022 - 09/10/2022	1.07	1.15
38	09/11/2022 - 09/17/2022	1.08	1.16
39	09/18/2022 - 09/24/2022	1.06	1.14
40	09/25/2022 - 10/01/2022	1.04	1.12
41	10/02/2022 - 10/08/2022	1.02	1.10
42	10/09/2022 - 10/15/2022	1.00	1.08
43	10/16/2022 - 10/22/2022	1.02	1.10
44	10/23/2022 - 10/29/2022	1.03	1.11
45	10/30/2022 - 11/05/2022	1.04	1.12
46	11/06/2022 - 11/12/2022	1.05	1.13
47	11/13/2022 - 11/19/2022	1.06	1.14
48	11/20/2022 - 11/26/2022	1.05	1.13
49	11/27/2022 - 12/03/2022	1.05	1.13
50	12/04/2022 - 12/10/2022	1.04	1.12
51	12/11/2022 - 12/17/2022	1.03	1.11
52	12/18/2022 - 12/24/2022	1.02	1.10
53	12/25/2022 - 12/31/2022	1.01	1.09

* PEAK SEASON

23-FEB-2023 09:11:22

830UPD

5_7000_PKSEASON.TXT

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2022 HISTORICAL AADT REPORT

COUNTY: 70 - BREVARD

SITE: 0379 - ON SR-514, 0.463 MI. E OF SR-507 (UVL)

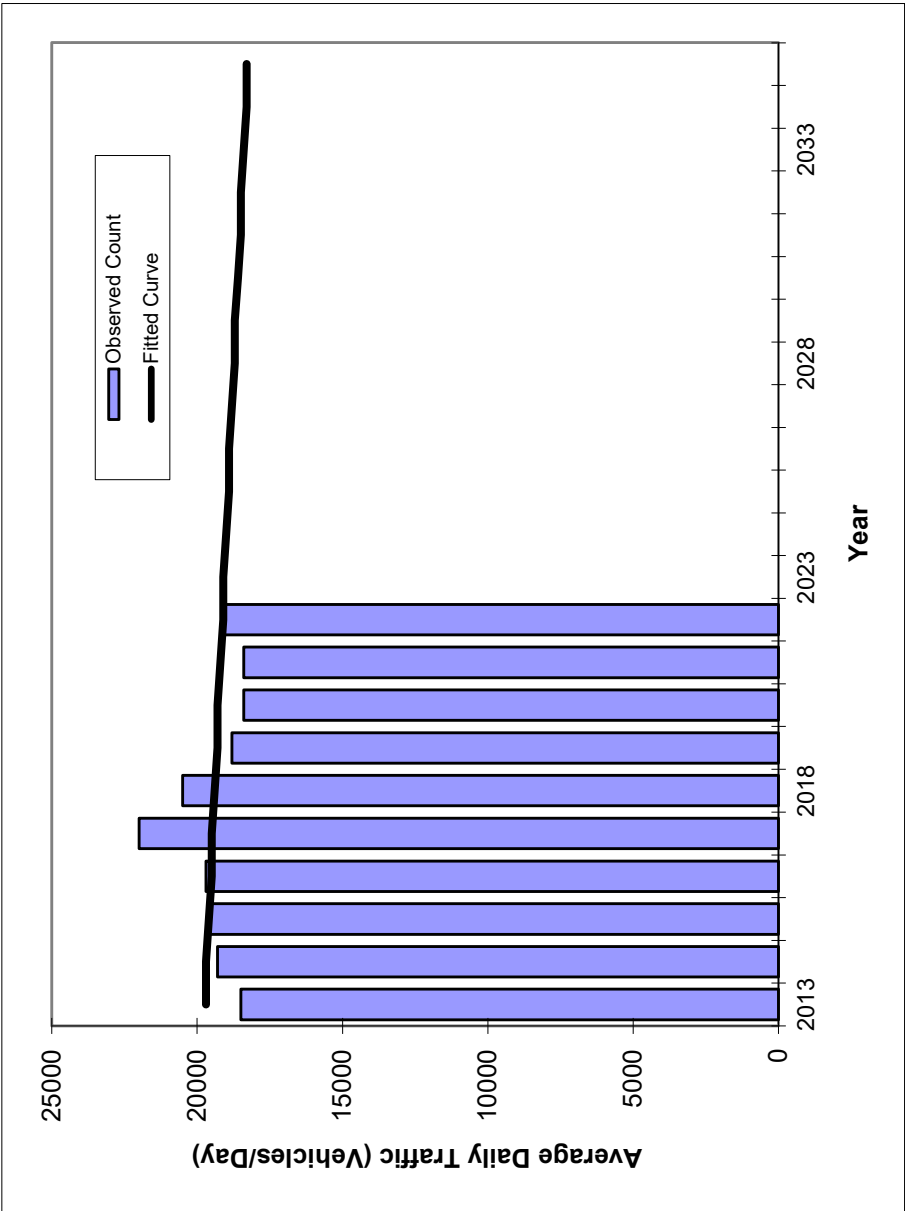
YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----	-----	-----	-----	-----	-----
2022	19100 C	E 8100	W 11000	9.00	53.90	4.80
2021	18400 S	E 8900	W 9500	9.00	54.30	10.90
2020	18400 F	E 8900	W 9500	9.00	55.00	10.90
2019	18800 C	E 9100	W 9700	9.00	54.70	10.90
2018	20500 C	E 10000	W 10500	9.00	54.10	13.80
2017	22000 C	E 10500	W 11500	9.00	54.30	8.00
2016	19700 C	E 9700	W 10000	9.00	53.40	11.20
2015	19600 C	E 9100	W 10500	9.00	53.80	5.70
2014	19300 C	E 9500	W 9800	9.00	53.80	6.50
2013	18500 C	E 9000	W 9500	9.00	54.20	6.70
2012	17000 C	E 7200	W 9800	9.00	53.60	7.30
2011	17200 C	E 7600	W 9600	9.00	54.30	5.40
2010	17000 C	E 7300	W 9700	10.91	56.02	5.40
2009	17600 C	E 8500	W 9100	11.80	61.02	5.60
2008	18600 C	E 8100	W 10500	11.37	57.79	6.30
2007	17200 C	E 7400	W 9800	10.03	55.54	7.10

