



■ **TRAFFIC IMPACT ANALYSIS**

# CR 484 AT MARION OAKS COURSE SUNSTOP

MARION COUNTY, FLORIDA

SEPTEMBER 2024

PREPARED BY:

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DEBARY, FLORIDA 32713

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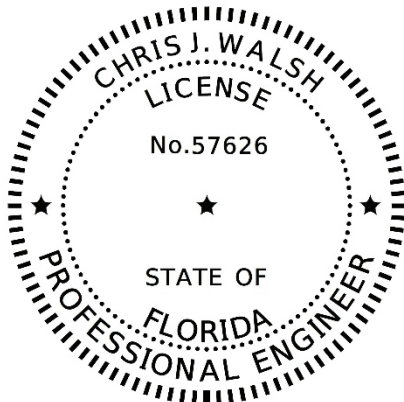
**SEPTEMBER 2024**

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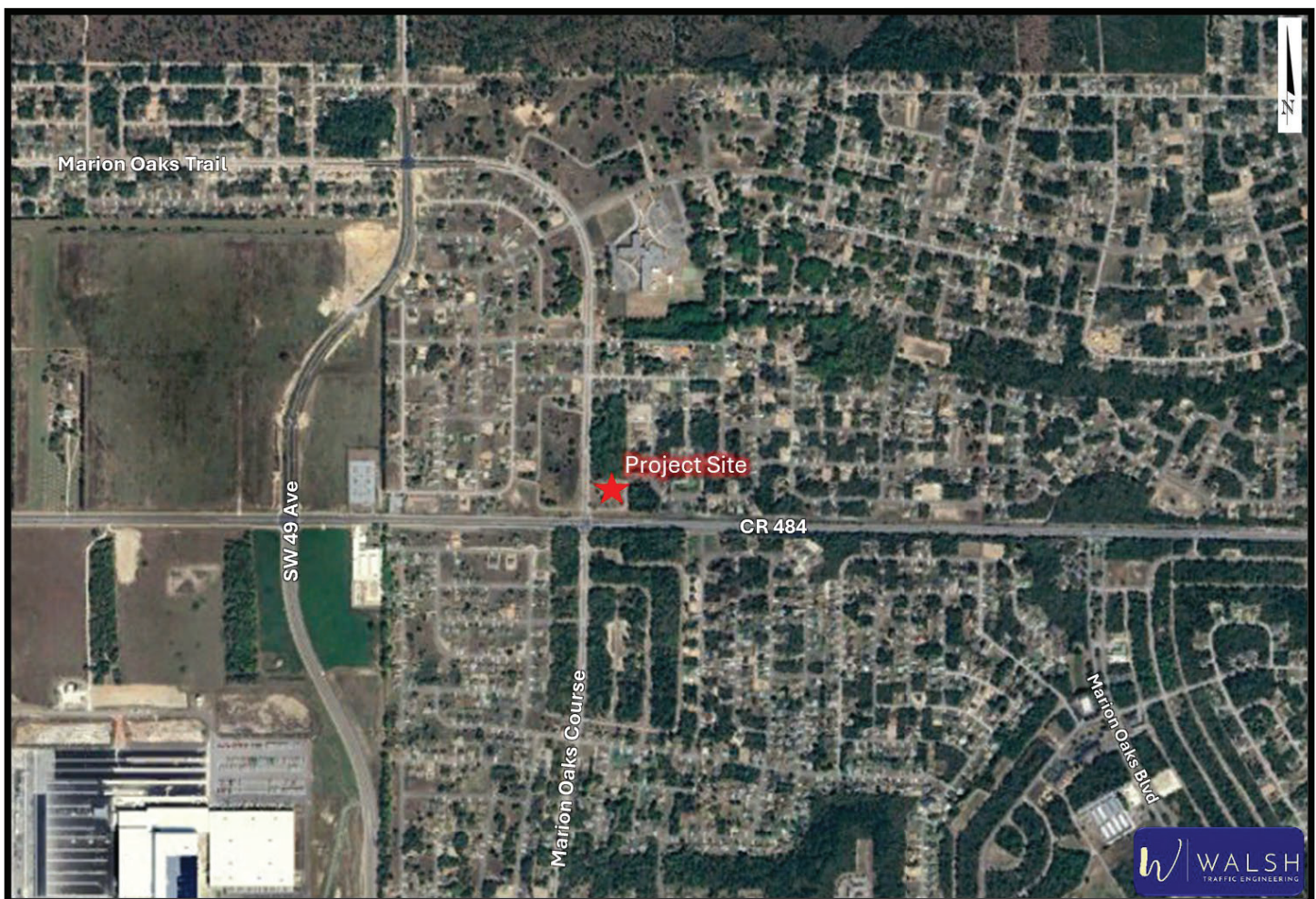
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## INTRODUCTION

Walsh Traffic Engineering, LLC (Walsh Traffic) has been retained to conduct a traffic impact analysis for the proposed SunStop convenience store/gas station to be located in the northeast quadrant of the CR 484/Marion Oaks Course intersection in Marion County, Florida (see *Figure 1*). The property is currently vacant. For the purposes of this analysis, the development includes a 5,400 square-foot convenience store with gas pumps, providing 20 vehicle fueling positions. The development is proposed to be built out by year 2025. A copy of the preliminary development plan is provided in *Appendix A*.

Figure 1 - Site Location Map



## Project Access

Access to the development will be provided via a right-in/right-out driveway on CR 484, approximately 350 feet east of Marion Oaks Course. Additionally, a southbound directional access (prohibiting westbound left turns out of the development) is proposed on Marion Oaks Course, approximately 350 feet north of CR 484. As a part of the development, it is proposed to close the existing median opening on Marion Oaks Course, located approximately 600 feet north of CR 484. This closure is intended to deter motorists exiting the site from going north on Marion Oaks Course and then performing a northbound-to-southbound u-turn at this location. There is another median opening on Marion Oaks Course located at SW 132<sup>nd</sup> Place, approximately ¼-mile north of CR 484. However, use of this median opening to perform a northbound-to-southbound u-turn means motorists from the development would need to travel approximately a ½-mile out of their way (travel ¼-mile north, u-turn, then travel ¼-mile south to CR 484). As a result, all motorists leaving the proposed development to travel west or east on CR 484 or travel south on Marion Oaks Course would be expected to use the CR 484 driveway and make the associated u turn, left turn, or continue westbound through at the CR 484/Marion Oaks Course intersection.

## Study Area

Per the Marion County Traffic Impact Analysis Guidelines, based on a development projected to generate over 100 net new trips, the study area will include all roadways where the net new traffic from the project is at least 3% of the maximum service volume, plus one segment beyond. The study area, as included in the approved methodology (see *Appendix B*), is summarized below:

### ***Study Roadway Segments***

- CR 484 from SW 57th Ave to Marion Oaks Course
- CR 484 from Marion Oaks Course to Marion Oaks Blvd
- Marion Oaks Course from Marion Oaks Manor to Marion Oaks Ln
- Marion Oaks Course from Marion Oaks Ln to CR 484
- Marion Oaks Course from CR 484 to SW 49th Ave Rd
- Marion Oaks Lane from Marion Oaks Course to Marion Oaks Blvd
- Marion Oaks Trail from CR 484 to SW 49th Ave Rd
- SW 49th Avenue Road from Marion Oaks Trl to SW 103rd St Rd
- SW 49th Avenue Road from SW 103rd St Rd to SW 95thth St
- SW 103rd Street Road from SR 200 to SW 49th Ave Rd

### ***Study Intersections***

- CR 484 at Marion Oaks Course
- CR 484 at Project Driveway
- Marion Oaks Course at Project Driveway
- Marion Oaks Course at SW 132nd Place
- Marion Oaks Trail at SW 49th Avenue Road

# EXISTING CONDITIONS

## Existing Volumes

For purposes of this study, AM and PM peak-period turning movement counts, from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, were conducted at the study intersections. The seasonal factor from FDOT's Peak Season Factor Category Report for Marion County (2023) was then applied to the existing turning movement volumes. *Figure 2* and *Figure 3* summarize the existing AM and PM peak-hour turning movement volumes at the study intersections. Printouts of the traffic counts are provided in *Appendix C*.

## Existing Roadway Segment Conditions

Daily volumes for the study roadway segments were obtained from the Ocala Marion TPO *Congestion Management Process 2023 State of the System Report*, where available. For Marion Oaks Course from Marion Oaks Manor to CR 484 and Marion Oaks Trail from CR 484 to SW 49<sup>th</sup> Avenue Road, the existing daily volumes were obtained from the TPO's *2023 Traffic Counts Report*. Traffic data was not available for Marion Oaks Lane from Marion Oaks Course to Marion Oaks Boulevard. However, recognizing that Marion Oaks Lane effectively feeds into Marion Oaks Course, such that the volume on Marion Oaks Course would be expected to be higher than that on Marion Oaks Lane, the volume on Marion Oaks Course was to provide a conservatively high estimate of the volume on Marion Oaks Lane.

The existing PM peak-hour volumes on the roadway segments were obtained from the turning movement counts. The only exceptions were the study segments of SW 103<sup>rd</sup> Street Road and Marion Oaks Lane where the peak-hour directional volumes were calculated by applying a standard K-factor of 0.09 and standard D-factor of 0.55 to the daily volumes. A table summarizing the source of each traffic count is provided in *Appendix C*.

*Table 1* and *2* show the resulting roadway segment volumes as compared to each roadway's generalized service volume. As shown, the existing volumes for all the study roadway segments are below the generalized service volume with the exception of the two segments of SW 49<sup>th</sup> Avenue Road. The existing volumes on these two segments are more than 15% above the service volume. Therefore, SW 49<sup>th</sup> Avenue Road from Marion Oaks Trail to SW 95<sup>th</sup> Street requires four-laning to accommodate the existing traffic volumes.

Table 1 - Existing Roadway Segment Operating Conditions (Daily)

Roadway Segment	ID	# of Lanes	Adopted LOS	Service Volume (vpd)	Existing Volume (vpd)	Existing Volume Exceeds Svc Vol?
<b>CR 484</b>						
SW 57th Ave to Marion Oaks Course	2030	4	E	35,820	8,000	no
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	35,820	33,000	no
<b>Marion Oaks Course</b>						
Marion Oaks Manor to Marion Oaks Ln	-	2	E	15,930	7,600	no
Marion Oaks Ln to CR 484	-	2	E	15,930	7,600	no
CR 484 to SW 49th Ave Rd	6090	2	E	15,930	12,900	no
<b>SW 49th Ave Road</b>						
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	12,744	15,200	yes
SW 103rd St to SW 95th St	6100	2	E	12,744	15,200	yes
<b>SW 103rd St Road</b>						
SR 200 to SW 49th Ave Rd	5550	2	E	15,930	11,800	no
<b>Marion Oaks Trail</b>						
CR 484 to SW 49th Ave Rd	8150	2	E	15,930	1,800	no
<b>Marion Oaks Lane</b>						
Marion Oaks Course to Marion Oaks Blvd	-	2	E	16,727	7,600	no

Table 2 - Existing Roadway Segment Operating Conditions (PM Peak Hour)

Roadway Segment	ID	# of Lanes	Adopted LOS	Service Volume (vph)	Existing Volume (vph)		Volume Exceeds Svc Vol?	
					NB/EB	SB/WB	NB/EB	SB/WB
<b>CR 484</b>								
SW 57th Ave to Marion Oaks Course	2030	4	E	1,800	662	627	no	no
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	1,800	913	1,116	no	no
<b>Marion Oaks Course</b>								
Marion Oaks Manor to Marion Oaks Ln	-	2	E	792	247	437	no	no
Marion Oaks Ln to CR 484	-	2	E	792	365	647	no	no
CR 484 to SW 49th Ave Rd	6090	2	E	792	616	657	no	no
<b>SW 49th Ave Road</b>								
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	634	756	877	yes	yes
SW 103rd St to SW 95th St	6100	2	E	634	756	877	yes	yes
<b>SW 103rd St Road</b>								
SR 200 to SW 49th Ave Rd	5550	2	E	634	584	478	no	no
<b>Marion Oaks Trail</b>								
CR 484 to SW 49th Ave Rd	8150	2	E	792	173	229	no	no
<b>Marion Oaks Lane</b>								
Marion Oaks Course to Marion Oaks Blvd	-	2	E	792	376	308	no	no

Figure 2 - Existing AM Peak-Hour Intersection Traffic Volumes

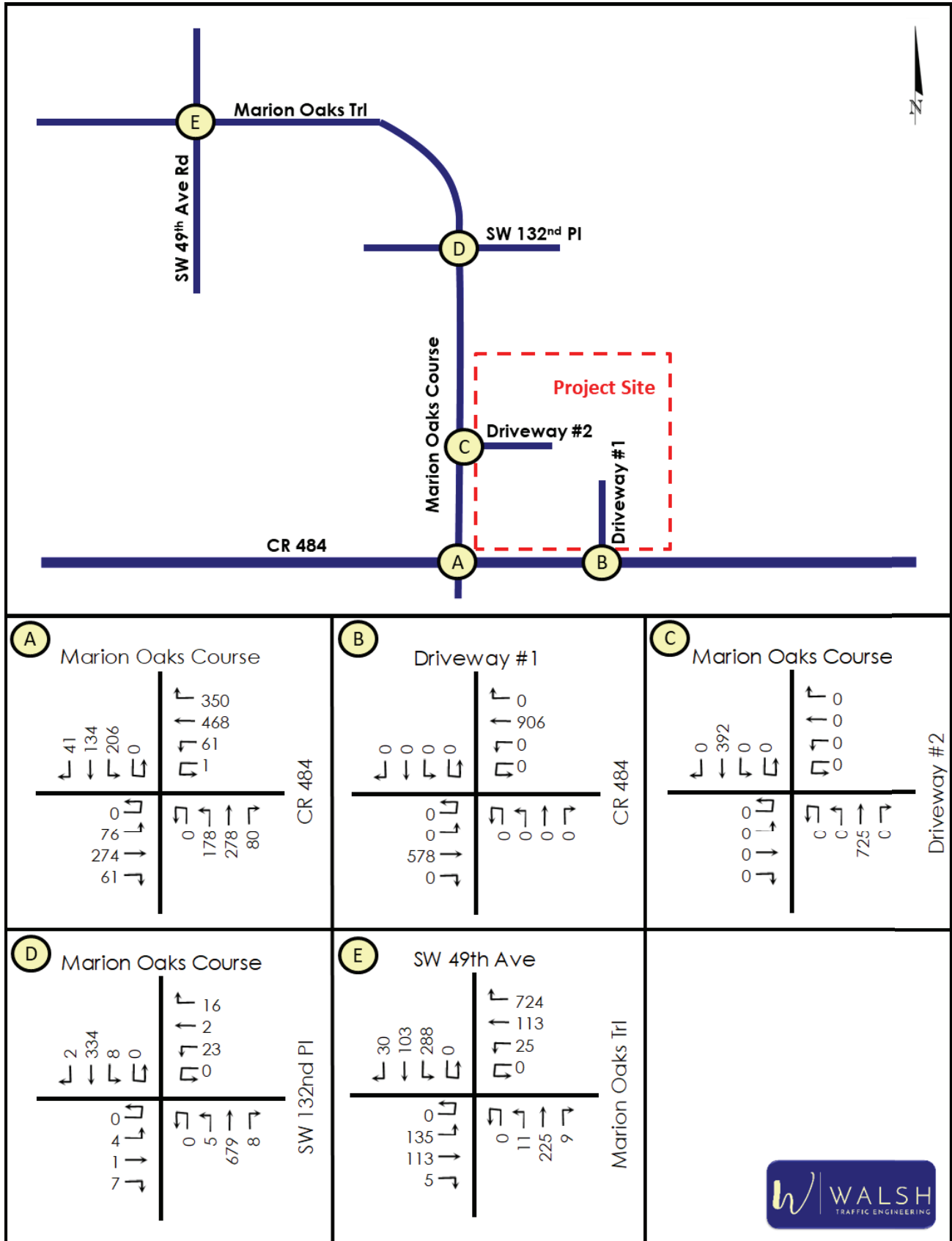
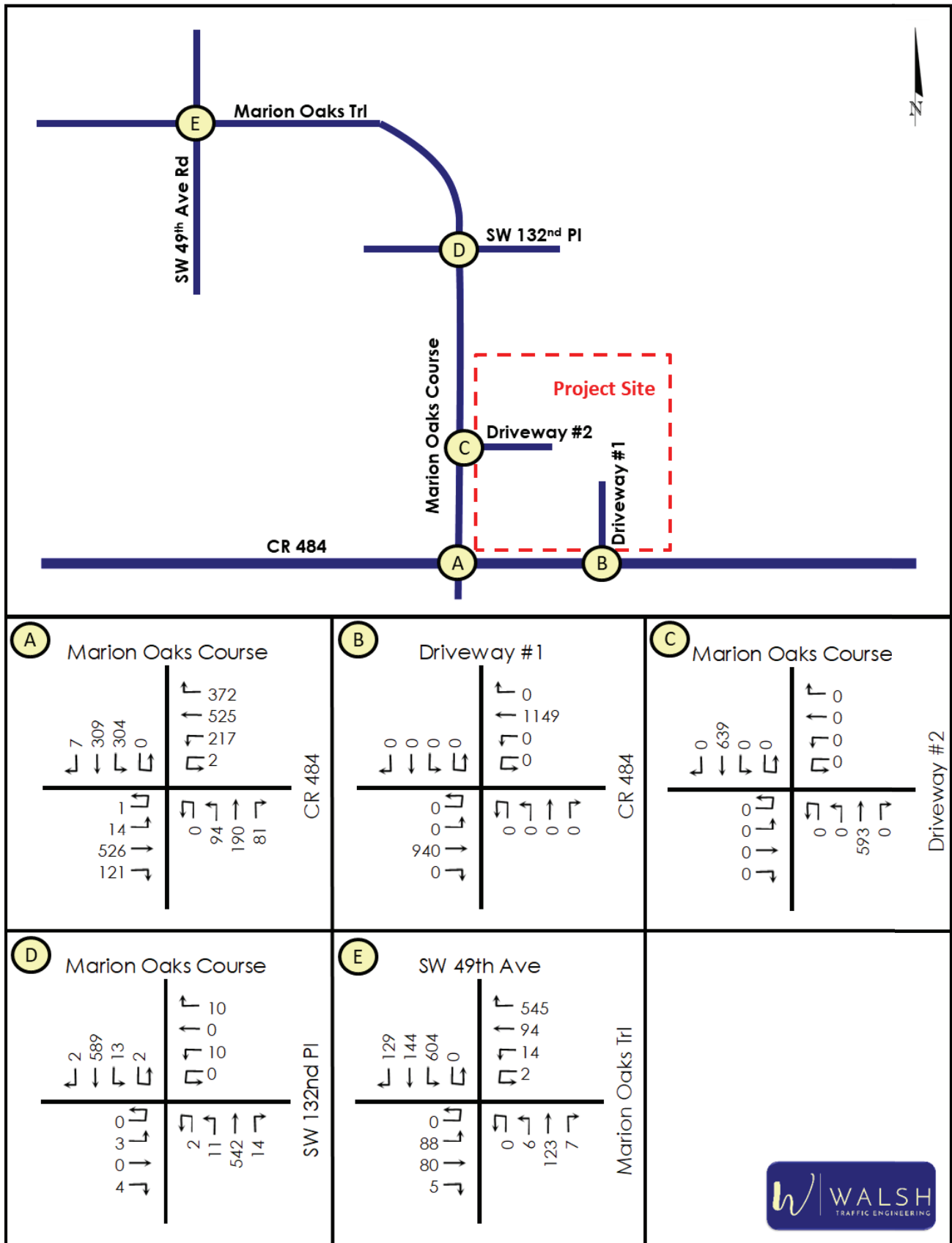


Figure 3 - Existing PM Peak-Hour *Intersection* Traffic Volumes







## Existing Intersection Conditions

The AM and PM peak-hour existing operating conditions of the study intersections were evaluated using *Highway Capacity Manual (HCM)* methodologies within the Synchro 11 software. The existing AM and PM peak-hour turning movement volumes, existing roadway geometry, and existing signal timings (where applicable) were utilized in the analyses. **Table 3** summarizes the results of the intersection operational analyses. Based on the analyses, both the eastbound and westbound approaches at the STOP-controlled intersection of Marion Oaks Course at SW 132<sup>nd</sup> Place currently operate at level of service (LOS) C or better with the movements operating at a volume-to-capacity (v/c) ratio of 0.132 or better.

The CR 484 at Marion Oaks Course signalized intersection currently operates at LOS D with all movements having v/c ratios below 1.0. The Marion Oaks Trail at SW 49<sup>th</sup> Avenue Road intersection operates at LOS F in the AM peak hour and LOS D in the PM peak hour. This AM deficiency is driven by the heavy westbound right-turn movement which has a v/c ratio of 1.69. As shown below, the intersection would operate acceptably with dual westbound right-turn lanes. Printouts of the operational analyses are provided in *Appendix D*.

**Table 3 - Existing Intersection Operating Conditions**

Intersection	Control	Measure of Effectiveness	AM Peak Hour					PM Peak Hour				
			EB App	WB App	NB App	SB App	Overall Intxn	EB App	WB App	NB App	SB App	Overall Intxn
CR 484 at Marion Oaks Course		Delay (sec/veh)	28.3	40.6	58.6	42.2	43.0	38.8	35.4	64.1	52.8	43.9
		LOS	C	D	E	D	D	D	D	E	D	D
		Highest V/C	0.3	0.72	0.92	0.79	-	0.56	0.68	0.9	0.9	-
Marion Oaks Course at SW 132nd Pl		Delay (sec/veh)	13.5	17.4	-	-	-	15.3	16.0	-	-	-
		LOS	B	C	-	-	-	C	C	-	-	-
		Highest V/C	0.03	0.132	-	-	-	0.021	0.061	-	-	-
Marion Oaks Trail at SW 49th Ave Rd (Existing Geom)		Delay (sec/veh)	47.6	324.5	29.5	19.7	172.6	53.1	72.6	33.8	22.5	44.0
		LOS	D	F	C	B	F	D	E	C	C	D
		Highest V/C	0.56	1.69	0.32	0.5	-	0.39	0.95	0.18	0.76	-
Marion Oaks Trail at SW 49th Ave Rd (w/ dual WBR)		Delay (sec/veh)	47.6	72.9	29.5	19.7	50.8	53.3	43.4	33.6	22.2	33.5
		LOS	D	D	C	B	D	D	D	C	C	C
		Highest V/C	0.56	0.96	0.32	0.5	-	0.39	0.54	0.18	0.76	-

## FUTURE CONDITIONS (YEAR 2025)

As previously conveyed, the proposed development will have a buildout date of 2025.

### Committed Roadway Improvements

Improvements programmed for construction within the study area within the next three years within FDOT's Work Program and Marion County's Capital Improvements Programs, and the Ocala Marion TPO's Transportation Improvement Program are considered committed for this study. However, no specific improvements were identified/included within the study area.

### Future Background Conditions (Year 2025)

#### ROADWAY SEGMENTS

Future background traffic is the non-project-related traffic projected to utilize the study roadways and intersections. For the purposes of this analysis, the future background traffic was estimated by factoring up the existing volumes by "Applied Annual Growth Rates" included in the approved methodology.

*Table 4* and *Table 5* show the resulting future background Daily and PM peak-hour volumes on the study roadway segments. These tables also demonstrate that the future (year 2025) background volumes are projected to be below the generalized service volumes with the exception of the two segments of SW 49<sup>th</sup> Avenue Road. Similar to the existing conditions, these two segments of SW 49<sup>th</sup> Avenue Road from Marion Oaks Trail to SW 95<sup>th</sup> Street require four-laning to accommodate the future background traffic volumes.