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 - V03.a
Malabar Road, East of Babcock --

FIN#	
Location	

County:	70-0379
Station #:	Malabar Road, East of Babcock
Highway:	



** Annual Trend Increase:	-67
Trend R-squared:	3.29%
Trend Annual Historic Growth Rate:	-0.34%
Trend Growth Rate (2022 to Design Year):	-0.26%
Printed:	15-Apr-24
Straight Line Growth Option	

Year	Traffic (ADT/AADT)	
	Count*	Trend**
2013	18500	19700
2014	19300	19700
2015	19600	19600
2016	19700	19500
2017	22000	19500
2018	20500	19400
2019	18800	19300
2020	18400	19300
2021	18400	19200
2022	19100	19100
2024 Opening Year Trend		
2024	N/A	19000
2025 Mid-Year Trend		
2025	N/A	18900
2026 Design Year Trend		
2026	N/A	18900
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

Malabar Road at Project Driveway

AM Peak Hour

Existing TMCs

	Eastbound				Westbound				Northbound				Southbound			
	U	T (left)	T (right)	R	U	L	T	R	U	L	T	R	U	L	T	R
Existing Count	0	80	955	0	0	0	0	0	0	0	0	0	0	0	0	0
Date of Count	4/4/2024				SF = 0.93 (use 1.0)				1.00							
Adjusted Count	0	80	955	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes - T (left) is the volume in the leftmost thru lane and T (right) is the volume in the rightmost thru lane. Volume in T (left) equals the EB-to-WB u-turn volume. An additional 5% was assumed to be in the this lane and weaves over after the driveway. T (right) 955 - 32 u-turns - 5% x 955 = 955 - 80 = 875