**Table 4 - Future (Year 2025) Background Volumes for Roadway Segments (Daily)**

Roadway Segment	ID	# of Lanes	Adopted LOS	Historical Annual Growth Rate	Applied Annual Growth Rate	Existing Volume (vpd)	Existing Year	Buildout Year	Applied Volume Growth	Total Background Vol. (vpd)	Service Volume (vpd)	Volume Exceeds Svc Vol?
<b>CR 484</b>												
SW 57th Ave to Marion Oaks Course	2030	4	E	1.8%	2.0%	8,000	2023	2025	320	8,320	35,820	no
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	1.8%	2.0%	33,000	2023	2025	1,320	34,320	35,820	no
<b>Marion Oaks Course</b>												
Marion Oaks Manor to Marion Oaks Ln	-	2	E	3.4%	3.4%	7,600	2022	2025	775	8,375	15,930	no
Marion Oaks Ln to CR 484	-	2	E	3.4%	3.4%	7,600	2022	2025	775	8,375	15,930	no
CR 484 to SW 49th Ave Rd	6090	2	E	4.7%	4.7%	12,900	2023	2025	1,213	14,113	15,930	no
<b>SW 49th Ave Road</b>												
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	-	5.0%	15,200	2023	2025	1,520	16,720	12,744	yes
SW 103rd St to SW 95th St	6100	2	E	6.7%	6.7%	15,200	2023	2025	2,037	17,237	12,744	yes
<b>SW 103rd St Road</b>												
SR 200 to SW 49th Ave Rd	5550	2	E	-1.2%	1.0%	11,800	2023	2025	236	12,036	15,930	no
<b>Marion Oaks Trail</b>												
CR 484 to SW 49th Ave Rd	8150	2	E	3.0%	3.0%	1,800	2022	2025	162	1,962	15,930	no
<b>Marion Oaks Lane</b>												
Marion Oaks Course to Marion Oaks Blvd	-	2	E	-	1.0%	7,600	2022	2025	228	7,828	16,727	no

Table 5 - Future (Year 2025) Background Volumes for Roadway Segments (PM Peak Hour)

Roadway Segment	ID	# of Lanes	Adopted LOS	Historical Annual Growth Rate	Applied Annual Growth Rate	Existing Volume (vph)			Buildout Year	Applied Growth		Total Background Vol. (vph)		Service Volume (vph)	Volume Exceeds Svc Vol?	
						NB/EB	SB/WB	Year		NB/EB	SB/WB	NB/EB	SB/WB		NB/EB	SB/WB
<b>CR 484</b>																
SW 57th Ave to Marion Oaks Course	2030	4	E	1.8%	2.0%	662	627	2024	2025	13	13	675	640	1,800	no	no
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	1.8%	2.0%	913	1,116	2024	2025	18	22	931	1,138	1,800	no	no
<b>Marion Oaks Course</b>																
Marion Oaks Manor to Marion Oaks Ln	-	2	E	3.4%	3.4%	247	437	2024	2025	8	15	255	452	792	no	no
Marion Oaks Ln to CR 484	-	2	E	3.4%	3.4%	365	647	2024	2025	12	22	377	669	792	no	no
CR 484 to SW 49th Ave Rd	6090	2	E	4.7%	4.7%	616	657	2024	2025	29	31	645	688	792	no	no
<b>SW 49th Ave Road</b>																
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	-	5.0%	756	877	2024	2025	38	44	794	921	634	yes	yes
SW 103rd St to SW 95th St	6100	2	E	6.7%	6.7%	756	877	2024	2025	51	59	807	936	634	yes	yes
<b>SW 103rd St Road</b>																
SR 200 to SW 49th Ave Rd	5550	2	E	-1.2%	1.0%	584	478	2023	2025	12	10	596	488	634	no	no
<b>Marion Oaks Trail</b>																
CR 484 to SW 49th Ave Rd	8150	2	E	3.0%	3.0%	173	229	2024	2025	5	7	178	236	792	no	no
<b>Marion Oaks Lane</b>																
Marion Oaks Course to Marion Oaks Blvd	-	2	E	-	1.0%	376	308	2022	2025	11	9	387	317	792	no	no

**INTERSECTIONS**

With regards to the future background turning movements, the existing turning movement volumes were factored up to year 2025 by the “Applied Annual Growth Rates” included in the approved methodology. The resulting future background AM and PM peak-hour turning movement volumes are provided in *Figure 4* and *Figure 5*. Turning movement worksheets for the study intersections are provided in *Appendix E*.

Figure 4 - Future Background AM Peak-Hour Intersection Traffic Volumes (Year 2025)

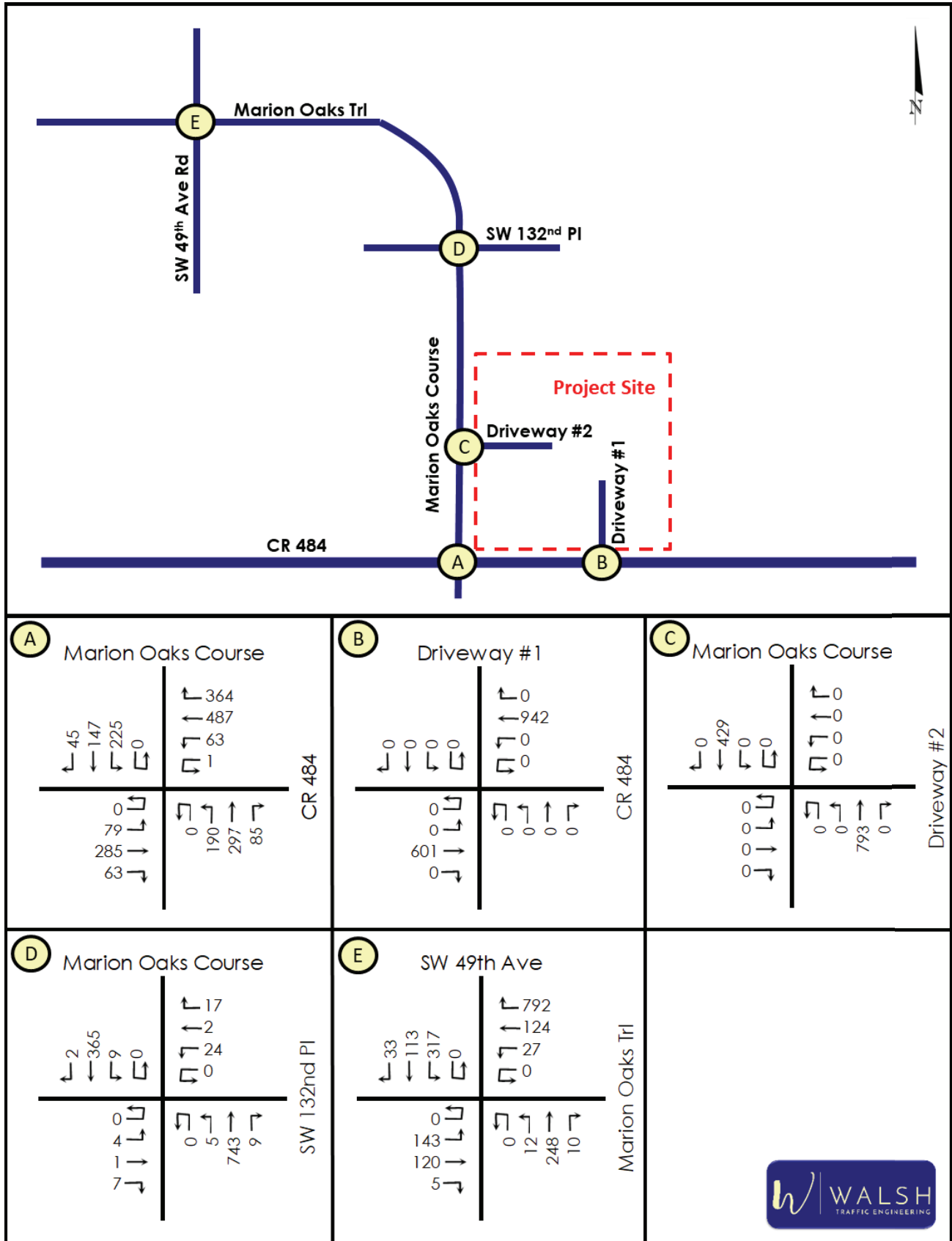
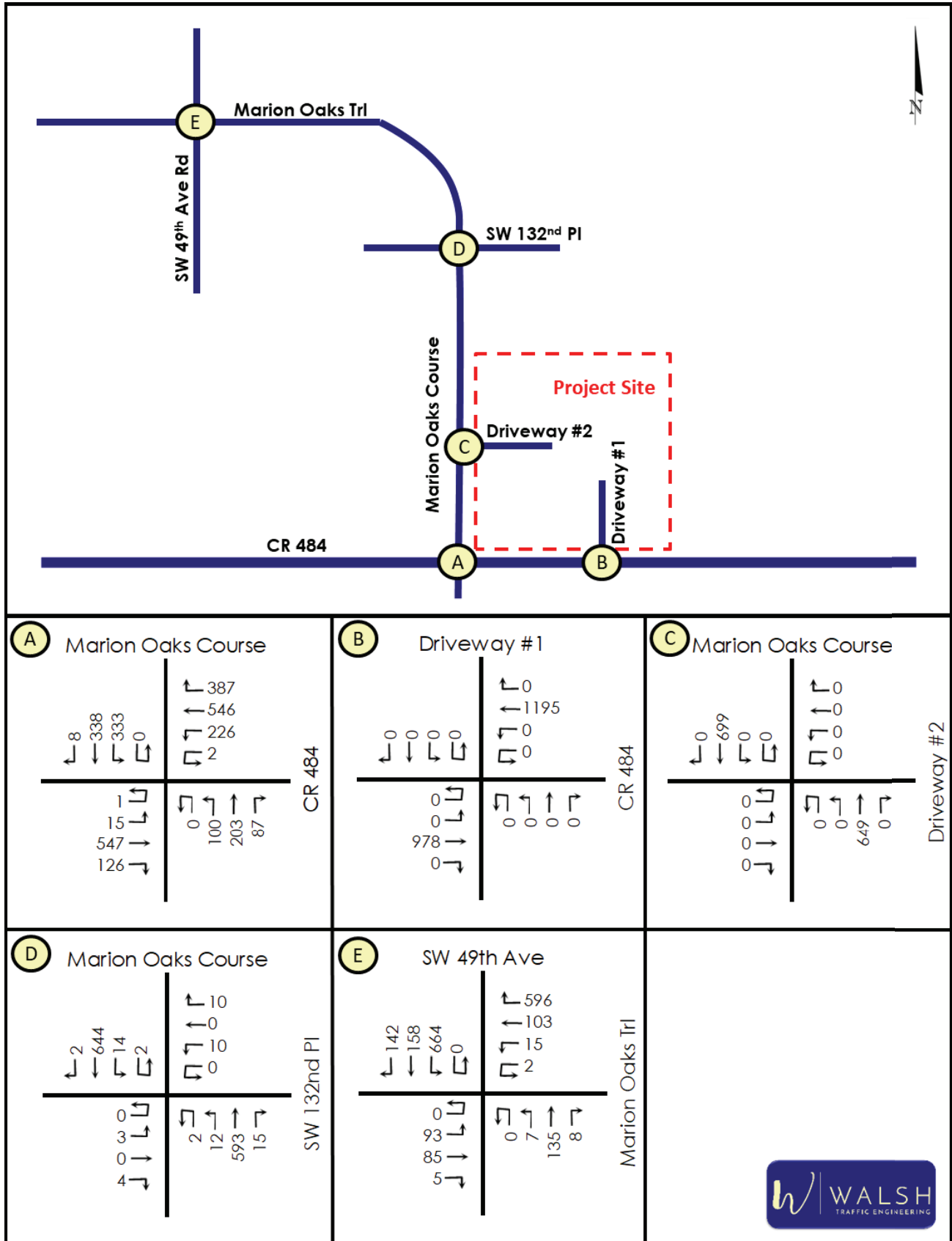


Figure 5 - Future Background PM Peak-Hour Intersection Traffic Volumes (Year 2025)



## Project Trips

### TRIP GENERATION

The total daily, AM peak-hour, and PM peak-hour trip generation potential for the proposed development is provided below based on trip generation equations/rates provided in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, 11th Edition* for Land Use Code (LUC) 945 (Convenience Store/Gas Station). As summarized in **Table 6** and as provided in the approved methodology, the proposed development is projected to generate 6,930 total daily trips, 493 total AM peak-hour trips (247 in, 246 out), and 426 PM peak-hour trips (213 in, 213 out).

**Table 6 – Total Trip Generation Projection for Proposed Development**

Land Use	ITE Land Use Code	Intensity	Daily		
			Total Trips		
			In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	3,465	3,465	6,930

Land Use	ITE Land Use Code	Intensity	AM Peak Hour		
			Total Trips		
			In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	247	246	493

Land Use	ITE Land Use Code	Intensity	PM Peak Hour		
			Total Trips		
			In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	213	213	426

Pass-by trips for the development were estimated based on ITE's pass-by rate of 75% for the AM peak hour and 76% for the PM peak hour. However, the resulting pass-by trips were limited to 10% of the future background traffic volumes on CR 484 and Marion Oaks Course, combined, adjacent to the development. The background volumes were obtained directly from the turning movement projections at the CR 484 at Marion Oaks Course intersection (includes the EB-L/T, WB-U/ L/T/ R, NB-T/R, SB-U, L, T, R). Based on **Table 7**, the proposed development is projected to generate 285 new external AM peak-hour trips (143 in and 142 out) and 157 new external PM peak-hour trips (78 in and 78 out). Relative to the daily trips, ITE does not provide daily pass-by rates. Recognizing that both the AM and PM peak-hour pass-by trips were limited to 10% of the volume on the adjacent street, daily pass-by trips were calculated by applying a standard K-factor of 0.09 to the PM peak-hour adjacent street volume of 2,694 vehicles (29,933 vpd).

**Table 7 – New External Trip Generation Projection for Proposed Development**

Land Use	ITE Land Use Code	Intensity	Daily															
			Total Trips			Calculated Pass-by Trips			Restricted Pass-by Trips			Applied Pass-By Trips			Net New External			
			In	Out	Total	%	In	Out	Total	%	Street Vol.	Total	In	Out	Total	In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	3,465	3,465	6,930	75.0%	2,599	2,599	5,198	10.0%	29,933	2,993	1,497	1,497	2,993	1,968	1,968	3,937

Land Use	ITE Land Use Code	Intensity	AM Peak Hour															
			Total Trips			ITE Pass-by Trips			Restricted Pass-by Trips			Applied Pass-By Trips			Net New External			
			In	Out	Total	%	In	Out	Total	%	Street Vol	Total	In	Out	Total	In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	247	246	493	76.0%	188	187	375	10.0%	2,079	208	104	104	208	143	142	285

Land Use	ITE Land Use Code	Intensity	PM Peak Hour															
			Total Trips			ITE Pass-by Trips			Restricted Pass-by Trips			Applied Pass-By Trips			Net New External			
			In	Out	Total	%	In	Out	Total	%	Street Vol	Total	In	Out	Total	In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	213	213	426	75.0%	160	160	320	10.0%	2,694	269	135	135	269	78	78	157

## TRIP DISTRIBUTION

The trip distribution pattern defines the primary corridors that will be traveled by the traffic generated by the project. As conveyed in the approved methodology, The new external trip distribution was determined taking into consideration the adjacent roadway network and the location/proximity of nearby trip generators as well as the proximity of competing uses. The approved new external trip distribution is shown below in *Figure 6* and *Figure 7*. The new external AM and PM peak-hour project trips were then assigned to the study roadways and intersections based on the trip distribution. *Figure 8* and *Figure 9* show the AM and PM peak-hour new external trips, assigned to the study intersections.

Pass-by trips were assigned based on the proportional volume of future background traffic on the adjacent sections of CR 484 and Marion Oaks Course while taking into consideration the ease of development access to/from each direction of travel. The approved pass-by trip distribution, as provided in *Appendix B*, is shown in *Figure 10* and the resulting pass-by trips at the study intersections shown in *Figure 11* and *Figure 12*.

Figure 6 – New External Trip Distribution (1 of 2)

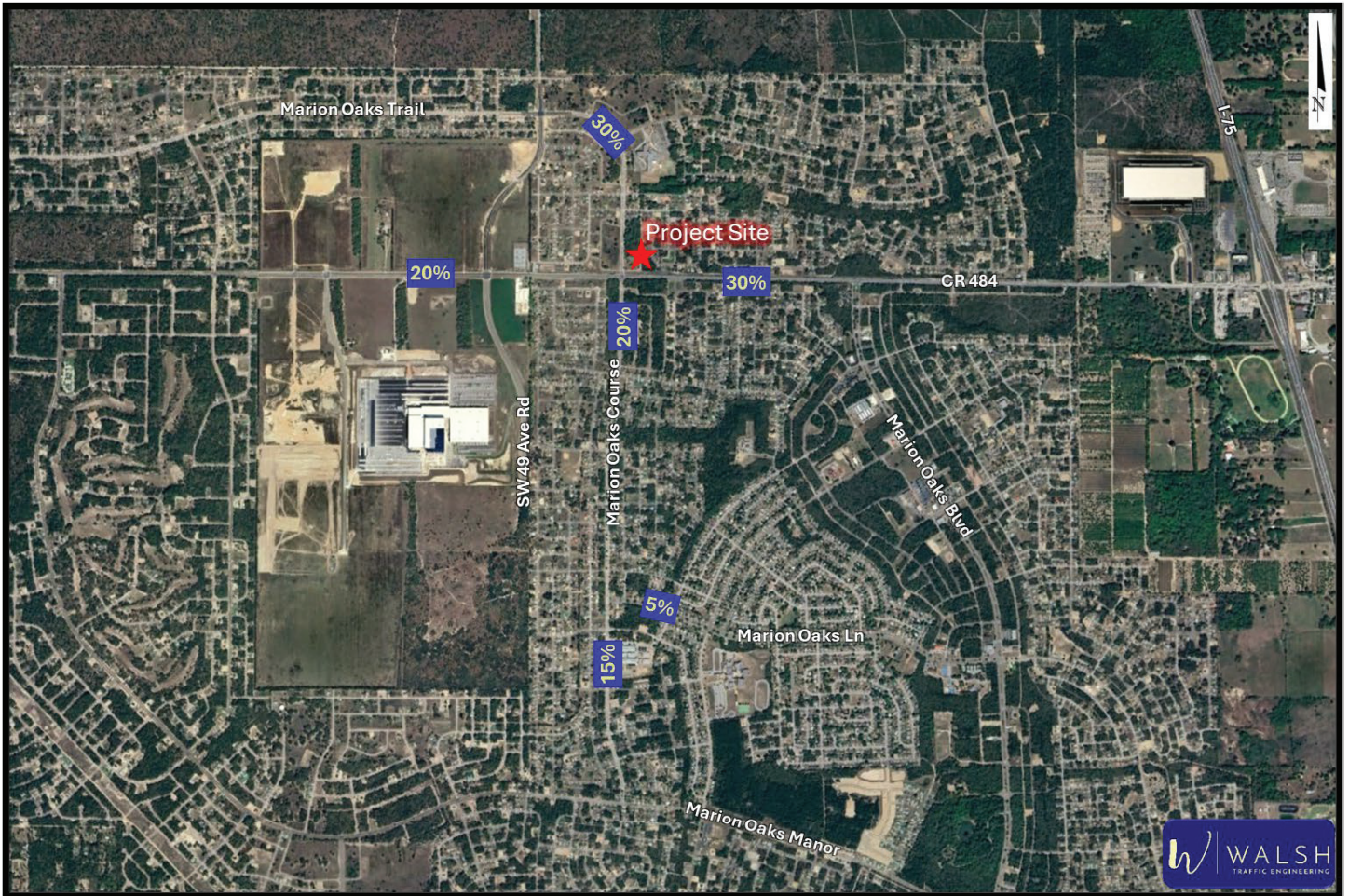


Figure 7 – New External Trip Distribution (2 of 2)

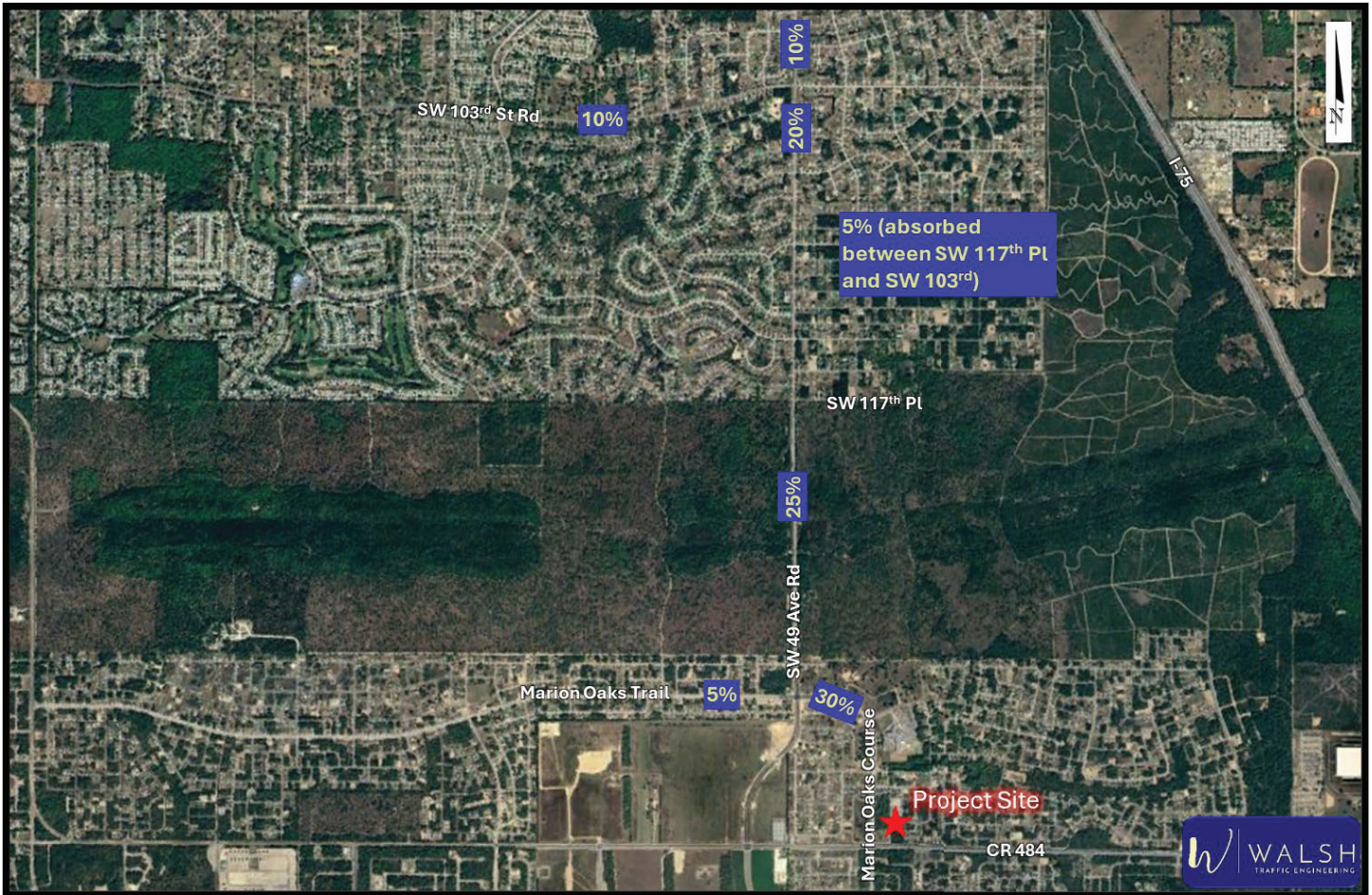






Figure 10 – Pass-By Trip Distribution

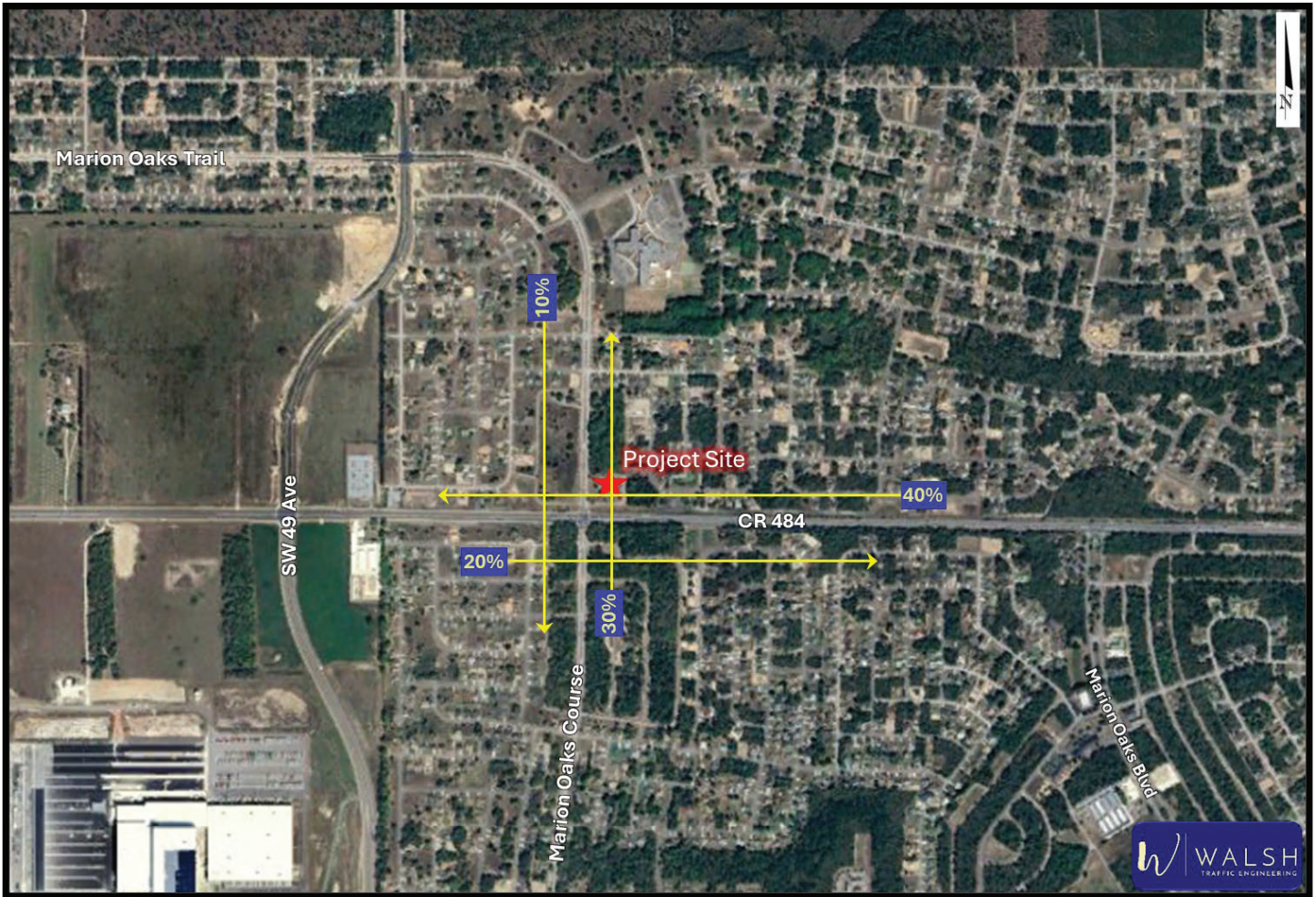


Figure 11 – Pass-By AM Peak-Hour Project Trips

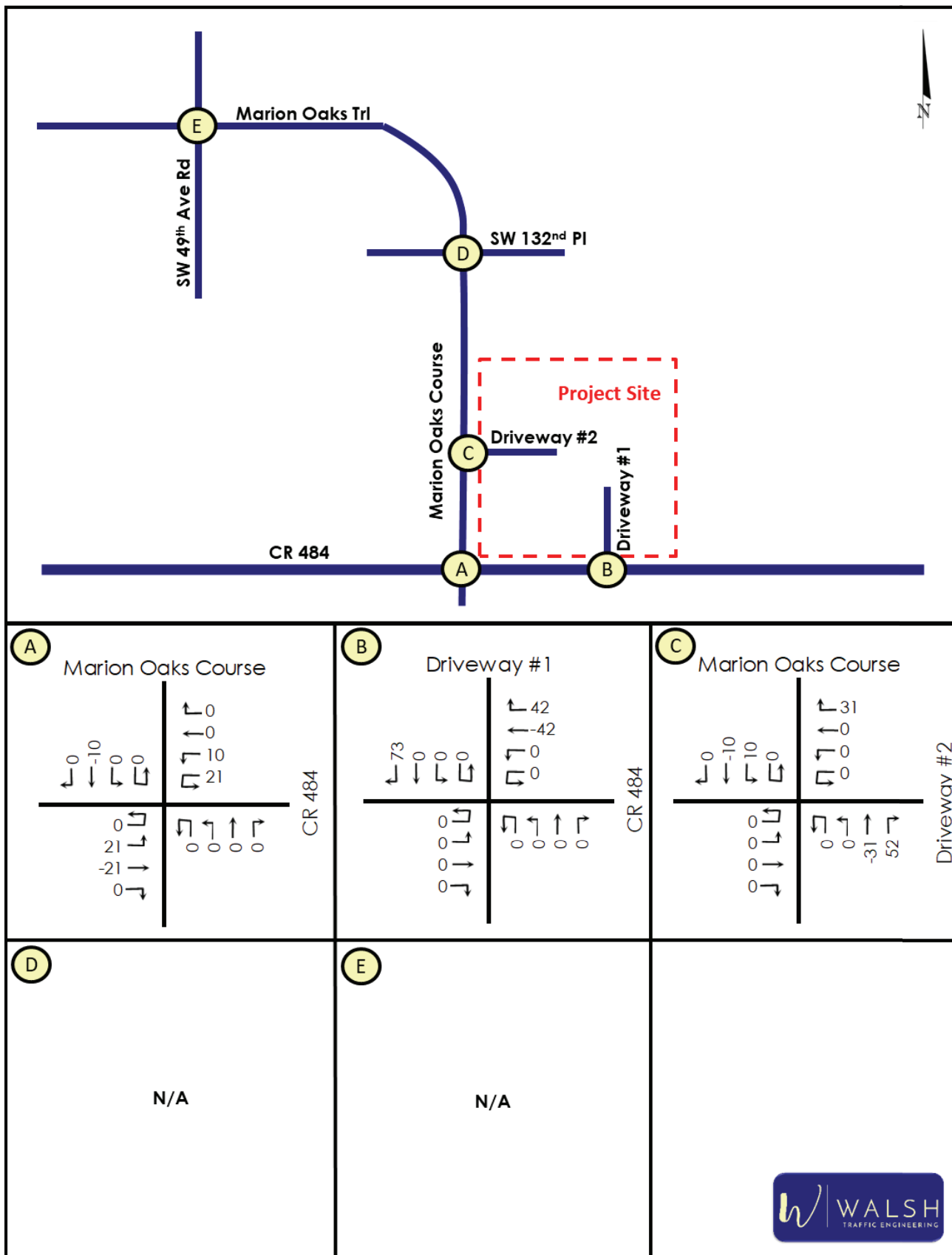
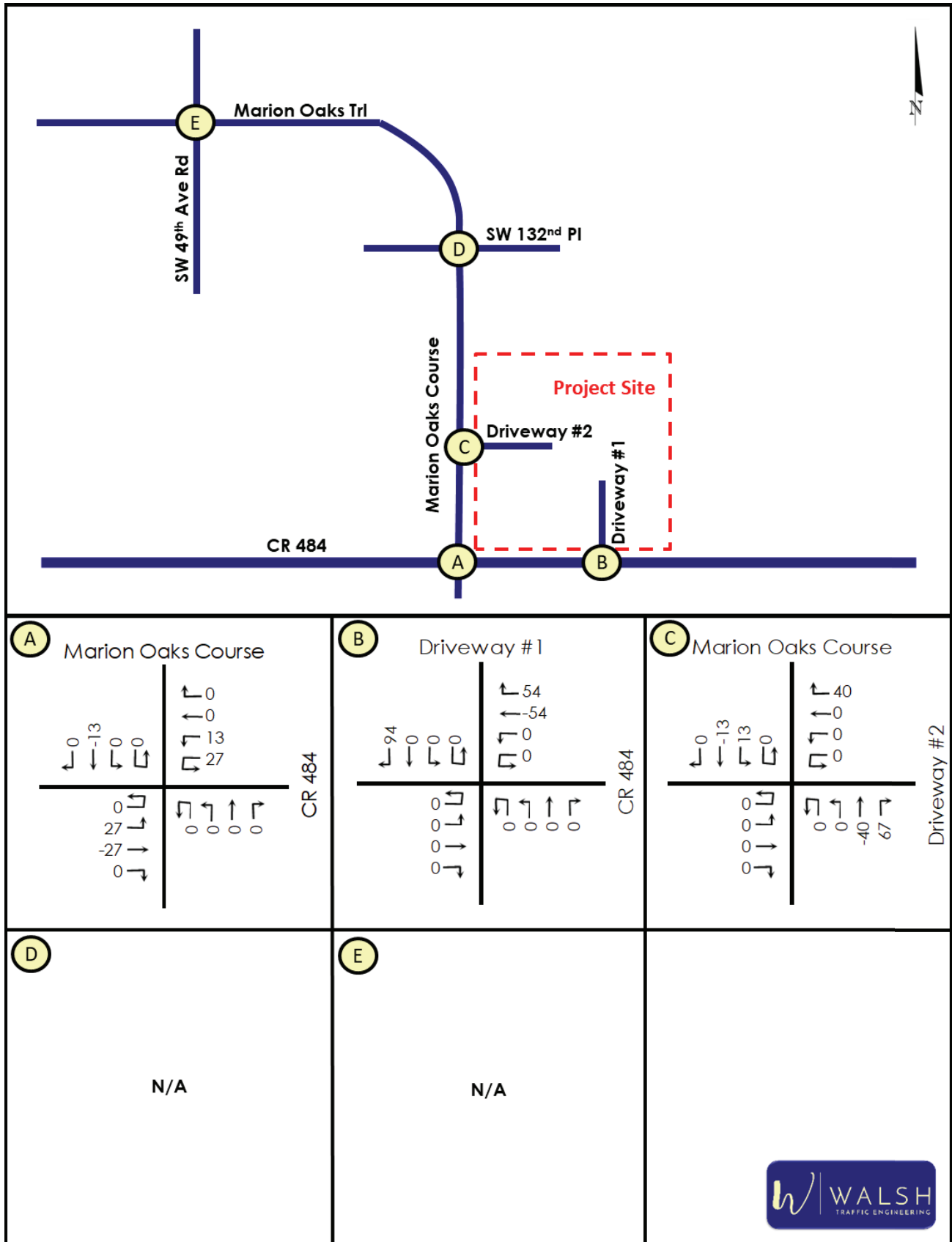


Figure 12 – Pass-By PM Peak-Hour Project Trips



## Future Buildout Conditions (Year 2025)

### ROADWAY SEGMENTS

The total projected Daily and PM peak-hour two-way volumes for the study roadway segments were calculated by adding the project trips to the future background volume projections. The Daily and PM peak-hour operating conditions of the study roadway segments were then analyzed by comparing total projected Daily and PM peak-hour two-way segment volumes to each roadway segment's generalized service volume.

*Table 8* and *Table 9* summarize the total Daily and PM peak-hour volumes on the roadway segments in year 2025 at build out of the development. As shown, future buildout volumes in year 2025 are projected to be below the generalized service volumes with the exception of the two segments of SW 49<sup>th</sup> Avenue Road. Similar to the existing and future background conditions, these two segments of SW 49<sup>th</sup> Avenue Road from Marion Oaks Trail to SW 95<sup>th</sup> Street require four-laning to accommodate the future buildout traffic volumes.

**Table 8 – Future (Year 2025) Buildout Roadway Segment Operating Conditions (Daily)**

Roadway Segment	ID	# of Lanes	Adopted LOS	Total Background Volume (vpd)	Project Trips		Total Buildout Volume (vpd)	Service Volume (vpd)	Volume Exceeds Svc Vol?
					% Assign	Volume (vph)			
<b>CR 484</b>									
SW 57th Ave to Marion Oaks Course	2030	4	E	8,320	20.0%	787	8,320	35,820	no
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	34,320	30.0%	1,181	34,320	35,820	no
<b>Marion Oaks Course</b>									
Marion Oaks Manor to Marion Oaks Ln	-	2	E	8,375	15.0%	591	8,375	15,930	no
Marion Oaks Ln to CR 484	-	2	E	8,375	20.0%	787	8,375	15,930	no
CR 484 to SW 49th Ave Rd	6090	2	E	14,113	30.0%	1,181	14,113	15,930	no
<b>SW 49th Ave Road</b>									
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	16,720	25.0%	984	16,720	12,744	yes
SW 103rd St to SW 95th St	6100	2	E	17,237	10.0%	394	17,237	12,744	yes
<b>SW 103rd St Road</b>									
SR 200 to SW 49th Ave Rd	5550	2	E	12,036	10.0%	394	12,036	15,930	no
<b>Marion Oaks Trail</b>									
CR 484 to SW 49th Ave Rd	8150	2	E	1,962	5.0%	197	1,962	15,930	no
<b>Marion Oaks Lane</b>									
Marion Oaks Course to Marion Oaks Blvd	-	2	E	7,828	5.0%	197	7,828	16,727	no

**Table 9 – Future (Year 2025) Buildout Roadway Segment Operating Conditions (PM Peak)**

Roadway Segment	ID	# of Lanes	Adopted LOS	Total Background Volume (vph)		Project Trips			Total Buildout Volume (vph)		Service Volume (vph)	Volume Exceeds Svc Vol?	
				NB/EB	SB/WB	% Assign	Volume (vph)		NB/EB	SB/WB		NB/EB	SB/WB
							NB/EB	SB/WB					
<b>CR 484</b>													
SW 57th Ave to Marion Oaks Course	2030	4	E	675	640	20.0%	29	28	704	668	1,800	no	no
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	931	1,138	30.0%	43	43	974	1,181	1,800	no	no
<b>Marion Oaks Course</b>													
Marion Oaks Manor to Marion Oaks Ln	-	2	E	255	452	15.0%	21	22	276	474	792	no	no
Marion Oaks Ln to CR 484	-	2	E	377	669	20.0%	29	28	406	697	792	no	no
CR 484 to SW 49th Ave Rd	6090	2	E	645	688	30.0%	43	43	688	731	792	no	no
<b>SW 49th Ave Road</b>													
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	794	921	25.0%	36	35	830	956	634	yes	yes
SW 103rd St to SW 95th St	6100	2	E	807	936	10.0%	14	15	821	951	634	yes	yes
<b>SW 103rd St Road</b>													
SR 200 to SW 49th Ave Rd	5550	2	E	596	488	10.0%	14	15	610	503	634	no	no
<b>Marion Oaks Trail</b>													
CR 484 to SW 49th Ave Rd	8150	2	E	178	236	5.0%	7	7	185	243	792	no	no
<b>Marion Oaks Lane</b>													
Marion Oaks Course to Marion Oaks Blvd	-	2	E	387	317	5.0%	7	7	394	324	792	no	no

It is important to note that the improvement (widening to four lanes) identified for the deficient segments of SW 49<sup>th</sup> Avenue Road is the same improvement as that needed to address the existing and future background deficiency. Per Florida Statutes 163.3180(5)(h)4:

*A “transportation deficiency” means a facility or facilities on which the adopted level of service standard is exceeded by the existing, committed, and vested trips, plus additional projected background trips from any source other than the development project under review...*

Further, it is conveyed under F.S. 163.3180(5)(h)2b:

*If any road is determined to be transportation deficient without the project traffic under review, the costs of correcting that deficiency shall be removed from the project’s proportionate-share calculation and the necessary transportation improvements to correct that deficiency shall be considered to be in place for purposes of the proportionate-share calculation. The improvement necessary to correct the transportation deficiency is the funding responsibility of the entity that has maintenance responsibility for the facility. The development’s proportionate share shall be calculated only for the needed transportation improvements that are greater than the identified deficiency.*

Therefore, because the needed improvements for buildout are the same as those needed to mitigate deficiencies that are projected without the project, the development is not responsible to mitigate impacts to this roadway segment.

## INTERSECTIONS

For purposes of analyzing the study intersections at buildout of the development in year 2025, AM and PM peak-hour turning movement projections were calculated by adding the project trips to the future background volume projections. The resulting total AM and PM peak-hour turning movement projections at buildout of the development are summarized in *Figures 13* and *14* on the following pages.

The AM and PM peak-hour operating conditions for the study intersections were analyzed at build out of the proposed development in year 2025 using the projected turning movements, committed roadway geometry, and existing signal timings (where applicable). As summarized in *Table 10*, both the eastbound and westbound approaches at the STOP-controlled intersection of Marion Oaks Course at SW 132<sup>nd</sup> Place are projected to operate at level of service (LOS) C with all movements operating at a v/c ratio of 0.163 or better.

The CR 484 at Marion Oaks Course signalized intersection is projected to operate LOS D and E in the AM and PM peak hours, respectively. Additionally, all movements are projected to have v/c ratios below 1.0.

The Marion Oaks Trail at SW 49<sup>th</sup> Avenue Road intersection is projected to operate LOS F in the AM peak hour and LOS E in the PM peak hour. Just like existing conditions, this AM deficiency is driven by the heavy westbound right-turn movement which has a v/c ratio of 1.78. As shown below, the intersection will operate acceptably with dual westbound right-turn lanes, the same improvements needed to address the existing conditions deficiency. Therefore, because the needed improvements for buildout are the same as those needed to mitigate deficiencies that are projected without the project, the development is not responsible to mitigate impacts to this intersection per Florida Statutes 163.3180.

Printouts of the operational analyses are provided in *Appendix F*.

Figure 13 – Future Buildout AM Peak-Hour Intersection Traffic Volumes (Year 2025)

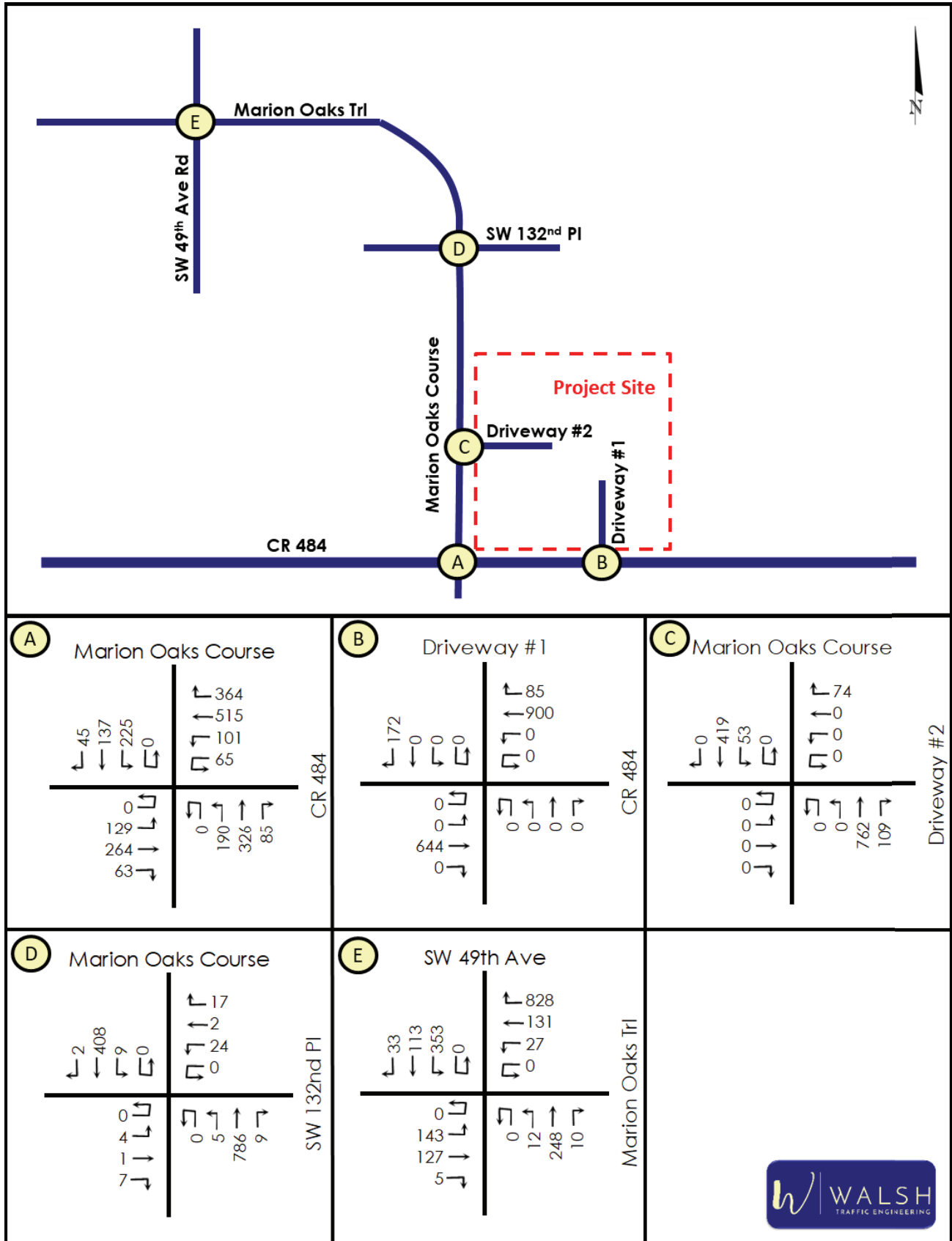


Figure 144 – Future Buildout PM Peak-Hour Intersection Traffic Volumes (Year 2025)