	West Leg				East Leg				South Leg				North Leg			
	EB: 1.035 WB: 0				EB: 955 WB: 0				NB: 0 SB: 0				NB: 80 SB: 0			
Existing Approach & Departure Volumes																
Directional Factors Based on Existing Counts	EB: 1.00 WB: 0.00				EB: 1.00 WB: 0.00				NB: #DIV/0! SB: #DIV/0!				NB: 1.00 SB: 0.00			

Future Background Year 2025

Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Simple Volume Growth	0	2	19	0	0	0	0	0	0	0	0	0	0	0	0	0
Applied Bckgmd Growth	0	2	19	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Bckgmd Pk-Hr Vols	0	82	974	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Trips

	Eastbound				Westbound				Northbound				Southbound			
	U	T (left)	T (right)	R	U	L	T	R	U	L	T	R	U	L	T	R
New Ext Inbound Volume	0.0%	0.0%	0.0%	70.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
New Ext Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Inbound Volume	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
Pass-By Outbound Volume	0.0%	0.0%	-40.0%	75.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Outbound Volume	0	0	-34	65	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Outbound Volume	0	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0
Total Project Trips	0	0	-34	84	0	0	0	0	0	0	0	50	0	0	0	0

	Eastbound				Westbound				Northbound				Southbound			
	U	T (left)	T (right)	R	U	L	T	R	U	L	T	R	U	L	T	R
Total Pk-Hr Volumes	0	82	940	84	0	0	0	0	0	0	0	50	0	0	0	0

Malabar Road at Project Driveway

PM Peak Hour

Existing TMCs

	Eastbound				Westbound				Northbound				Southbound			
	U	T (left)	T (right)	R	U	L	T	R	U	L	T	R	U	L	T	R
Existing Count	0	59	686	0	0	0	0	0	0	0	0	0	0	0	0	0
Date of Count	4/4/2024				SF = 0.93 (use 1.0)				1.00							
Adjusted Count	0	59	686	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes - T (left) is the volume in the leftmost thru lane and T (right) is the volume in the rightmost thru lane. Volume in T (left) equals the EB-to-WB u-turn volume. An additional 5% was assumed to be in the this lane and weaves over after the driveway. T (right) 745 - 22 u-turns (from 4-5 PM) - 5% x 745 = 745 - 59 = 686

	West Leg				East Leg				South Leg				North Leg			
	EB: 745 WB: 0				EB: 686 WB: 0				NB: 0 SB: 0				NB: 59 SB: 0			
Existing Approach & Departure Volumes																
Directional Factors Based on Existing Counts	EB: 1.00 WB: 0.00				EB: 1.00 WB: 0.00				NB: #DIV/0! SB: #DIV/0!				NB: 1.00 SB: 0.00			

Future Background Year 2025

Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Simple Volume Growth	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0
Applied Bckgmd Growth	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Bckgmd Pk-Hr Vols	0	60	700	0	0	0	0	0	0	0	0	0	0	0	0	0



Project Trips

	Eastbound				Westbound				Northbound				Southbound			
	U	T (left)	T (right)	R	U	L	T	R	U	L	T	R	U	L	T	R
New Ext Inbound Volume	0.0%	0.0%	0.0%	70.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
New Ext Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Inbound Volume	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
Pass-By Outbound Volume	0.0%	0.0%	-40.0%	75.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	0	0	-33	62	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%
	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	0
Total Project Trips	0	0	-33	81	0	0	0	0	0	0	0	48	0	0	0	0

	Eastbound				Westbound				Northbound				Southbound			
	U	T (left)	T (right)	R	U	L	T	R	U	L	T	R	U	L	T	R
Total Pk-Hr Volumes	0	60	667	81	0	0	0	0	0	0	0	48	0	0	0	0