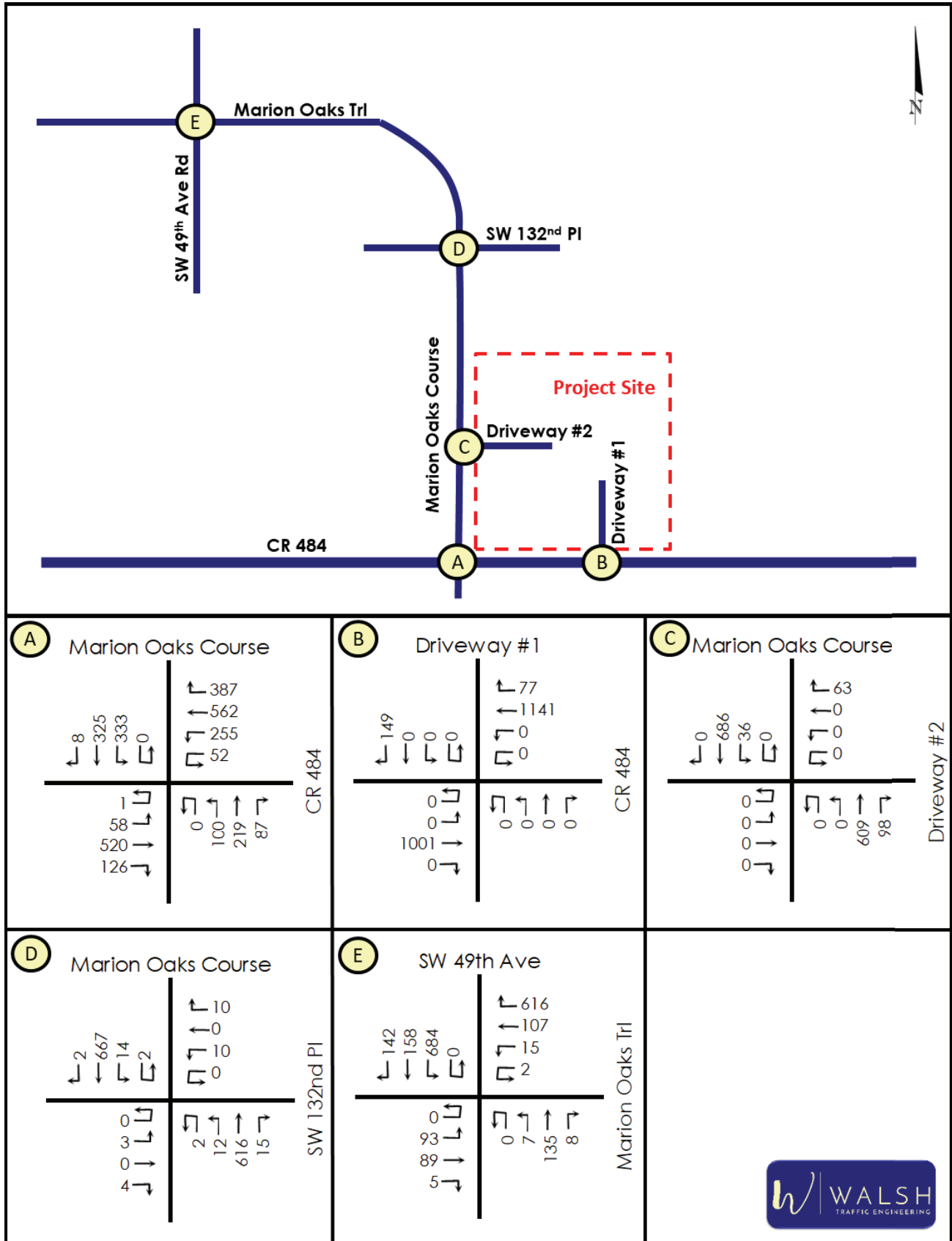








Table 10 - Future Buildout Intersection Operating Conditions (Year 2025)

Intersection	Control	Measure of Effectiveness	AM Peak Hour					PM Peak Hour				
			EB App	WB App	NB App	SB App	Overall Intxn	EB App	WB App	NB App	SB App	Overall Intxn
CR 484 at Marion Oaks Course		Delay (sec/veh)	32.9	46.7	68.2	48.0	49.6	48.4	47.1	77.6	69.2	56.3
		LOS	C	D	E	D	D	D	D	E	E	E
		Highest V/C	0.59	0.8	0.96	0.88	-	0.62	0.81	0.93	0.99	-
Marion Oaks Course at SW 132nd Pl		Delay (sec/veh)	15.0	20.2	-	-	-	16.8	17.6	-	-	-
		LOS	C	C	-	-	-	C	C	-	-	-
		Highest V/C	0.035	0.163	-	-	-	0.024	0.07	-	-	-
Marion Oaks Trail at SW 49th Ave Rd (Existing Geom)		Delay (sec/veh)	49.2	353.2	33.8	21.5	188.1	53.3	102.7	34.3	30.1	58.6
		LOS	D	F	C	C	F	D	F	C	C	E
		Highest V/C	0.62	1.78	0.38	0.63	-	0.42	1.08	0.2	0.87	-
Marion Oaks Trail at SW 49th Ave Rd (w/ dual WBR)		Delay (sec/veh)	49.2	77.3	34.4	21.9	54.2	53.3	45.2	34.3	30.1	37.9
		LOS	D	D	C	C	D	D	D	C	C	D
		Highest V/C	0.61	0.99	0.38	0.63	-	0.42	0.61	0.2	0.87	-
CR 484 at Driveway #1		Delay (sec/veh)	-	-	-	15.1	-	-	-	-	17.5	-
		LOS	-	-	-	C	-	-	-	-	C	-
		Highest V/C	-	-	-	0.337	-	-	-	-	0.354	-
Marion Oaks Course at Driveway #2		Delay (sec/veh)	-	17.2	-	-	-	-	13.9	-	-	-
		LOS	-	C	-	-	-	-	B	-	-	-
		Highest V/C	-	0.212	-	-	-	-	0.143	-	-	-

## ALTERNATIVE ACCESS ANALYSIS CONSIDERATION

As previously conveyed and analyzed, it is proposed to provide a southbound left-turn movement on Marion Oaks Course at Driveway #2. A southbound left-turn lane is proposed at this location. Without this southbound left-turn access, motorists visiting the site that are coming from the north via Marion Oaks Course would instead need to perform a southbound-to-northbound u-turn at the CR 484/Marion Oaks Course intersection and then perform a northbound right turn into Driveway #2. This would equate to 53 additional u-turns in the AM peak hour, increasing the average delay for southbound left-turn motorists from 52.4 seconds per vehicle (without these u-turns) to 73.1 seconds per vehicle. The v/c for this movement also increases from 0.88 to 0.93 and the 95<sup>th</sup> percentile queue increases from 12 vehicles to 19 vehicles. Further, with 364 westbound right turns, these additional u-turns create additional conflict adversely impacting the westbound approach.

A similar impact is also expected in the PM peak hour as the u-turns cause the average delay for southbound left-turn movement to increase from 90.1 seconds per vehicle (without these u-turns) to 125.2 seconds per vehicle. The v/c for this movement also increases from 0.99 to 1.11 and the 95<sup>th</sup> percentile queue increases from 22 vehicles to 27 vehicles. Further, with 387 westbound right turns, these additional u-turns create additional conflict adversely impacting the westbound approach.

It is important to note that the southbound left turns into the development require shorter gaps in opposing traffic to perform the turn when compared against the gap required for southbound-to-northbound u-turns. Also, the capacity analyses for the driveway on Marion Oaks Course show that the average delay for the southbound left-turn movement is ~10 seconds per vehicle in the AM and PM peak hours and the 95<sup>th</sup> percentile queues will be less than one vehicle, thereby indicating that this southbound left-turn movement will operate well. Based on these considerations and the implications the addition of u-turns will have at the CR 484/Marion Oaks Course intersection, it is recommended to provide a southbound left-turn movement into the development.

## Project Driveway Turn-Lane Analysis

### CR 484 AT DRIVEWAY #1

An evaluation was conducted based on procedures documented in the *NCHRP Report 457: Evaluating Intersection Improvements* to determine if a westbound right-turn lane is warranted on CR 484 at Driveway #1. Based on the results of the analysis, a westbound right-turn lane is warranted on CR 484 at Project Driveway #1.

### MARION OAKS COURSE AT DRIVEWAY #2

An evaluation was conducted based on procedures documented in the *NCHRP Report 457: Evaluating Intersection Improvements* to determine if a northbound right-turn lane is warranted on Marion Oaks Course at Driveway #2. Based on the results of the analysis, a northbound right-turn lane is warranted on Marion Oaks Course at Driveway #2.

An additional evaluation was conducted based on procedures documented in the *NCHRP Report 457: Evaluating Intersection Improvements* to determine if a southbound left-turn lane is warranted on Marion Oaks Course at Driveway #2. Based on the results of the analysis, a southbound left-turn lane is warranted on Marion Oaks Course at Project Driveway #2.

See *Appendix G* for the turn-lane analysis worksheets.

# CONCLUSIONS

A traffic impact analysis was conducted for the proposed SunStop convenience store/gas station to be located in the northeast quadrant of the CR 484/Marion Oaks Course intersection in Marion County, Florida. Below is a summary of the findings of the study:

## ■ Roadway Segments:

- Under existing, future background, and future buildout conditions, all study roadway segments currently operate acceptably with the exception of the two segments of SW 49th Avenue Road.
- SW 49th Avenue Road from Marion Oaks Trail to SW 95th Street requires four-laning under existing, future background, and future buildout conditions.
- Because the needed improvements for buildout are the same as those needed to mitigate deficiencies that are projected without the project, the development is not responsible to mitigate impacts to this roadway segment per Florida Statutes 163.3180.

## ■ Study Intersections:

- The eastbound and westbound approaches at the STOP-controlled intersection of Marion Oaks Course at SW 132<sup>nd</sup> Place currently operate acceptably and will continue to operate acceptably under buildout conditions in year 2025.
- The CR 484 at Marion Oaks Course signalized intersection currently operates acceptably and will continue to operate acceptably through buildout of the development in year 2025.
- The Marion Oaks Trail at SW 49th Avenue Road intersection is currently operating unacceptably and will continue to operate unacceptably in year 2025 under future buildout conditions.
  - The intersection will operate acceptably in existing and future buildout conditions with dual westbound right-turn lanes.
  - Because the needed improvements for buildout are the same as those needed to mitigate deficiencies that are projected without the project, the development is not responsible to mitigate impacts to this roadway segment per Florida Statutes 163.3180.

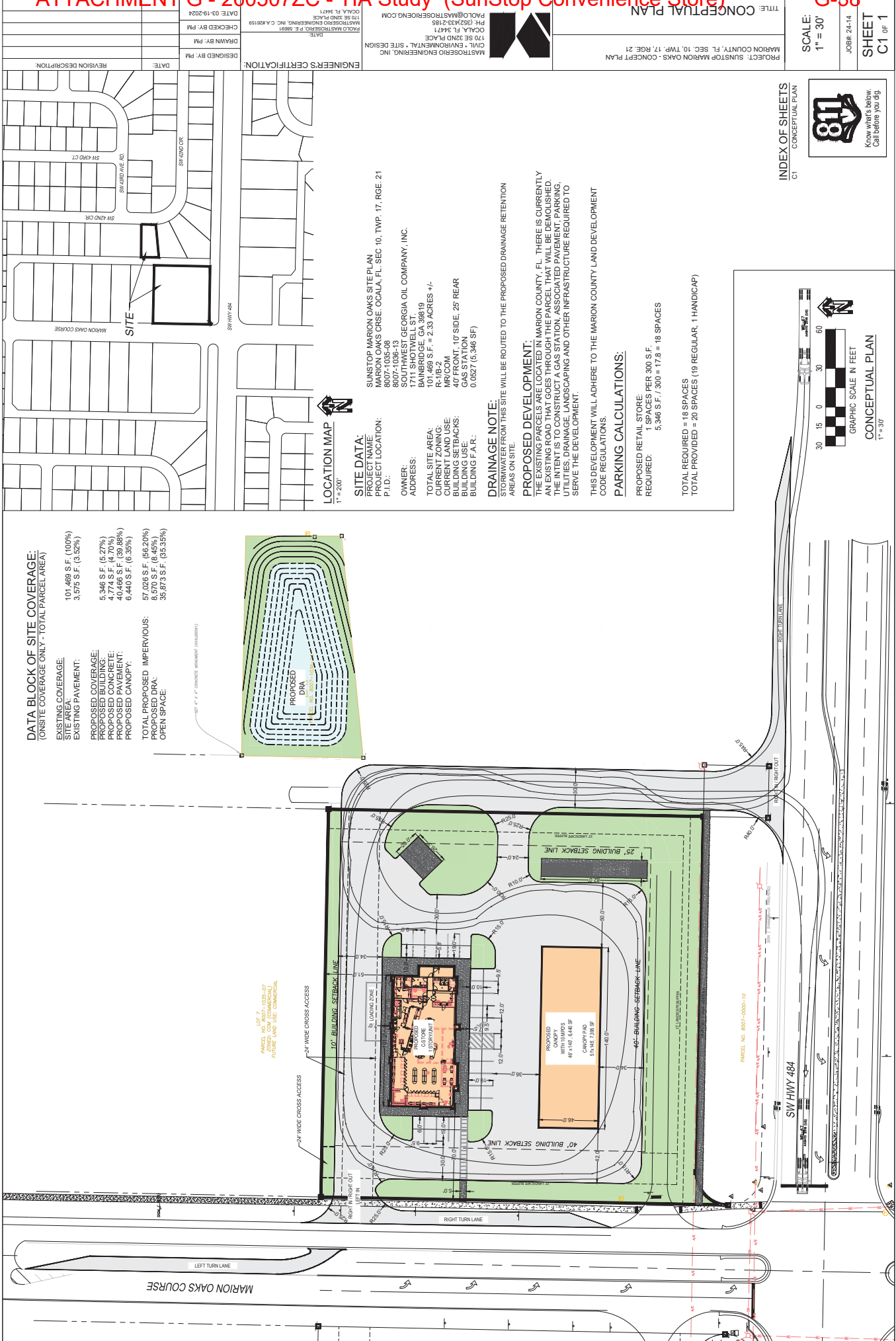
## ■ Project Driveways:

- Both project driveway intersections are projected to operate acceptably at buildout of the development.
- A westbound right-turn lane is warranted on CR 484 at Driveway #1.
- A northbound right-turn lane and southbound left-turn lane are warranted on Marion Oaks Course at Driveway #2.

# Appendix A

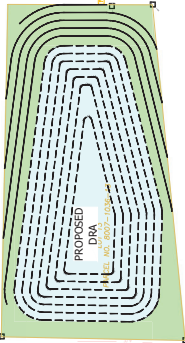
## Preliminary Site Plan





**DATA BLOCK OF SITE COVERAGE:**  
 (ONSITE COVERAGE ONLY - TOTAL PARCEL AREA)

EXISTING COVERAGE:	101,469 S.F. (100%)
EXISTING PAVEMENT:	3,575 S.F. (3.52%)
PROPOSED COVERAGE:	5,346 S.F. (5.27%)
PROPOSED BUILDING:	4,145 S.F. (4.08%)
PROPOSED PAVEMENT:	40,468 S.F. (39.88%)
PROPOSED CANOPY:	6,440 S.F. (6.35%)
TOTAL PROPOSED IMPERVIOUS:	57,026 S.F. (56.20%)
PROPOSED DRA.:	8,570 S.F. (8.45%)
OPEN SPACE:	35,973 S.F. (35.35%)



**LOCATION MAP**  
 T<sup>1</sup> = 200'

**SITE DATA:**  
 PROJECT NAME: SUNSTOP MARION OAKS SITE PLAN  
 PROJECT LOCATION: MARION OAKS CRSE, OCALA, FL, SEC 10, TWP. 17, RGE. 21  
 P.I.D.: 8007-1038-08  
 OWNER: SOUTHWEST GEORGIA OIL COMPANY, INC.  
 ADDRESS: 1711 SHOTWELL ST., BAINBRIDGE, GA 30819  
 TOTAL SITE AREA: 101,469 S.F. = 2.33 ACRES +/-  
 CURRENT LAND USE: M/COM  
 BUILDING SETBACKS: 40' FRONT, 10' SIDE, 25' REAR  
 BUILDING USE: GAS STATION  
 BUILDING F.A.R.: 0.0527 (5,346 SF)

**DRAINAGE NOTE:**  
 STORMWATER FROM THIS SITE WILL BE ROUTED TO THE PROPOSED DRAINAGE RETENTION AREAS ON SITE.

**PROPOSED DEVELOPMENT:**  
 THE EXISTING PARCELS ARE LOCATED IN MARION COUNTY, FL. THERE IS CURRENTLY AN EXISTING ROAD THAT GOES THROUGH THE PARCEL THAT WILL BE DEMOLISHED. THE INTENT IS TO CONSTRUCT A GAS STATION, ASSOCIATED PAVEMENT, PARKING, UTILITIES, DRAINAGE, LANDSCAPING AND OTHER INFRASTRUCTURE REQUIRED TO SERVE THE DEVELOPMENT.

THIS DEVELOPMENT WILL ADHERE TO THE MARION COUNTY LAND DEVELOPMENT CODE REGULATIONS.

**PARKING CALCULATIONS:**

PROPOSED RETAIL STORE:  
 REQUIRED: 18 SPACES PER 300 S.F.  
 5,346 S.F. / 300 = 17.8 = 18 SPACES

TOTAL REQUIRED = 18 SPACES  
 TOTAL PROVIDED = 20 SPACES (19 REGULAR, 1 HANDICAP)

**INDEX OF SHEETS**  
 C1 CONCEPTUAL PLAN



SCALE: 1" = 30'

JOB# 24-14  
 SHEET C1 of 1

PROJECT: SUNSTOP MARION OAKS - CONCEPT PLAN  
 MARION COUNTY, FL, SEC. 10, TWP. 17, RGE. 21  
 TITLE: CONCEPTUAL PLAN

DESIGNED BY: PM  
 DRAWN BY: PM  
 CHECKED BY: PM  
 DATE: 03-19-2024

ENGINEER'S CERTIFICATION:  
 MASTROSERIO ENGINEERING, INC  
 170 SE 32ND PLACE  
 OCALA, FL 34471  
 P.O. BOX 2185  
 PH: (352) 483-2185  
 EMAIL: INFO@MASTROSERIO.COM



# Appendix B

## Approved Methodology





**Marion County  
Board of County Commissioners**

Office of the County Engineer

412 SE 25th Ave.  
Ocala, FL 34471  
Phone: 352-671-8686  
Fax: 352-671-8687

August 23, 2024

WALSH TRAFFIC ENGINEERING, INC.  
CHRIS WALSH  
285 PALMETTO SPRINGS ST  
DEBARY, FL 32713

**SUBJECT: TRAFFIC METHODOLOGY APPROVAL LETTER**  
PROJECT NAME: MARION OAKS COURSE SUNSTOP GAS STATION  
PROJECT #2024040018 APPLICATION: #31742 PARCEL #8007-1035-08

Dear Chris,

The Traffic Methodology dated July 24, 2024 for the above referenced project was approved by Marion County on August 23, 2024. Please submit the Traffic Study in accordance with this approved Methodology.

Feel free to contact the Office of the County Engineer at (352) 671-8686 or [DevelopmentReview@marionfl.org](mailto:DevelopmentReview@marionfl.org) should you have questions.

Sincerely,

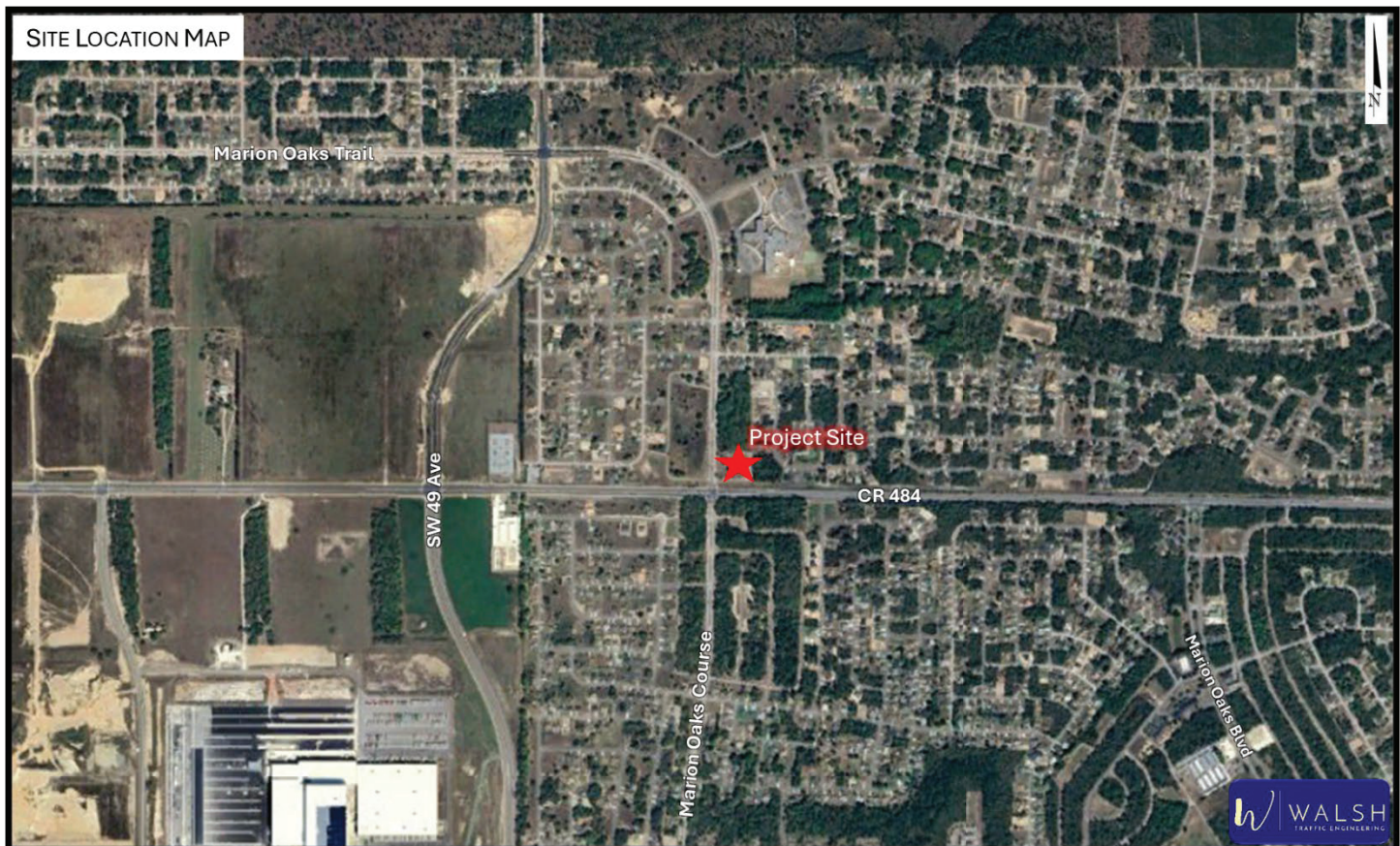
*Your Development Review Team*  
**Office of the County Engineer**



# MEMORANDUM

**To:** Mr. Donald Watson, PhD, P.E. – Senior Engineer, Marion County  
**From:** Mr. Chris J. Walsh, P.E.  
**Date:** July 24, 2024  
**Subject:** Traffic Impact Analysis Methodology for Marion Oaks Course SunStop (Revised)  
Marion County, Florida

Walsh Traffic Engineering, LLC (Walsh Traffic) has been retained to conduct a traffic impact analysis for the proposed SunStop convenience store/gas station located in the Northeast quadrant of the CR 484/Marion Oaks Course intersection in Ocala, Florida (see **Site Location Map** below). The property is currently vacant. For the purposes of this analysis, the development includes a 5,400 square-foot convenience store with 20 vehicle fueling positions. Right-in/right-out access is proposed on CR 484, approximately 350 feet east of Marion Oaks Course. A southbound directional access (prohibiting westbound left turns) is proposed on Marion Oaks Course, approximately 350 feet north of CR 484. The development is proposed to be built out by year 2025. Given that the development is projected to generate more than 100 peak-hour trips, as demonstrated later within this memorandum, this memorandum is intended to serve as a methodology for the Traffic Impact Analysis in accordance with the County of Marion Traffic Impact Analysis Guidelines (effective June 19, 2008).