HCM 6th TWSC
4: Driveway #1 & Malabar Rd

04/15/2024

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	940	84	0	0	0	50
Future Vol, veh/h	940	84	0	0	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	2	2	2	2	2
Mvmt Flow	989	88	0	0	0	53
Major/Minor	Major1		Minor1			
Conflicting Flow All	0	0	-	-	-	1033
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	-	-	0	282
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	282
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB			NB		
HCM Control Delay, s	0			20.7		
HCM LOS				C		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR			
Capacity (veh/h)	282	-	-			
HCM Lane V/C Ratio	0.187	-	-			
HCM Control Delay (s)	20.7	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	0.7	-	-			

HCM 6th TWSC
4: Driveway #1 & Malabar Rd

04/15/2024



Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	667	81	0	0	0	48
Future Vol, veh/h	667	81	0	0	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	84	84	84	84	84
Heavy Vehicles, %	3	2	2	2	2	2
Mvmt Flow	758	96	0	0	0	57
Major/Minor	Major1		Minor1			
Conflicting Flow All	0	0	-	-	-	806
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	-	-	0	382
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	382
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		NB			
HCM Control Delay, s	0				16.1	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR			
Capacity (veh/h)	382	-	-			
HCM Lane V/C Ratio	0.15	-	-			
HCM Control Delay (s)	16.1	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	0.5	-	-			

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

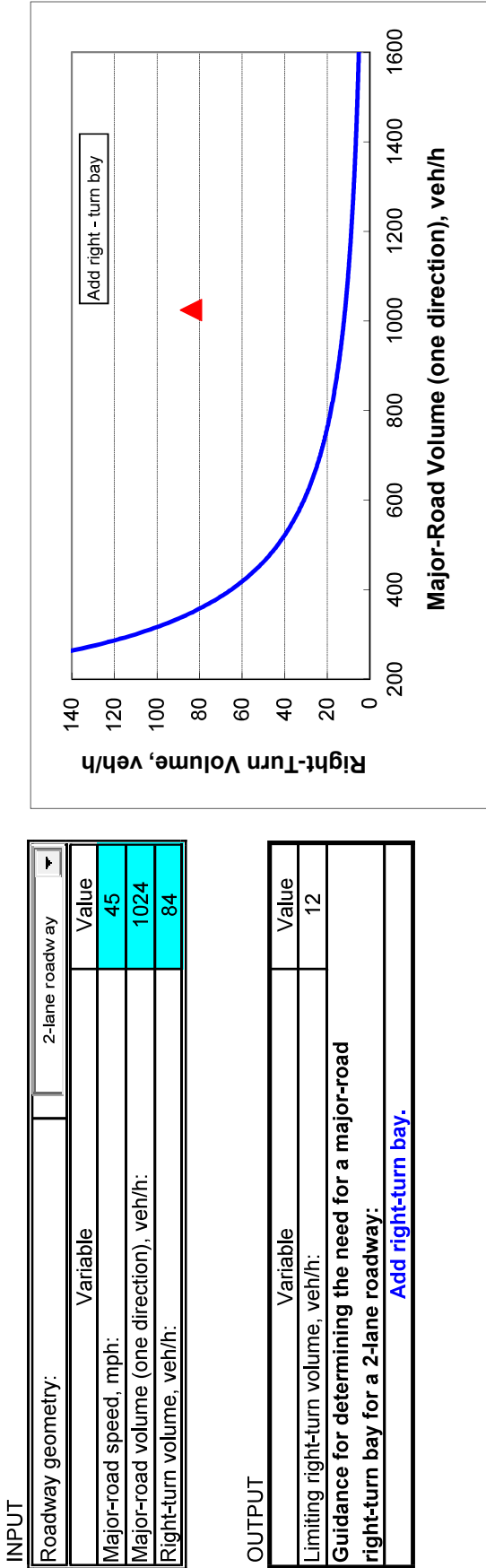


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:		2-lane roadway
Variable		Value
Major-road speed, mph:		45
Major-road volume (one direction), veh/h:		748
Right-turn volume, veh/h:		81

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	21
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