**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 6,930 total daily trips, 493 total AM peak-hour trips (247 in, 246 out), and 426 PM peak-hour trips (213 in, 213 out).

**Table 1 – Trip Generation Summary (Proposed Development)**

Land Use	ITE Land Use Code	Intensity	Daily		
			Total Trips		
			In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	3,465	3,465	6,930

Land Use	ITE Land Use Code	Intensity	AM Peak Hour		
			Total Trips		
			In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	247	246	493

Land Use	ITE Land Use Code	Intensity	PM Peak Hour		
			Total Trips		
			In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	213	213	426

Based on ITE, 76% of the AM peak-hour trips (188 in and 187 out) and 75% of the PM peak-hour trips (160 in and 160 out) will be pass-by (see **Table 2** on the following page). It should be noted that the pass-by trips will be limited to 10% of the future background volume on CR 484 and Marion Oaks Course, combined. Based on a preliminary assessment of the existing volumes on these adjacent roadways provided by the County, the volume of traffic at the adjacent intersection was 2,407 vehicles per hour (vph) in the AM and 2,303 vph in the PM. Thus, pass-by trips were limited to 240 trips in the AM and 230 trips in the PM. The 10% limitation will be revisited/refined within the TIA based on the actual future background volume projections on these two roadways. For purposes of this methodology, the new external trips are estimated at 252 vehicles (127 in, 125 out) in the AM peak hour and 196 vehicles (98 in, 98 out) in the PM peak hour.

**Table 2 – New External Trip Generation Summary (Proposed Development)**

Land Use	ITE Land Use Code	Intensity	AM Peak Hour															
			Total Trips			ITE Pass-by Trips			Restricted Pass-by Trips		Applied Pass-By Trips			Net New External				
			In	Out	Total	%	In	Out	Total	%	Street Vol	Total	In	Out	Total	In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	247	246	493	76.0%	188	187	375	10.0%	2,407	241	120	121	241	127	125	252

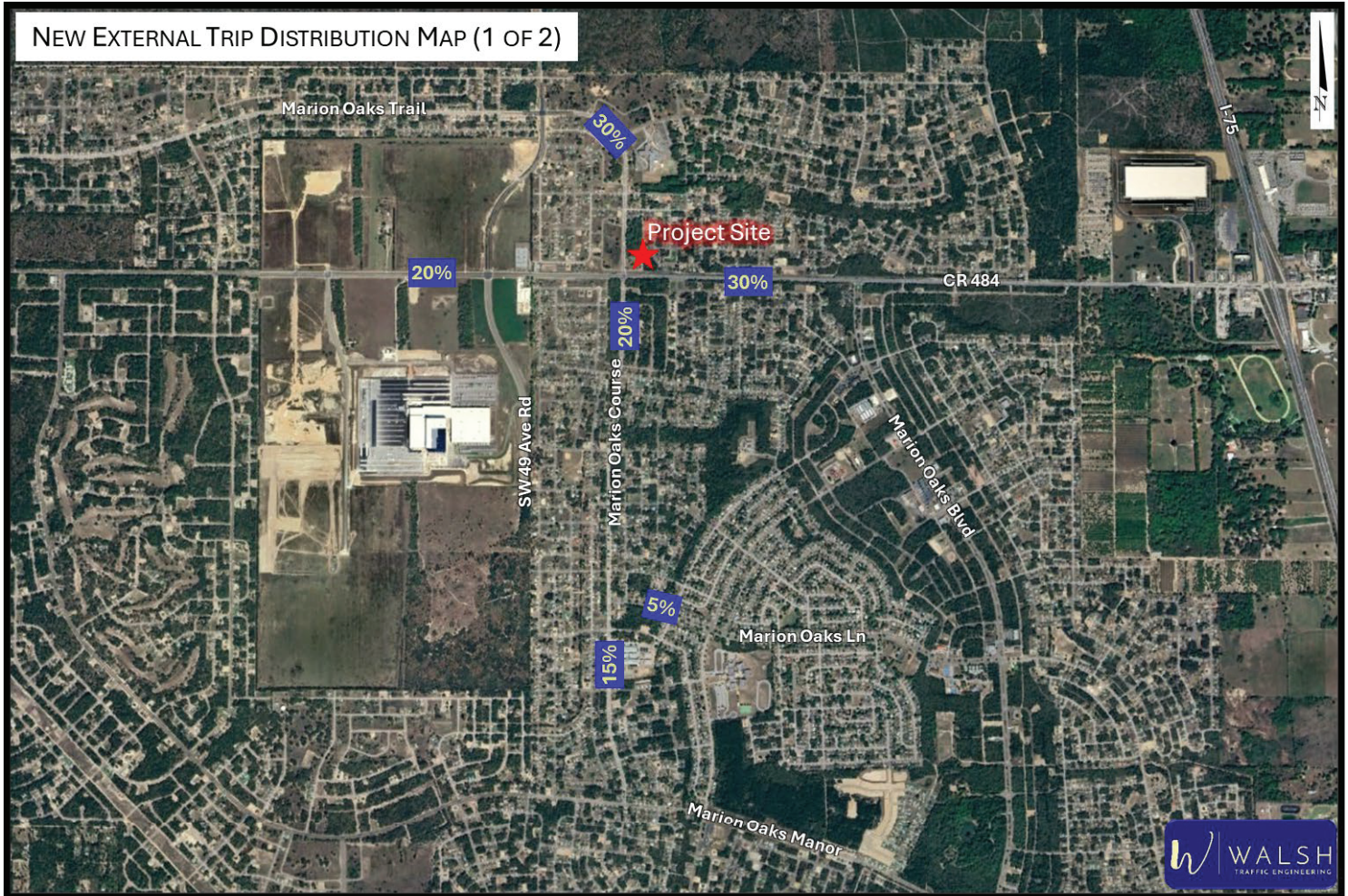
  

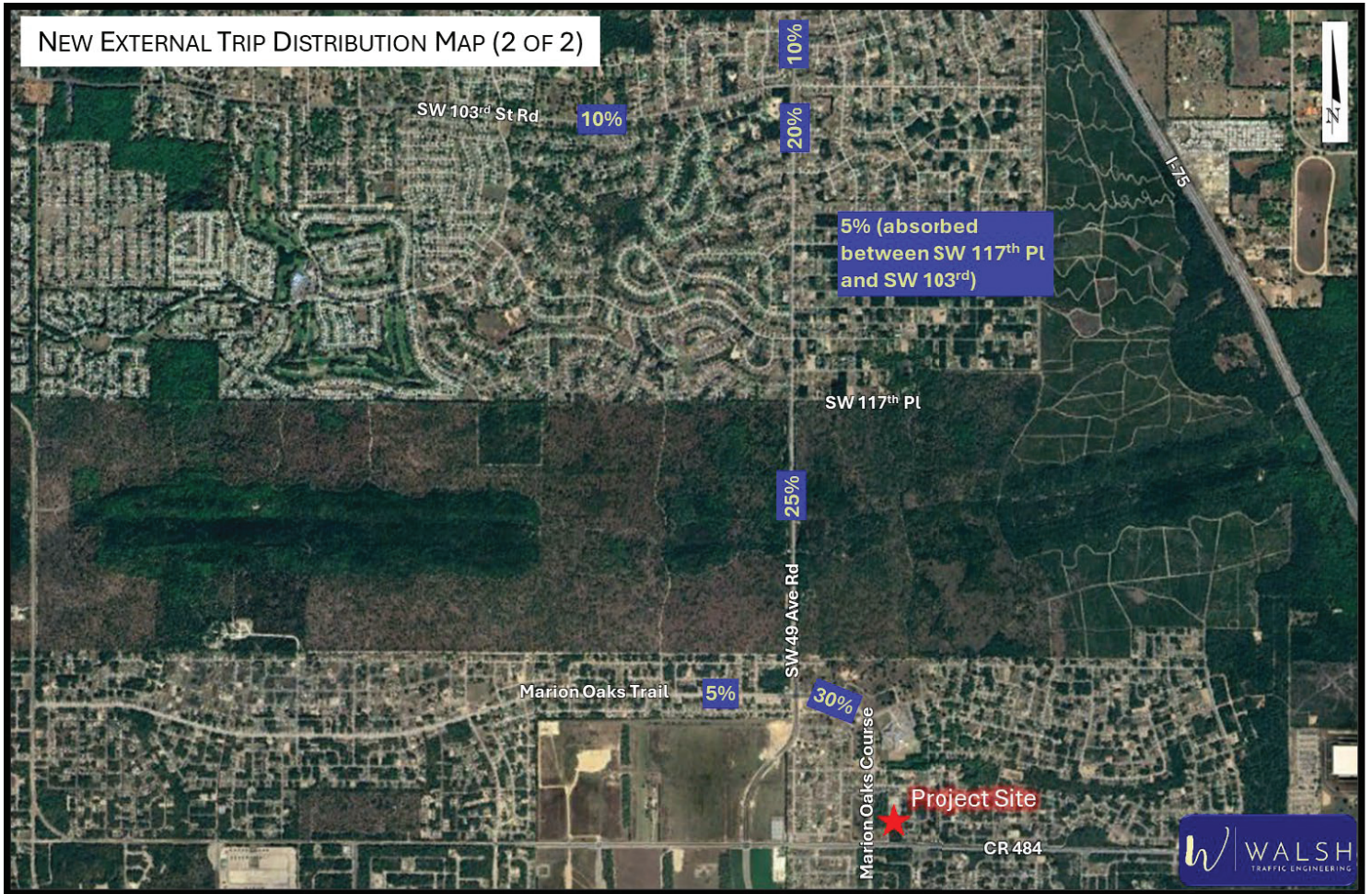
Land Use	ITE Land Use Code	Intensity	PM Peak Hour															
			Total Trips			ITE Pass-by Trips			Restricted Pass-by Trips		Applied Pass-By Trips			Net New External				
			In	Out	Total	%	In	Out	Total	%	Street Vol	Total	In	Out	Total	In	Out	Total
Convenience Store Gas Station (16-24 VFP)	945	5.4 KSF	213	213	426	75.0%	160	160	320	10.0%	2,303	230	115	115	230	98	98	196



### Trip Distribution

The trip distribution for the new external trips was estimated based on engineering judgement, taking into consideration the proximity and density of trip generators (predominantly homes), the adjacent roadway network, while also considering the typically short trip-length for this type of use and the proximity of other gas station. The distribution was also adjusted based on coordination with County staff. The proposed new external trip distribution is shown in the two figures below and on the following page:







**Study Area**

Per the County of Marion Traffic Impact Analysis Guidelines, based on a development projected to generate over 100 net new trips, the study area will include all roadways where the net new traffic from the project is at least 3% of the maximum service volume, plus one segment beyond. **Table 3** below summarizes the significance assessment based on the AM peak hour given that the projected new external impact in **Table 2** is shown to be higher in the AM peak versus the PM peak.

**Table 3 – Project Significance Summary**

Roadway Segment	ID	# of Lanes	Adopted LOS	Service Volume (vph)	Source	% Assign	Project Trips (vph)		% Significant		Significant?	
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
<b>CR 484</b>												
SW 57th Ave to Marion Oaks Course	2030	4	E	1,800	TPO	20.0%	25	25	1.39%	1.39%	no	no
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	1,800	TPO	30.0%	38	38	2.11%	2.11%	no	no
<b>Marion Oaks Course</b>												
Marion Oaks Manor to Marion Oaks Ln		2	E	792	TPO	15.0%	19	19	2.40%	2.40%	no	no
Marion Oaks Ln to CR 484		2	E	792	TPO	20.0%	25	25	3.16%	3.16%	YES	YES
CR 484 to SW 49th Ave Rd		2	E	792	TPO	30.0%	38	38	4.80%	4.80%	YES	YES
<b>SW 49th Ave Road</b>												
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	634	TPO	25.0%	31	32	4.89%	5.05%	YES	YES
SW 103rd St to SW 95th St	6100	2	E	634	TPO	10.0%	13	12	2.05%	1.89%	no	no
<b>SW 103rd St Road</b>												
SR 200 to SW 49th Ave Rd	5550	2	E	634	TPO	10.0%	13	12	2.05%	1.89%	no	no
<b>Marion Oaks Trail</b>												
CR 484 to SW 49th Ave Rd	8150	2	E	792	TPO	5.0%	6	7	0.76%	0.88%	no	no
<b>Marion Oaks Lane</b>												
Marion Oaks Course to Marion Oaks Blvd		2	E	792	TPO	5.0%	6	7	0.76%	0.88%	no	no

Based on the significance table above, the study roadways will include the following:

- CR 484 from SW 57<sup>th</sup> Ave to Marion Oaks Course (1 link beyond significance)
- CR 484 from Marion Oaks Course to Marion Oaks Blvd (adjacent to site)
- Marion Oaks Course from Marion Oaks Manor to Marion Oaks Ln (1 link beyond significance)
- Marion Oaks Course from Marion Oaks Ln to CR 484 (significant)
- Marion Oaks Course from CR 484 to SW 49<sup>th</sup> Ave Rd (significant)
- Marion Oaks Lane from Marion Oaks Course to Marion Oaks Blvd (1 link beyond significance)
- Marion Oaks Trail from CR 484 to SW 49<sup>th</sup> Ave Rd (1 link beyond significance)
- SW 49<sup>th</sup> Avenue Road from Marion Oaks Trl to SW 103<sup>rd</sup> St Rd (significant)
- SW 49<sup>th</sup> Avenue Road from SW 103<sup>rd</sup> St Rd to SW 95<sup>th</sup> St (1 link beyond significance)
- SW 103<sup>rd</sup> Street Road from SR 200 to SW 49<sup>th</sup> Ave Rd (1 link beyond significance)

The study intersections will include those where the number of new site-generated peak-hour trips passing through the intersection is greater than 100 trips. Thus, the study intersections will include the following:

- CR 484 at Marion Oaks Course
- CR 484 at Project Driveway
- Marion Oaks Course at Project Driveway
- Marion Oaks Course at SW 132<sup>nd</sup> Place
- Marion Oaks Trail at SW 49<sup>th</sup> Avenue Road



## Future Volume Traffic Projections

Future background traffic volumes will be estimated by applying historical annual growth rate trends to existing volumes. Vested trips are not available for the study roadways. The table below summarizes the proposed growth rates and the growth trend spreadsheets are attached. Project trips will then be added to the future background peak-hour volumes to develop the future total volume projections.

**Table 4 – Proposed Growth Rates**

Roadway Segment	ID	# of Lanes	Adopted LOS	Applicable Annual Growth Rate	Applied Annual Growth Rate
<b>CR 484</b>					
SW 57th Ave to Marion Oaks Course	2030	4	E	1.8%	2.0%
Marion Oaks Course to Marion Oaks Blvd	2030	4	E	1.8%	2.0%
<b>Marion Oaks Course</b>					
Marion Oaks Manor to Marion Oaks Ln		2	E	3.4%	3.4%
Marion Oaks Ln to CR 484		2	E	3.4%	3.4%
CR 484 to SW 49th Ave Rd		2	E	4.7%	4.7%
<b>SW 49th Ave Road</b>					
Marion Oaks Trl to SW 103rd St Rd	6100	2	E	-	5.0%
SW 103rd St to SW 95th St	6100	2	E	6.7%	6.7%
<b>SW 103rd St Road</b>					
SR 200 to SW 49th Ave Rd	5550	2	E	-1.2%	1.0%
<b>Marion Oaks Trail</b>					
CR 484 to SW 49th Ave Rd	8150	2	E	3.0%	3.0%
<b>Marion Oaks Lane</b>					
Marion Oaks Course to Marion Oaks Blvd		2	E	-	1.0%

## Analysis Periods

The study roadway segments and intersections will be analyzed under existing conditions and future build-out conditions (future background plus project trips). Roadway segments will be analyzed by comparing the daily and PM peak-hour directional volumes against each roadway's generalized service volume. In the event that the volumes exceed the generalized service volume, then a more detailed arterial/highway analysis may be conducted using HCM methodologies in accordance with the *FDOT Quality/Level of Service Handbook*. The operating conditions of the study intersections will be analyzed for AM and PM peak-hour conditions using *Synchro 11*, employing HCM methodologies.

## Planned Roadway Improvements

The Ocala Marion TPO Transportation Improvement Program (TIP) was reviewed for improvements within the study area. However, no capacity-related improvements are programmed for construction within the study area.



## **Project Driveway Evaluation**

The project driveway intersections on CR 484 and Marion Oaks Course will be evaluated with regards to the need for right-turn and/or left-turn lanes. Where turn lanes are warranted, the study will identify the required turn-lane lengths based on queueing estimates (95<sup>th</sup> percentile queues) and deceleration distance considerations in accordance with County standards.

The driveway connection on Marion Oaks Course will be evaluated with and without a southbound left-turn movement. Further, the analysis will evaluate the operations of the median opening on Marion Oaks Course to the north of the proposed driveway for purposes of assessing the northbound-to-southbound u-turn implications. A similar analysis will also be provided for the Marion Oaks Course/SW 132 Place intersection.

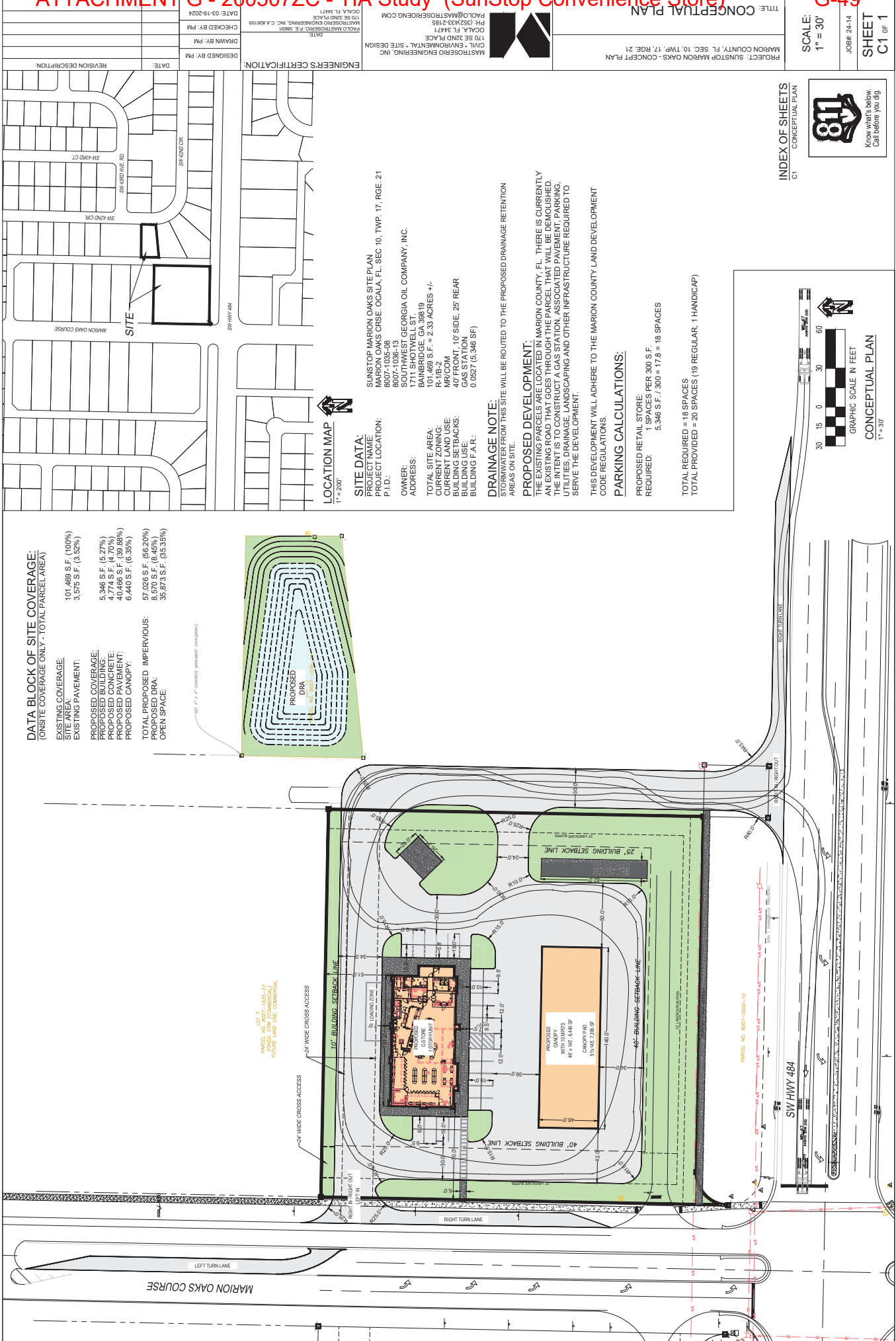
## **Mitigation**

Where roadway segment or intersection deficiencies are identified, appropriate improvements will be identified for existing, future background, and future total build-out conditions. Following, the applicant and the development team will coordinate with the County, and other agencies where applicable, to determine the development's mitigation responsibility. It should be noted that mitigation and associated credits towards impact fees will be addressed in accordance with Florida Statutes 163.3180.

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

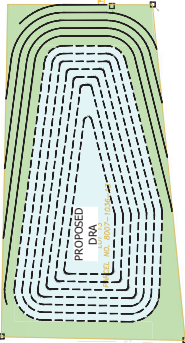


# Attachments



**DATA BLOCK OF SITE COVERAGE:**  
(ONSITE COVERAGE ONLY - TOTAL PARCEL AREA)

EXISTING COVERAGE:	101,469 S.F. (100%)
EXISTING PAVEMENT:	3,575 S.F. (3.52%)
PROPOSED COVERAGE:	5,346 S.F. (5.27%)
PROPOSED BUILDING:	4,148 S.F. (4.09%)
PROPOSED PAVEMENT:	40,468 S.F. (39.88%)
PROPOSED CANOPY:	6,440 S.F. (6.35%)
TOTAL PROPOSED IMPERVIOUS:	57,026 S.F. (56.20%)
PROPOSED DRA:	8,570 S.F. (8.45%)
OPEN SPACE:	35,973 S.F. (35.35%)



**LOCATION MAP**  
T<sup>1</sup> = 200'

**SITE DATA:**  
PROJECT NAME: SUNSTOP MARION OAKS SITE PLAN  
PROJECT LOCATION: MARION OAKS CRSE, OCALA, FL, SEC 10, TWP. 17, RGE. 21  
P.I.D.: 8007-1038-08  
OWNER: SOUTHWEST GEORGIA OIL COMPANY, INC.  
ADDRESS: 1711 SHOTWELL ST., BAINBRIDGE, GA 30819  
TOTAL SITE AREA: 101,469 S.F. = 2.33 ACRES +/-  
CURRENT LAND USE: M/COM  
BUILDING SETBACKS: 40' FRONT, 10' SIDE, 25' REAR  
BUILDING USE: GAS STATION  
BUILDING F.A.R.: 0.0527 (5,346 SF)

**DRAINAGE NOTE:**  
STORMWATER FROM THIS SITE WILL BE ROUTED TO THE PROPOSED DRAINAGE RETENTION AREAS ON SITE.

**PROPOSED DEVELOPMENT:**  
THE EXISTING PARCELS ARE LOCATED IN MARION COUNTY, FL. THERE IS CURRENTLY AN EXISTING ROAD THAT GOES THROUGH THE PARCEL THAT WILL BE DEMOLISHED. THE INTENT IS TO CONSTRUCT A GAS STATION, ASSOCIATED PAVEMENT, PARKING, UTILITIES, DRAINAGE, LANDSCAPING AND OTHER INFRASTRUCTURE REQUIRED TO SERVE THE DEVELOPMENT.

THIS DEVELOPMENT WILL ADHERE TO THE MARION COUNTY LAND DEVELOPMENT CODE REGULATIONS.

**PARKING CALCULATIONS:**  
PROPOSED RETAIL STORE:  
REQUIRED: 18 SPACES PER 300 S.F.  
5,346 S.F. / 300 = 17.8 = 18 SPACES

TOTAL REQUIRED = 18 SPACES  
TOTAL PROVIDED = 20 SPACES (19 REGULAR, 1 HANDICAP)



**INDEX OF SHEETS**  
C1 CONCEPTUAL PLAN

DESIGNED BY: PM	DATE:
DRAWN BY: PM	REVISION DESCRIPTION:
CHECKED BY: PM	DATE:
DATE:	

ENGINEER'S CERTIFICATION:  
M/STROER ENGINEERING, INC.  
170 SE 32ND PLACE  
OCALA, FL 34471  
PH: (352) 483-2185  
P.O. BOX 1208  
OCALA, FL 34471  
M/STROER ENGINEERING, INC. CA#20159

PROJECT: SUNSTOP MARION OAKS - CONCEPT PLAN	TITLE: CONCEPTUAL PLAN
MARION COUNTY, FL, SEC. 10, TWP. 17, RGE. 21	

SCALE: 1" = 30'
JOB# 24-14
SHEET C1 OF 1

OCALA MARION TPO

# Congestion Management Process

## 2023 STATE OF THE SYSTEM REPORT











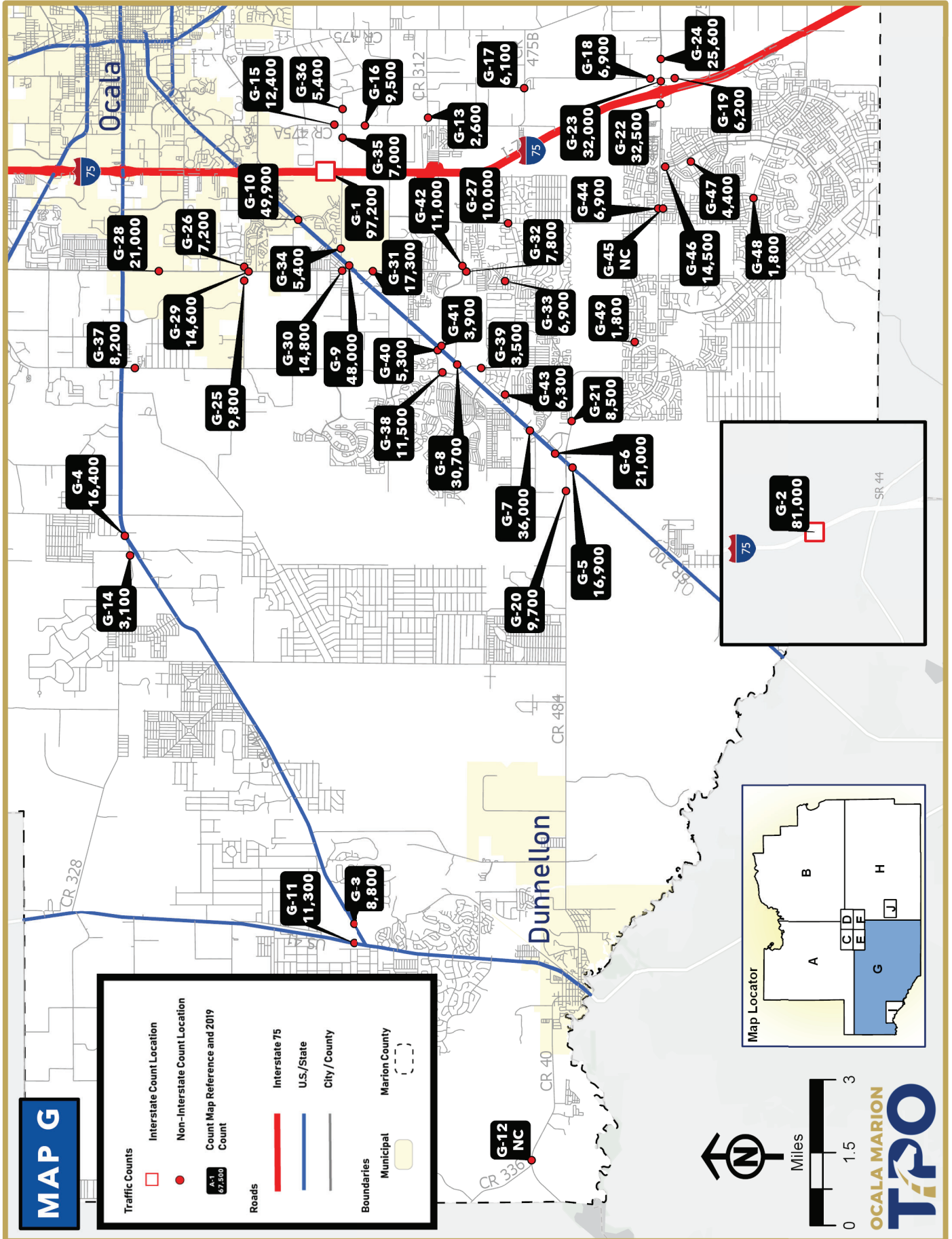
# 2020 Traffic Counts Manual

City of Ocala continues on p.22 (Map E)

Marion County continues on p.9 (Map A)

Marion County continues on p.33 (Map H)

City of Ocala continues on p.25 (Map F)



Traffic Counts 2015-2019; FILENAME: \\mbeck1.org\Shared\Dept\_TPO\Traffic Studies\Count Manuals\2019 Traffic Count Book; 1:208,000; PLOT DATE 07:15:2020

## G

Map #	Location	Source	Count Type	2015	2016	2017	2018	2019	Annual Growth Rate (%)
<b>I-75</b>									
G-01	.35 miles N of Williams Road	FDOT	3	87,000	90,500	94,500	93,700	97,200	2.9
G-02	From SR 44 to CR 484	FDOT	3	75,500	72,500	78,000	80,000	81,000	1.8
<b>SR 40</b>									
G-03	.422 mi NE of US 41	FDOT	3	7,900	8,200	8,400	8,600	8,800	2.8
G-04	.371 mi E of CR 328	FDOT	3	14,200	15,000	15,600	15,500	16,400	3.9
<b>SR 200</b>									
G-05	.2 mi SW of CR 484	MC	3	14,200	15,100	15,700	16,400	16,900	4.8
G-06	.12 mi NE of CR 484	FDOT	3	19,500	19,900	21,500	22,000	21,000	1.9
G-07	.985 mi NE of CR 484	FDOT	3	33,000	34,100	38,000	35,000	36,000	2.3
G-08	S of SW 80th St	MC	3	23,500	29,200	30,400	31,800	30,700	7.7
G-09	2.932 mi SW of I-75	FDOT	3	41,500	NC	NC	47,000	48,000	3.9
G-10	I-75 to SW 66th St	OCA	1	38,500	NC	34,000	36,700	49,900	7.4
<b>US 41</b>									
G-11	.663 mi N of SR 40	FDOT	3	10,300	11,000	11,000	10,900	11,300	2.4
<b>CR 40</b>									
G-12	E of CR 336	MC	2	2,500	9,100	8,500	9,200	NC	89.3
<b>CR 312</b>									
G-13	E of CR 475A	MC	2	2,500	2,400	2,600	2,600	2,600	1.0
<b>CR 328</b>									
G-14	N of SR 40	MC	2	5,300	NC	3,100	3,100	3,100	-10.4
<b>CR 475A</b>									
G-15	N of SW 66th St	MC	2	12,500	12,300	12,000	12,500	12,400	-0.2
G-16	S of SW 66th St	MC	2	9,400	9,700	9,300	9,800	9,500	0.3
G-17	W of CR 475B	MC	2	5,500	5,700	5,700	5,700	6,100	2.7
G-18	N of CR 484	MC	2	5,700	6,000	6,200	6,800	6,900	5.3
G-19	S of CR 484	MC	2	5,700	5,600	5,700	6,200	6,200	2.2
<b>CR 484</b>									
G-20	W of SR 200	MC	2	8,500	9,500	8,900	9,400	9,700	3.5
G-21	E of SR 200	MC	2	7,500	8,100	7,700	8,400	8,500	3.3
G-22	W of I-75	MC	2	29,600	28,100	29,200	30,100	32,500	2.4
G-23	E of I-75	MC	2	25,000	26,100	27,500	30,000	32,000	7.0
G-24	E of CR 475A	MC	2	21,600	20,600	21,500	24,100	25,600	4.6

G

Map #	Location	Source	Count Type	2015	2016	2017	2018	2019	Annual Growth Rate (%)
<b>SW 38th St</b>									
G-25	W of SW 60th Ave	MC	2	8,300	8,000	9,700	9,800	9,800	4.5
G-26	E of SW 60th Ave	MC	2	5,800	5,900	7,200	7,400	7,200	6.0
<b>SW 49th Ave</b>									
G-27	N of SW 103rd St Rd	MC	2	8,100	8,100	7,500	7,800	10,000	5.9
<b>SW 60th Ave</b>									
G-28	SR 40 to SW 20th St	OCA	2	NC	NC	16,100	20,600	21,000	15.2
G-29	S of SW 38th St	MC	2	NC	15,100	14,500	14,600	14,600	-1.1
G-30	N of SR 200	MC	3	14,400	14,800	14,400	14,800	14,800	0.7
G-31	S of SR 200	MC	2	17,400	17,200	17,000	17,000	17,300	-0.1
<b>SW 62nd Ave Rd</b>									
G-32	S of SW 95th St	MC	2	6,600	7,100	6,800	7,400	7,800	4.5
G-33	N of SW 103rd St Rd	MC	2	6,200	6,100	5,900	6,400	6,900	2.8
<b>SW 66th St</b>									
G-34	E of SR 200	MC	2	5,000	4,900	5,200	5,300	5,400	2.0
G-35	W of CR 475A	MC	2	7,300	7,300	7,100	7,200	7,000	-1.0
G-36	E of CR 475A	MC	2	4,000	4,100	5,200	5,300	5,400	8.8
<b>SW 80th Ave</b>									
G-37	S of SR 40	MC	2	6,300	6,700	8,100	8,400	8,200	7.5
G-38	N of SR 200	MC	2	8,800	8,300	11,300	11,700	11,500	7.7
G-39	S of SR 200	MC	3	2,700	2,800	3,300	3,500	3,500	7.4
<b>SW 90th St</b>									
G-40	W of SR 200	MC	2	4,100	4,600	4,500	5,100	5,300	7.3
<b>SW 95th St Rd/SW 95th St</b>									
G-41	E of SR 200	MC	2	2,400	2,800	3,200	3,500	3,900	15.6
G-42	E of SW 62nd Ave Rd	MC	2	9,200	9,000	9,600	10,700	11,000	4.9
<b>SW 103rd St Rd</b>									
G-43	E of SR 200	MC	2	5,600	5,600	5,700	6,100	6,300	3.1
<b>Marion Oaks Course</b>									
G-44	N of CR 484	MC	3	8,700	9,100	9,300	9,900	6,900	-5.2
G-45	S of CR 484	FDOT	3	NC	NC	NC	6,900	NC	N/A
<b>Marion Oaks Boulevard</b>									
G-46	S of CR 484	FDOT	3	12,500	12,900	13,300	14,300	14,500	4.0

## G

Map #	Location	Source	Count Type	2015	2016	2017	2018	2019	Annual Growth Rate (%)
<b>Marion Oaks Drive</b>									
G-47	W of Marion Oaks Blvd	FDOT	3	4,300	4,500	4,700	4,400	4,400	0.6
<b>Marion Oaks Manor</b>									
G-48	W of Marion Oaks Dr	FDOT	3	1,600	1,700	1,800	1,800	1,800	3.1
<b>Marion Oaks Trail</b>									
G-49	E of SW 73rd Ave Rd	FDOT	3	1,550	1,650	1,750	1,800	1,800	4.0

# 2023 Traffic Counts Report



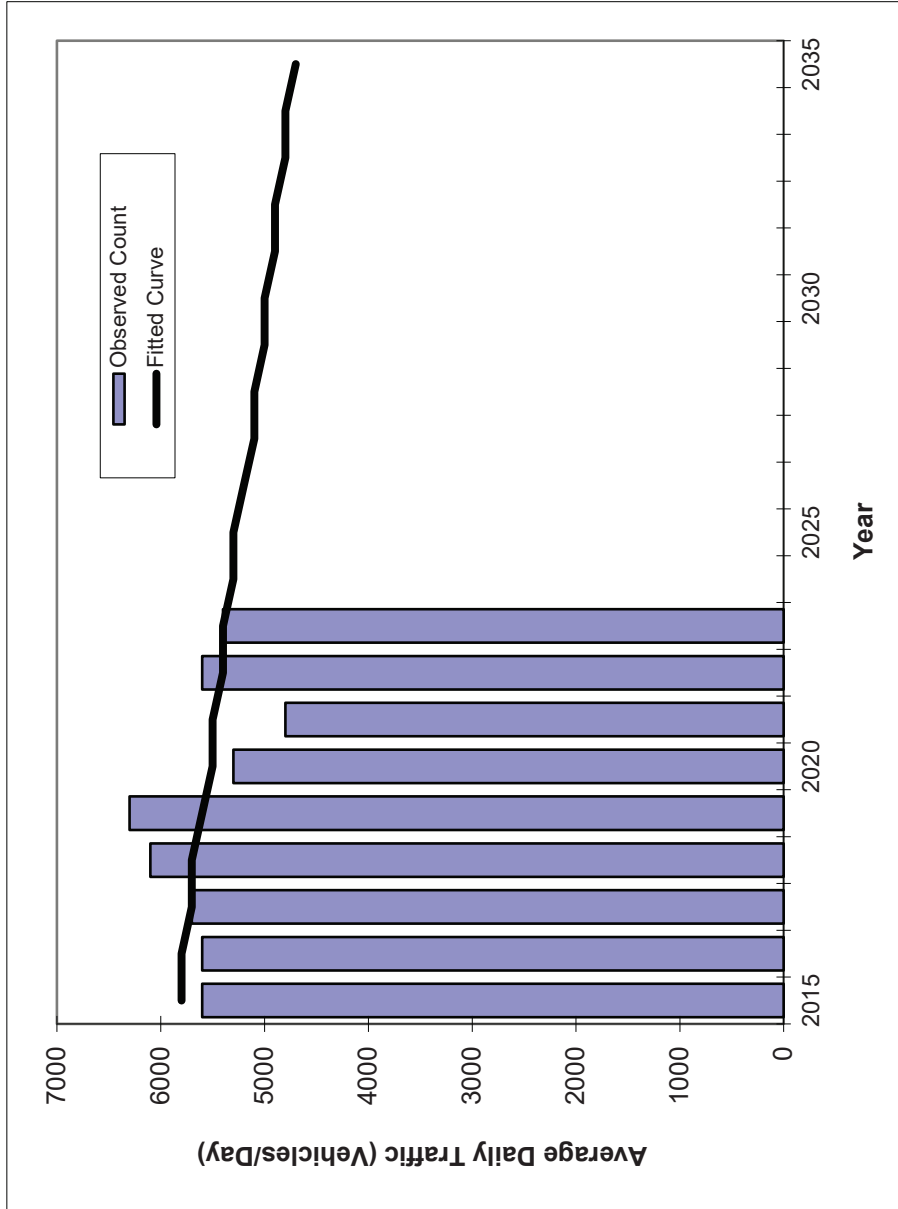
[www.ocalamariontpo.org](http://www.ocalamariontpo.org)

Location	Source	Count Type	2018	2019	2020	2021	2022	Ave Annual Growth Rate (%)
<b>Magnolia Avenue</b>								
NW 14th St to Jacksonville Road	OCA	2	NC	NC	NC	3,200	3,200	N/A
SR 492 to NW 14th Street	OCA	2	NC	NC	NC	3,900	3,900	N/A
NE 1st Avenue to SR 492	OCA	2	NC	NC	NC	4,000	3,700	N/A
<b>Marion Oaks Boulevard</b>								
South of CR 484	FDOT	4	14,300	14,500	14,300	15,100	15,100	1.4%
<b>Marion Oaks Course</b>								
North of CR 484	MC	3	9,900	6,900	7,500	13,300	12,200	11.9%
South of CR 484	FDOT	4	6,900	NC	6,500	7,600	7,600	1.8%
<b>Marion Oaks Drive</b>								
W of Marion Oaks Blvd	FDOT	4	4,400	4,400	4,400	4,800	4,800	2.3%
<b>Marion Oaks Manor</b>								
W of Marion Oaks Drive	FDOT	4	1,800	1,800	1,800	2,200	2,200	5.6%
<b>Marion Oaks Trail</b>								
E of SW 73rd Ave Road	FDOT	4	1,800	1,800	1,800	2,100	2,100	4.2%
<b>MLK Jr. Avenue</b>								
NW 22nd St to NW 31st St	OCA	3	NC	3,300	7,200	6,600	7,600	41.7%
SR 200 to SR 464	OCA	3	6,200	7,300	6,800	6,600	7,400	5.0%
NW 4th St to US 27	OCA	2	12,800	22,700	19,400	7,800	13,500	19.0%
US 27 to NW 22nd St	OCA	2	7,200	8,300	8,600	7,700	8,100	3.4%
SR 40 to SR 200	OCA	2	NC	21,400	19,900	13,600	16,300	-6.3%
<b>NE 8th Avenue</b>								
NE 14th Street to SR 40	OCA	3	6,800	11,300	9,100	6,900	7,100	6.4%
<b>NE 17th Avenue</b>								
SR 492 to NE 3rd Street	OCA	2	1,900	2,200	2,100	2,200	2,100	2.9%
<b>NE 19th Avenue</b>								
NE 24th Street to NE 14th	OCA	3	NC	2,800	3,000	2,900	2,800	0.1%
<b>NE 25th Avenue</b>								
NE 24th St to NE 28th St	OCA	3	5,000	9,200	8,800	8,000	7,900	17.3%
SR 40 to NE 3rd St	OCA	3	NC	NC	NC	6,700	6,900	N/A
SR 40 to Fort King	OCA	2	24,100	14,500	9,800	14,300	13,400	-10.9%
NE 24th St to NE 35th St	OCA	2	NC	NC	NC	6,900	7,600	N/A
NE 14th St to NE 24th St	OCA	2	11,200	8,300	11,400	9,900	10,600	1.3%
<b>NE 2nd Street</b>								
NE 8th Ave to NE 25th Ave	OCA	3	NC	1,400	2,400	2,400	2,600	26.6%
<b>NE 3rd Street</b>								
NE 8th Ave to NE 25th Ave	OCA	2	3,500	3,500	3,100	3,200	3,800	2.6%
SR 40 to NE 25th Ave	OCA	3	NC	2,100	1,700	2,000	1,800	-3.8%

### Traffic Trends - V03.a SW 103rd St Rd - E of SR 200 --

FIN#	
Location	

County:	Marion
Station #:	SW 103rd St Rd - E of SR 200
Highway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	5600	5800
2016	5600	5800
2017	5700	5700
2018	6100	5700
2019	6300	5600
2020	5300	5500
2021	4800	5500
2022	5600	5400
2023	5400	5400
<b>2024 Opening Year Trend</b>		
2024	N/A	5300
<b>2025 Mid-Year Trend</b>		
2025	N/A	5300
<b>2026 Design Year Trend</b>		
2026	N/A	5200
TRANPLAN Forecasts/Trends		

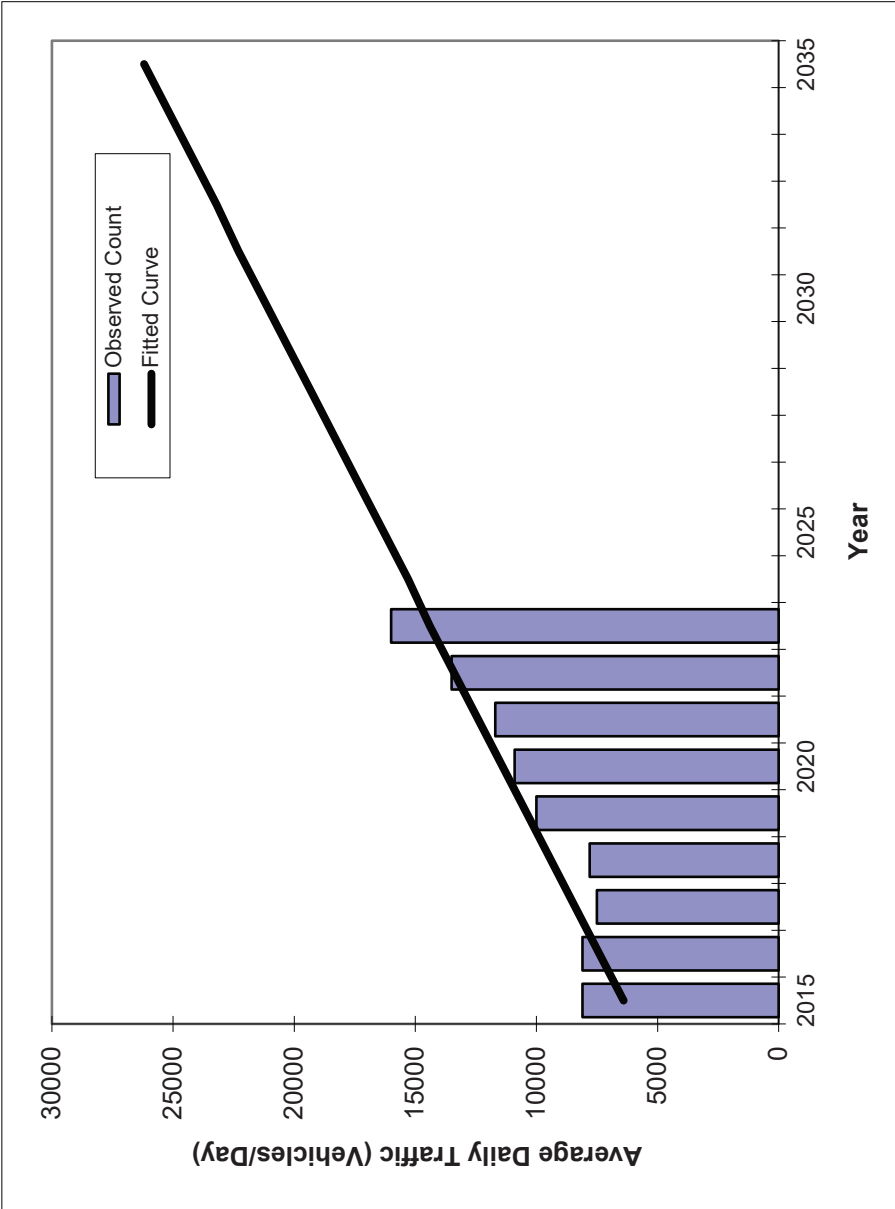
** Annual Trend Increase:	-57
Trend R-squared:	12.68%
Trend Annual Historic Growth Rate:	-0.86%
Trend Growth Rate (2023 to Design Year):	-1.23%
Printed:	24-Jul-24
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

### Traffic Trends - V03.a SW 49th Ave - N of SW 103rd --

FIN#	
Location	

County:	Marion
Station #:	
Highway:	SW 49th Ave - N of SW 103rd



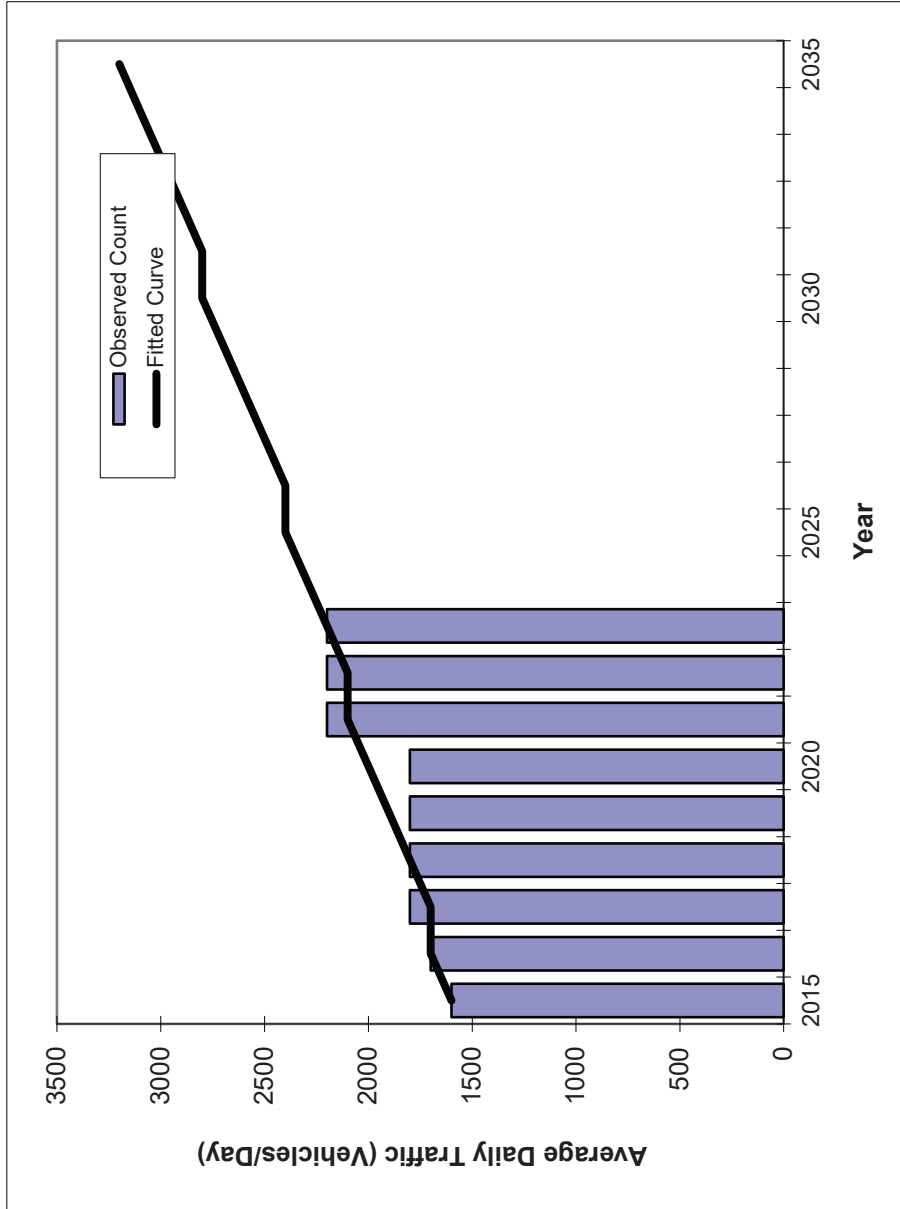
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	8100	6400
2016	8100	7400
2017	7500	8400
2018	7800	9400
2019	10000	10400
2020	10900	11400
2021	11700	12400
2022	13500	13400
2023	16000	14400
<b>2024 Opening Year Trend</b>		
2024	N/A	15300
<b>2025 Mid-Year Trend</b>		
2025	N/A	16300
<b>2026 Design Year Trend</b>		
2026	N/A	17300
TRANPLAN Forecasts/Trends		

<b>** Annual Trend Increase:</b>	988
<b>Trend R-squared:</b>	85.16%
<b>Trend Annual Historic Growth Rate:</b>	15.63%
<b>Trend Growth Rate (2023 to Design Year):</b>	6.71%
<b>Printed:</b>	24-Jul-24
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

### Traffic Trends - V03.a Marion Oaks Course Trail - East of SW 73rd Ave --

FIN#	Location	County:	Marion
		Station #:	
		Highway:	Marion Oaks Course Trail - East of SW 73rd Ave



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	1600	1600
2016	1700	1700
2017	1800	1700
2018	1800	1800
2019	1800	1900
2020	1800	2000
2021	2200	2100
2022	2200	2100
2023	2200	2200
2024	N/A	2300
2025	N/A	2400
2026	N/A	2400
TRANPLAN Forecasts/Trends		

**\*\* Annual Trend Increase:** 78  
**Trend R-squared:** 83.67%  
**Trend Annual Historic Growth Rate:** 4.69%  
**Trend Growth Rate (2023 to Design Year):** 3.03%  
**Printed:** 24-Jul-24  
**Straight Line Growth Option**

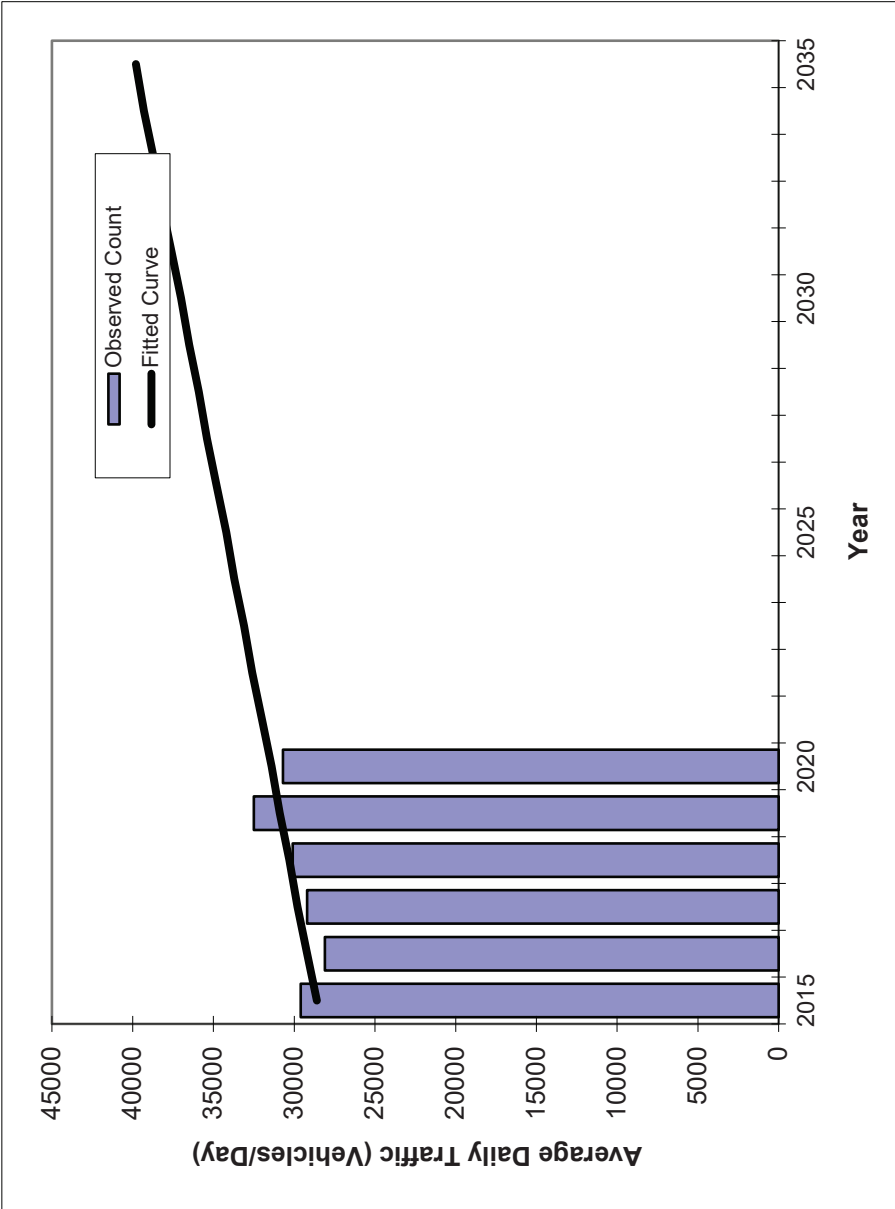
\*Axle-Adjusted

### Traffic Trends - V03.a

CR 484, W of I-75 --

FIN#	
Location	

County:	Marion
Station #:	
Highway:	CR 484, W of I-75



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	29600	28600
2016	28100	29200
2017	29200	29800
2018	30100	30300
2019	32500	30900
2020	30700	31400
2024 Opening Year Trend		
2024	N/A	33700
2025 Mid-Year Trend		
2025	N/A	34200
2026 Design Year Trend		
2026	N/A	34800
TRANPLAN Forecasts/Trends		

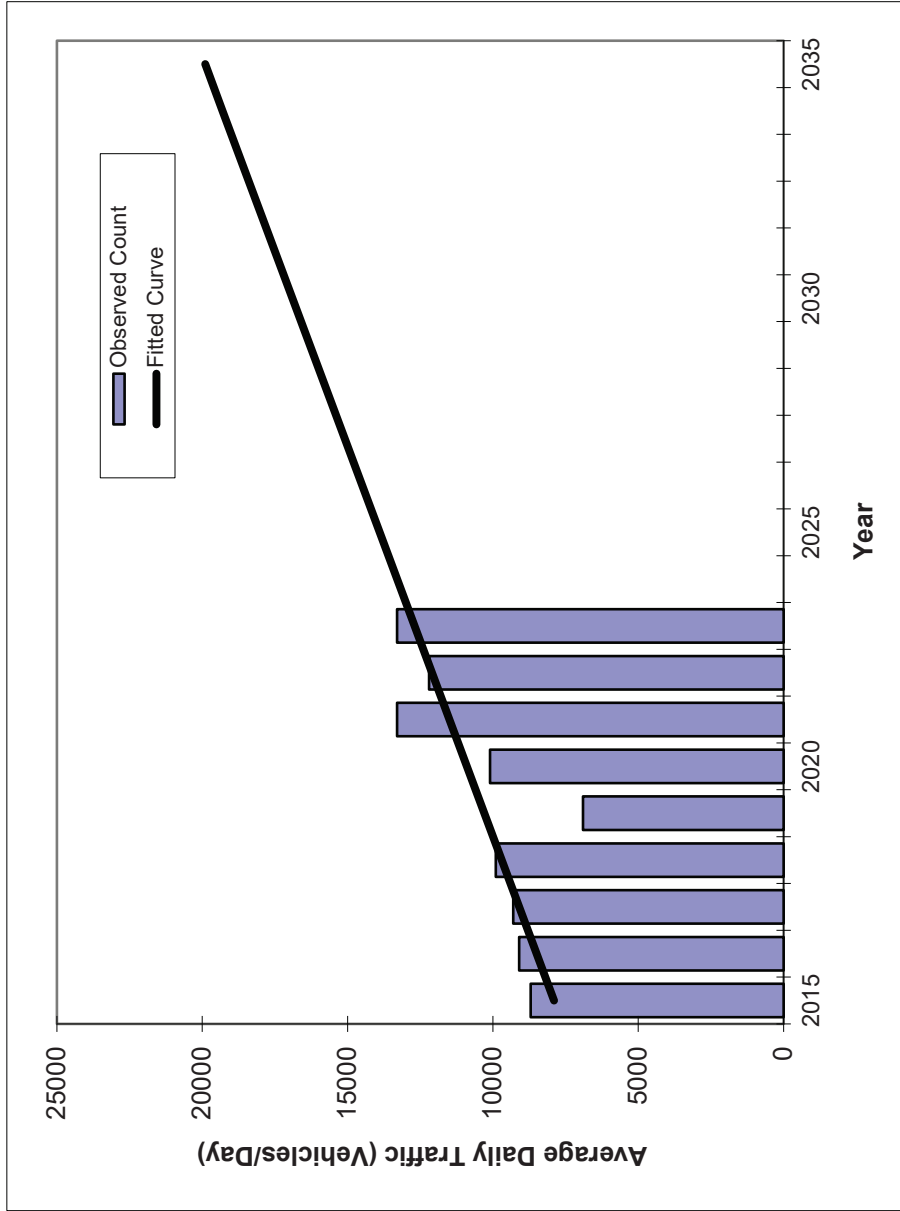
** Annual Trend Increase:	560
Trend R-squared:	49.21%
Trend Annual Historic Growth Rate:	1.96%
Trend Growth Rate (2020 to Design Year):	1.80%
Printed:	24-Jul-24
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

### Traffic Trends - V03.a Marion Oaks Course, N of CR 484 --

FIN#	
Location	

County:	Marion
Station #:	Marion Oaks Course, N of CR 484
Highway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	8700	7900
2016	9100	8500
2017	9300	9100
2018	9900	9700
2019	6900	10300
2020	10100	10900
2021	13300	11500
2022	12200	12100
2023	13300	12700
<b>2024 Opening Year Trend</b>		
2024	N/A	13300
<b>2025 Mid-Year Trend</b>		
2025	N/A	13900
<b>2026 Design Year Trend</b>		
2026	N/A	14500
TRANPLAN Forecasts/Trends		

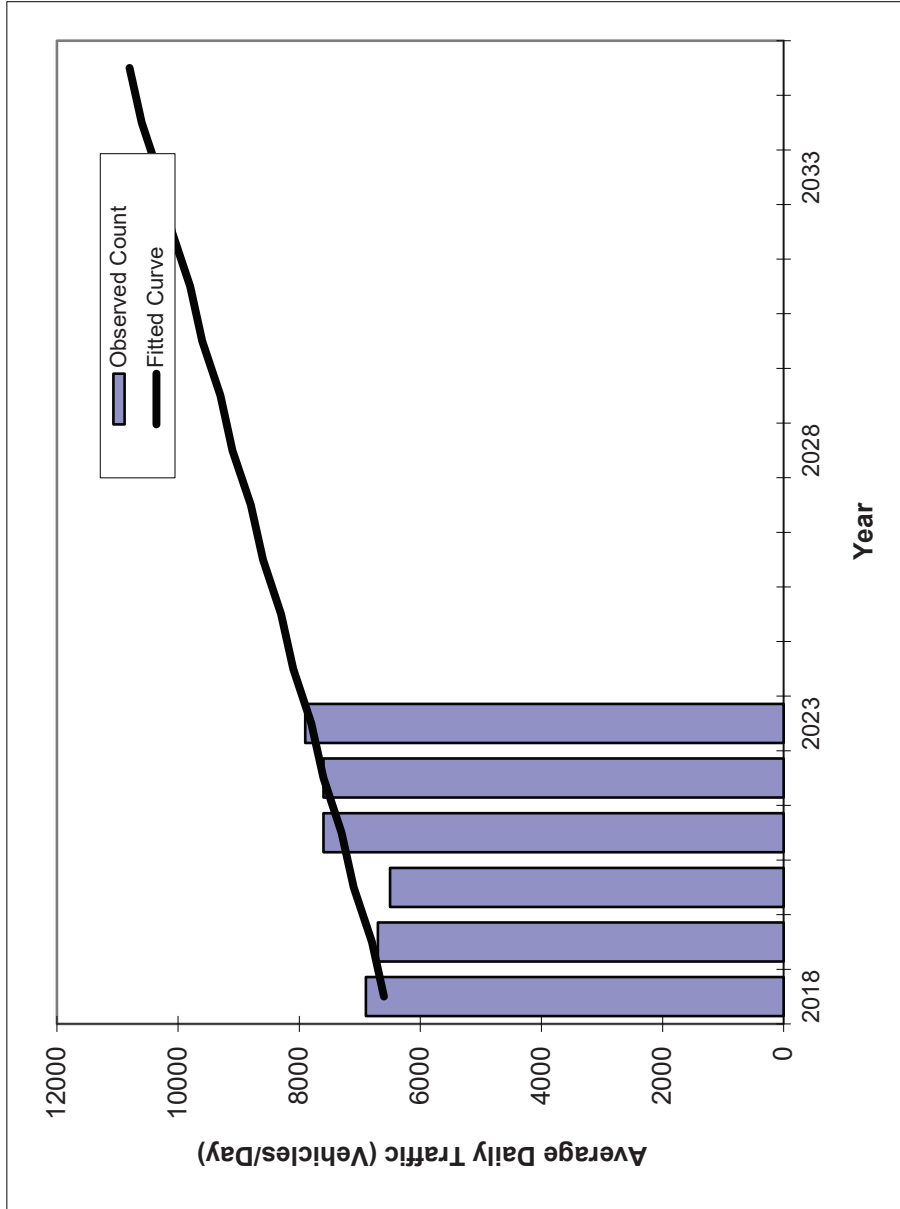
<b>** Annual Trend Increase:</b>	598
<b>Trend R-squared:</b>	55.98%
<b>Trend Annual Historic Growth Rate:</b>	7.59%
<b>Trend Growth Rate (2023 to Design Year):</b>	4.72%
<b>Printed:</b>	24-Jul-24
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

### Traffic Trends - V03.a Marion Oaks Course, S of CR 484 --

FIN#	
Location	

County:	Marion
Station #:	Marion Oaks Course, S of CR 484
Highway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2018	6900	6600
2019	6700	6800
2020	6500	7100
2021	7600	7300
2022	7600	7600
2023	7900	7800
<b>2024 Opening Year Trend</b>		
2024	N/A	8100
<b>2025 Mid-Year Trend</b>		
2025	N/A	8300
<b>2026 Design Year Trend</b>		
2026	N/A	8600
TRANPLAN Forecasts/Trends		

<b>** Annual Trend Increase:</b>	251
<b>Trend R-squared:</b>	67.46%
<b>Trend Annual Historic Growth Rate:</b>	3.64%
<b>Trend Growth Rate (2023 to Design Year):</b>	3.42%
<b>Printed:</b>	24-Jul-24
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

**From:** [Watson, Donald](#)  
**To:** [CHRIS WALSH](#)  
**Cc:** [Zeigler, Christopher](#)  
**Subject:** RE: Marion Oaks SunStop - Application #31742 - Pass-By Trip Distribution  
**Date:** Wednesday, September 18, 2024 1:47:49 PM  
**Attachments:** [image002.png](#)  
[MC-seal-4C-Rev-19\\_cba48ea3-e87b-450b-b0b9-d5aeaa4a09a8.png](#)

---

Hi Chris,

The 40% from Marion Oaks (30% NB & 10% SB) looks good. For the 60% from CR 484, can you change it to 40% WB and 20% EB? The revised values are highlighted below.

- **60% of the pass-by trips will be from CR 484**
  - **20%** from EB direction (and continue EB when leaving)
  - **40%** from WB direction (and continue WB when leaving)
- **40% from Marion Oaks**
  - **30%** from NB direction (and continue NB when leaving)
  - **10%** from SB direction (and continue SB when leaving)

Thanks,  
Don



**Donald Watson, PhD, P.E.**

*Senior Engineer*

Office of the County Engineer

---

Marion County Board of County Commissioners

412 SE 25th Ave.

Ocala, FL 34471

Main: 352-671-8686 | Direct: 352-671-8381

[Empowering Marion for Success!](#)

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---

**From:** CHRIS WALSH <chris.walsh@walshttraffic.com>  
**Sent:** Tuesday, September 17, 2024 8:28 PM  
**To:** Watson, Donald <Donald.Watson@marionfl.org>; Zeigler, Christopher <Christopher.Zeigler@marionfl.org>  
**Subject:** Marion Oaks SunStop - Application #31742 - Pass-By Trip Distribution

**CAUTION: THIS MESSAGE IS FROM AN EXTERNAL SENDER**

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button in Outlook or contact the Helpdesk.

Good afternoon all,

Although our TIA methodology was approved, per comment #5 (see attached) we were to provide you with the proposed pass-by distribution after receipt of traffic counts. We obtained the attached counts at CR 484/Marion Oaks. Based on these counts, the following observations were noted:

AM Peak Hour

CR 484 (east of Marion Oaks Course)

EB-544 (39%)

WB-855 (61%)

Total-1400

Marion Oaks (north of CR 484)

NB-684 (65%)

SB-370 (35%)

Total-1054

CR 484 traffic is ~57% (1400), Marion Oaks ~43% (1054)

PM Peak Hour

CR 484 (east of Marion Oaks Course)

EB-885 (45%)

WB-1082 (55%)

Total-1967

Marion Oaks (north of CR 484)

NB-559 (48%)

SB-602 (52%)

Total-1161

CR 484 traffic is ~63% (1967), Marion Oaks ~37% (1161)

**Based on the above volumes and the fact that pass-by motorists are more likely to come from right-in/right-out movements versus left-in/left-out movements, for the study we are assuming the following pass-by distribution:**

- **60% of the pass-by trips will be from CR 484**
  - 15% from EB direction (and continue EB when leaving)
  - 45% from WB direction (and continue WB when leaving)
- **40% from Marion Oaks**
  - 30% from NB direction (and continue NB when leaving)
  - 10% from SB direction (and continue SB when leaving)

Please let us know if this pass-by distribution looks acceptable.

Thank you

Chris



**Walsh Traffic Engineering**

# Appendix C

## Traffic Counts



Existing Roadway Segment Volumes

Roadway Segment	ID	Daily				PM Peak Hour							
		Service Volume (vpd)	Source	Existing Volume (vpd)	Source	Year	Existing Volume #1 (vph)		Existing Volume #2 (vph)		Applied Existing Volume (vph)		Year
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	
<b>CR 484</b> SW 57th Ave to Marion Oaks Course Marion Oaks Course to Marion Oaks Blvd	2030	35,820	CMP	8,000	TPO-CMP	2023	662	627	-	-	662	627	2024
	2030	35,820	CMP	33,000	TPO-CMP	2023	913	1,116	-	-	913	1,116	2024
<b>Marion Oaks Course</b> Marion Oaks Manor to Marion Oaks Ln Marion Oaks Ln to CR 484	6090	15,930	CMP	7,600	TPO-TCR	2022	247	437	-	-	247	437	2024
		15,930	CMP	7,600	TPO-TCR	2022	365	647	-	-	365	647	2024
<b>CR 484 to SW 49th Ave Rd</b>		15,930	CMP	12,900	TPO-CMP	2023	576	620	655	693	616	657	2024
<b>SW 49th Ave Road</b> Marion Oaks Trf to SW 103rd St Rd SW 103rd St to SW 95th St	6100	12,744	CMP	15,200	TPO-CMP	2023	756	877	-	-	756	877	2024
	6100	12,744	CMP	15,200	TPO-CMP	2023	756	877	-	-	756	877	2024
<b>SW 103rd St Road</b> SR 200 to SW 49th Ave Rd	5550	15,930	CMP	11,800	TPO-CMP	2023	584	478	-	-	584	478	2023
	8150	15,930	CMP	1,800	TPO-TCR	2022	173	229	-	-	173	229	2024
<b>Marion Oaks Lane</b> Marion Oaks Course to Marion Oaks Blvd		16,727	CMP	7,600	ADJ	2022	376	308	-	-	376	308	2022

Notes:

TPO-CMP = Ocala Marion TPO's 2023 Congestion Management Process State of the System

TPO-TCR = Ocala Marion TPO's 2023 Traffic Counts Report

ADJ = Volume based on the volume from an adjacent section

TMC = Volume based on approach and departure volumes from the turning movement counts. For roadway segments with multiple intersection counts, then the average of the 2 volumes was used.

K/D = Applied a standard K factor of 0.09 and standard D factor 0.55 to the existing daily volumes

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & CR 484  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-001  
**Date:** 8/29/2024

**Data - Total**

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				CR 484				CR 484				
<b>AM</b>	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	50	71	26	0	44	26	1	0	26	84	19	0	13	87	85	1	533
7:15 AM	43	77	14	0	40	26	13	0	29	55	16	0	23	112	80	0	528
7:30 AM	41	59	18	0	54	43	22	0	15	71	13	0	10	126	91	0	563
7:45 AM	39	63	20	0	62	35	4	0	4	56	11	0	13	129	84	0	520
8:00 AM	22	43	23	0	47	19	1	0	2	63	9	0	16	121	75	0	441
8:15 AM	16	51	14	0	60	32	1	0	5	95	10	1	11	98	66	0	460
8:30 AM	21	41	22	2	60	27	3	0	3	88	15	0	11	87	72	0	452
8:45 AM	12	43	20	0	82	53	0	0	2	99	16	0	14	84	53	1	479
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	244	448	157	2	449	261	45	0	86	611	109	1	111	844	606	2	3976
	28.67%	52.64%	18.45%	0.24%	59.47%	34.57%	5.96%	0.00%	10.66%	75.71%	13.51%	0.12%	7.10%	54.00%	38.77%	0.13%	
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	173	270	78	0	200	130	40	0	74	266	59	0	59	454	340	1	2144
<b>PEAK HR FACTOR :</b>	0.865	0.877	0.750	0.000	0.806	0.756	0.455	0.000	0.638	0.792	0.776	0.000	0.641	0.880	0.934	0.250	0.952
	0.886				0.777				0.773				0.941				
<b>PM</b>	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	9	23	26	0	60	65	0	0	5	121	41	0	40	113	89	0	592
4:15 PM	31	66	16	0	78	81	0	0	2	100	30	0	43	94	52	0	593
4:30 PM	38	45	19	0	82	53	1	0	3	134	35	0	42	128	96	1	677
4:45 PM	18	48	19	0	59	77	1	0	3	122	14	0	57	139	83	1	641
5:00 PM	23	43	21	0	76	79	3	0	6	123	29	0	47	128	86	1	665
5:15 PM	23	47	14	0	77	72	1	0	3	144	36	1	52	111	105	0	686
5:30 PM	27	46	25	0	83	72	2	0	2	122	38	0	55	132	87	0	691
5:45 PM	22	37	25	0	69	70	1	0	0	94	21	0	54	101	89	0	583
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	191	355	165	0	584	569	9	0	24	960	244	1	390	946	687	3	5128
	26.86%	49.93%	23.21%	0.00%	50.26%	48.97%	0.77%	0.00%	1.95%	78.11%	19.85%	0.08%	19.25%	46.69%	33.91%	0.15%	
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	91	184	79	0	295	300	7	0	14	511	117	1	211	510	361	2	2683
<b>PEAK HR FACTOR :</b>	0.843	0.958	0.790	0.000	0.889	0.949	0.583	0.000	0.583	0.887	0.770	0.250	0.925	0.917	0.860	0.500	0.971
	0.903				0.953				0.874				0.968				

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & CR 484  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-001  
**Date:** 8/29/2024

### Data - Cars

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				CR 484				CR 484				
<b>AM</b>	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	50	70	26	0	43	25	1	0	23	80	18	0	13	73	77	1	500
7:15 AM	43	72	14	0	40	25	11	0	26	55	15	0	22	97	77	0	497
7:30 AM	39	58	18	0	51	39	21	0	15	62	12	0	9	114	87	0	525
7:45 AM	36	62	20	0	61	35	4	0	4	53	10	0	13	120	73	0	491
8:00 AM	17	41	23	0	44	19	0	0	2	60	8	0	13	105	71	0	403
8:15 AM	15	50	14	0	56	32	1	0	3	89	10	1	11	85	63	0	430
8:30 AM	21	41	21	2	53	27	2	0	3	79	14	0	10	76	63	0	412
8:45 AM	12	43	18	0	71	50	0	0	1	90	16	0	13	69	47	1	431
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	233	437	154	2	419	252	40	0	77	568	103	1	104	739	558	2	3689
	28.21%	52.91%	18.64%	0.24%	58.93%	35.44%	5.63%	0.00%	10.28%	75.83%	13.75%	0.13%	7.41%	52.67%	39.77%	0.14%	
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	168	262	78	0	195	124	37	0	68	250	55	0	57	404	314	1	2013
<b>PEAK HR FACTOR :</b>	0.840	0.910	0.750	0.000	0.799	0.795	0.440	0.000	0.654	0.781	0.764	0.000	0.648	0.842	0.902	0.250	0.959
	0.870				0.802				0.771				0.924				
<b>PM</b>	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	9	21	24	0	55	64	0	0	5	112	37	0	38	109	87	0	561
4:15 PM	30	63	16	0	73	76	0	0	0	95	30	0	43	83	48	0	557
4:30 PM	34	41	17	0	75	51	1	0	3	118	35	0	42	122	91	1	631
4:45 PM	18	42	19	0	54	76	1	0	3	117	14	0	56	130	80	1	611
5:00 PM	23	39	20	0	73	77	3	0	6	110	27	0	46	124	83	1	632
5:15 PM	22	46	14	0	74	69	1	0	3	136	36	1	50	104	102	0	658
5:30 PM	27	44	25	0	81	71	1	0	2	115	37	0	54	124	84	0	665
5:45 PM	22	33	24	0	67	70	1	0	0	89	21	0	53	93	86	0	559
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	185	329	159	0	552	554	8	0	22	892	237	1	382	889	661	3	4874
	27.49%	48.89%	23.63%	0.00%	49.55%	49.73%	0.72%	0.00%	1.91%	77.43%	20.57%	0.09%	19.74%	45.94%	34.16%	0.16%	
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	90	171	78	0	282	293	6	0	14	478	114	1	206	482	349	2	2566
<b>PEAK HR FACTOR :</b>	0.833	0.929	0.780	0.000	0.870	0.951	0.500	0.000	0.583	0.879	0.770	0.250	0.920	0.927	0.855	0.500	0.965
	0.883				0.949				0.862				0.973				

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & CR 484  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-001  
**Date:** 8/29/2024

**Data - HT**

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				CR 484				CR 484				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	1	0	0	1	1	0	0	3	4	1	0	0	14	8	0	33
7:15 AM	0	5	0	0	0	1	2	0	3	0	1	0	1	15	3	0	31
7:30 AM	2	1	0	0	3	4	1	0	0	9	1	0	1	12	4	0	38
7:45 AM	3	1	0	0	1	0	0	0	0	3	1	0	0	9	11	0	29
8:00 AM	5	2	0	0	3	0	1	0	0	3	1	0	3	16	4	0	38
8:15 AM	1	1	0	0	4	0	0	0	2	6	0	0	0	13	3	0	30
8:30 AM	0	0	1	0	7	0	1	0	0	9	1	0	1	11	9	0	40
8:45 AM	0	0	2	0	11	3	0	0	1	9	0	0	1	15	6	0	48
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	11	11	3	0	30	9	5	0	9	43	6	0	7	105	48	0	287
	44.00%	44.00%	12.00%	0.00%	68.18%	20.45%	11.36%	0.00%	15.52%	74.14%	10.34%	0.00%	4.38%	65.63%	30.00%	0.00%	
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	5	8	0	0	5	6	3	0	6	16	4	0	2	50	26	0	131
<b>PEAK HR FACTOR :</b>	0.417	0.400	0.000	0.000	0.417	0.375	0.375	0.000	0.500	0.444	1.000	0.000	0.500	0.833	0.591	0.000	0.862
	0.650				0.438				0.650				0.886				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	2	2	0	5	1	0	0	0	9	4	0	2	4	2	0	31
4:15 PM	1	3	0	0	5	5	0	0	2	5	0	0	0	11	4	0	36
4:30 PM	4	4	2	0	7	2	0	0	0	16	0	0	0	6	5	0	46
4:45 PM	0	6	0	0	5	1	0	0	0	5	0	0	1	9	3	0	30
5:00 PM	0	4	1	0	3	2	0	0	0	13	2	0	1	4	3	0	33
5:15 PM	1	1	0	0	3	3	0	0	0	8	0	0	2	7	3	0	28
5:30 PM	0	2	0	0	2	1	1	0	0	7	1	0	1	8	3	0	26
5:45 PM	0	4	1	0	2	0	0	0	0	5	0	0	1	8	3	0	24
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	6	26	6	0	32	15	1	0	2	68	7	0	8	57	26	0	254
	15.79%	68.42%	15.79%	0.00%	66.67%	31.25%	2.08%	0.00%	2.60%	88.31%	9.09%	0.00%	8.79%	62.64%	28.57%	0.00%	
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	1	13	1	0	13	7	1	0	0	33	3	0	5	28	12	0	117
<b>PEAK HR FACTOR :</b>	0.250	0.542	0.250	0.000	0.650	0.583	0.250	0.000	0.000	0.635	0.375	0.000	0.625	0.778	1.000	0.000	0.886
	0.625				0.875				0.600				0.865				

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & CR 484  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-001  
**Date:** 8/29/2024

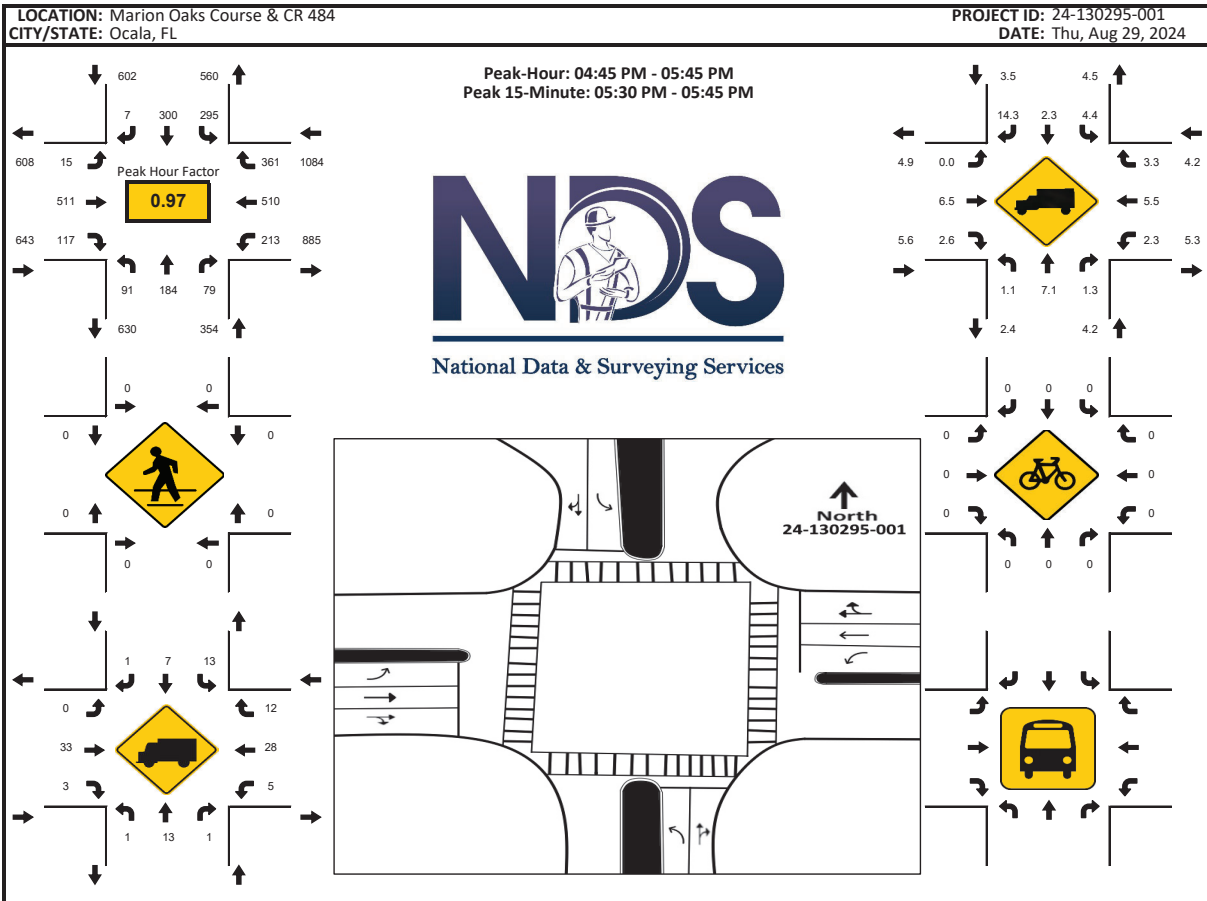
### Data - Bikes

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				CR 484				CR 484					
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	7:00 AM	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
	7:30 AM	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
	8:00 AM	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	0	0	0	0		0
	8:30 AM	0	2	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		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	0.00%	100.00%	0.00%	0.00%														
<b>PEAK HR :</b>	07:00 AM - 08:00 AM																	
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	4:00 PM	0	0	0	0	0	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	0	0	0	0		0
	4:30 PM	0	0	0	0	0	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	0	0	0	0		0
	5:00 PM	0	0	0	0	0	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	0	0	0	0		0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
									0.00%	0.00%	100.00%	0.00%						
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																	
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	









15-Min Count Period Beginning At	Marion Oaks Course Northbound					Marion Oaks Course Southbound					CR 484 Eastbound					CR 484 Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	9	23	26	0		60	65	0	0		5	121	41	0		40	113	89	0		592	2503
4:15 PM	31	66	16	0		78	81	0	0		2	100	30	0		43	94	52	0		593	2576
4:30 PM	38	45	19	0		82	53	1	0		3	134	35	0		42	128	96	1		677	2669
4:45 PM	18	48	19	0		59	77	1	0		3	122	14	0		57	139	83	1		641	2683
5:00 PM	23	43	21	0		76	79	3	0		6	123	29	0		47	128	86	1		665	2625
5:15 PM	23	47	14	0		77	72	1	0		3	144	36	1		52	111	105	0		686	1960
5:30 PM	27	46	25	0		83	72	2	0		2	122	38	0		55	132	87	0		691	1274
5:45 PM	22	37	25	0		69	70	1	0		0	94	21	0		54	101	89	0		583	583
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	108	192	100	0		332	316	12	0		24	576	152	4		228	556	420	4		3024	
Heavy Trucks	4	24	4	0		20	12	4	0		0	52	8	0		8	36	12	0		184	
Pedestrians	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Buses	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Stopped Buses	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & SW 132nd PI  
**City:** Ocala  
**Control:** 2-Way Stop(EB/WB)

**Project ID:** 24-130295-002  
**Date:** 8/29/2024

### Data - Total

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				SW 132nd PI				SW 132nd PI				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	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	177	2	0	0	62	0	0	1	1	2	0	3	0	5	0	254
7:15 AM	1	183	4	0	4	69	0	0	1	0	2	0	8	1	3	0	276
7:30 AM	2	153	2	0	2	107	2	0	2	0	0	0	9	1	6	0	286
7:45 AM	1	146	0	0	2	86	0	0	0	0	3	0	2	0	2	0	242
8:00 AM	4	116	2	0	1	82	0	0	0	0	0	0	3	0	2	0	210
8:15 AM	0	120	2	0	2	84	0	0	0	1	3	0	7	0	3	0	222
8:30 AM	0	115	0	0	0	96	0	0	1	1	3	0	2	0	2	0	220
8:45 AM	3	98	0	1	3	110	0	0	0	0	4	0	1	0	0	0	220
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	12	1108	12	1	14	696	2	0	5	3	17	0	35	2	23	0	1930
	1.06%	97.79%	1.06%	0.09%	1.97%	97.75%	0.28%	0.00%	20.00%	12.00%	68.00%	0.00%	58.33%	3.33%	38.33%	0.00%	
<b>PEAK HR :</b>	07:00 AM - 08:00 AM																TOTAL
<b>PEAK HR VOL :</b>	5	659	8	0	8	324	2	0	4	1	7	0	22	2	16	0	1058
<b>PEAK HR FACTOR :</b>	0.625	0.900	0.500	0.000	0.500	0.757	0.250	0.000	0.500	0.250	0.583	0.000	0.611	0.500	0.667	0.000	0.925
	0.894				0.752				0.750				0.625				
PM	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	TOTAL
4:00 PM	6	115	3	0	3	142	0	0	1	0	1	0	2	0	2	0	275
4:15 PM	2	119	5	0	4	145	1	0	0	0	4	0	1	0	2	0	283
4:30 PM	1	140	4	0	3	144	0	0	0	0	1	0	5	0	4	0	302
4:45 PM	4	123	5	0	1	136	0	0	2	0	1	0	1	0	1	0	274
5:00 PM	2	122	3	0	2	142	2	1	1	0	1	0	2	0	4	0	282
5:15 PM	3	144	4	2	7	141	0	0	0	0	2	0	5	0	2	0	310
5:30 PM	2	137	2	0	3	153	0	1	0	0	0	0	2	0	3	0	303
5:45 PM	3	116	2	0	1	134	0	0	0	1	0	0	1	0	0	0	258
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	23	1016	28	2	24	1137	3	2	4	1	10	0	19	0	18	0	2287
	2.15%	95.04%	2.62%	0.19%	2.06%	97.51%	0.26%	0.17%	26.67%	6.67%	66.67%	0.00%	51.35%	0.00%	48.65%	0.00%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																TOTAL
<b>PEAK HR VOL :</b>	11	526	14	2	13	572	2	2	3	0	4	0	10	0	10	0	1169
<b>PEAK HR FACTOR :</b>	0.688	0.913	0.700	0.250	0.464	0.935	0.250	0.500	0.375	0.000	0.500	0.000	0.500	0.000	0.625	0.000	0.943
	0.904				0.938				0.583				0.714				

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & SW 132nd PI  
**City:** Ocala  
**Control:** 2-Way Stop(EB/WB)

**Project ID:** 24-130295-002  
**Date:** 8/29/2024

### Data - Cars

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				SW 132nd PI				SW 132nd PI				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	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	165	2	0	0	60	0	0	1	1	2	0	3	0	5	0	240
7:15 AM	1	173	4	0	4	66	0	0	1	0	2	0	8	1	2	0	262
7:30 AM	2	147	2	0	2	99	2	0	2	0	0	0	9	1	6	0	272
7:45 AM	1	134	0	0	1	85	0	0	0	0	3	0	2	0	2	0	228
8:00 AM	4	110	2	0	1	78	0	0	0	0	0	0	3	0	2	0	200
8:15 AM	0	114	2	0	2	81	0	0	0	1	3	0	6	0	3	0	212
8:30 AM	0	106	0	0	0	84	0	0	0	1	3	0	2	0	2	0	198
8:45 AM	2	93	0	1	3	100	0	0	0	0	4	0	1	0	0	0	204
<b>TOTAL VOLUMES :</b>	11	1042	12	1	13	653	2	0	4	3	17	0	34	2	22	0	1816
<b>APPROACH %'s :</b>	1.03%	97.75%	1.13%	0.09%	1.95%	97.75%	0.30%	0.00%	16.67%	12.50%	70.83%	0.00%	58.62%	3.45%	37.93%	0.00%	
<b>PEAK HR :</b>	07:00 AM - 08:00 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	5	619	8	0	7	310	2	0	4	1	7	0	22	2	15	0	1002
<b>PEAK HR FACTOR :</b>	0.625	0.895	0.500	0.000	0.438	0.783	0.250	0.000	0.500	0.250	0.583	0.000	0.611	0.500	0.625	0.000	0.921
	0.888				0.774				0.750				0.609				
PM	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	6	110	3	0	3	136	0	0	1	0	1	0	2	0	2	0	264
4:15 PM	2	110	5	0	4	134	1	0	0	0	4	0	1	0	2	0	263
4:30 PM	1	131	4	0	3	136	0	0	0	0	1	0	5	0	4	0	285
4:45 PM	4	114	5	0	1	130	0	0	2	0	1	0	1	0	1	0	259
5:00 PM	2	115	3	0	2	137	2	0	1	0	1	0	2	0	4	0	269
5:15 PM	3	140	4	2	7	135	0	0	0	0	2	0	5	0	2	0	300
5:30 PM	2	132	2	0	3	149	0	1	0	0	0	0	2	0	3	0	294
5:45 PM	3	110	2	0	1	132	0	0	0	1	0	0	1	0	0	0	250
<b>TOTAL VOLUMES :</b>	23	962	28	2	24	1089	3	1	4	1	10	0	19	0	18	0	2184
<b>APPROACH %'s :</b>	2.27%	94.78%	2.76%	0.20%	2.15%	97.49%	0.27%	0.09%	26.67%	6.67%	66.67%	0.00%	51.35%	0.00%	48.65%	0.00%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	11	501	14	2	13	551	2	1	3	0	4	0	10	0	10	0	1122
<b>PEAK HR FACTOR :</b>	0.688	0.895	0.700	0.250	0.464	0.924	0.250	0.250	0.375	0.000	0.500	0.000	0.500	0.000	0.625	0.000	0.935
	0.886				0.926				0.583				0.714				

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & SW 132nd PI  
**City:** Ocala  
**Control:** 2-Way Stop(EB/WB)

**Project ID:** 24-130295-002  
**Date:** 8/29/2024

**Data - HT**

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				SW 132nd PI				SW 132nd PI				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	0	12	0	0	0	2	0	0	0	0	0	0	0	0	0	0	14
	0	10	0	0	0	3	0	0	0	0	0	0	0	0	1	0	14
	0	6	0	0	0	8	0	0	0	0	0	0	0	0	0	0	14
	0	12	0	0	1	1	0	0	0	0	0	0	0	0	0	0	14
	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10
	0	6	0	0	0	3	0	0	0	0	0	0	1	0	0	0	10
	0	9	0	0	0	12	0	0	1	0	0	0	0	0	0	0	22
0	5	0	0	0	10	0	0	0	0	0	0	0	0	0	0	16	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	1	66	0	0	1	43	0	0	1	0	0	0	1	0	1	0	114
	1.49%	98.51%	0.00%	0.00%	2.27%	97.73%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%	
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																TOTAL
<b>PEAK HR VOL :</b>	0	40	0	0	1	14	0	0	0	0	0	0	0	0	1	0	56
<b>PEAK HR FACTOR :</b>	0.000	0.833	0.000	0.000	0.250	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	1.000
		0.833				0.469								0.250			
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	11
	0	9	0	0	0	11	0	0	0	0	0	0	0	0	0	0	20
	0	9	0	0	0	8	0	0	0	0	0	0	0	0	0	0	17
	0	9	0	0	0	6	0	0	0	0	0	0	0	0	0	0	15
	0	7	0	0	0	5	0	1	0	0	0	0	0	0	0	0	13
	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	10
	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	54	0	0	0	48	0	1	0	0	0	0	0	0	0	0	103
	0.00%	100.00%	0.00%	0.00%	0.00%	97.96%	0.00%	2.04%									
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																TOTAL
<b>PEAK HR VOL :</b>	0	25	0	0	0	21	0	1	0	0	0	0	0	0	0	0	47
<b>PEAK HR FACTOR :</b>	0.000	0.694	0.000	0.000	0.000	0.875	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.783
		0.694				0.917											

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** Marion Oaks Course & SW 132nd PI  
**City:** Ocala  
**Control:** 2-Way Stop(EB/WB)

**Project ID:** 24-130295-002  
**Date:** 8/29/2024

### Data - Bikes

NS/EW Streets:	Marion Oaks Course				Marion Oaks Course				SW 132nd PI				SW 132nd PI					
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	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	1	0	1
	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	1	0	1
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	4	
	0.00%	0.00%	100.00%	0.00%									0.00%	0.00%	100.00%	0.00%		
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																TOTAL	
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	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	0.250	
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	4:00 PM	0	0	0	0	0	0	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	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	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	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	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	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																TOTAL	
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	



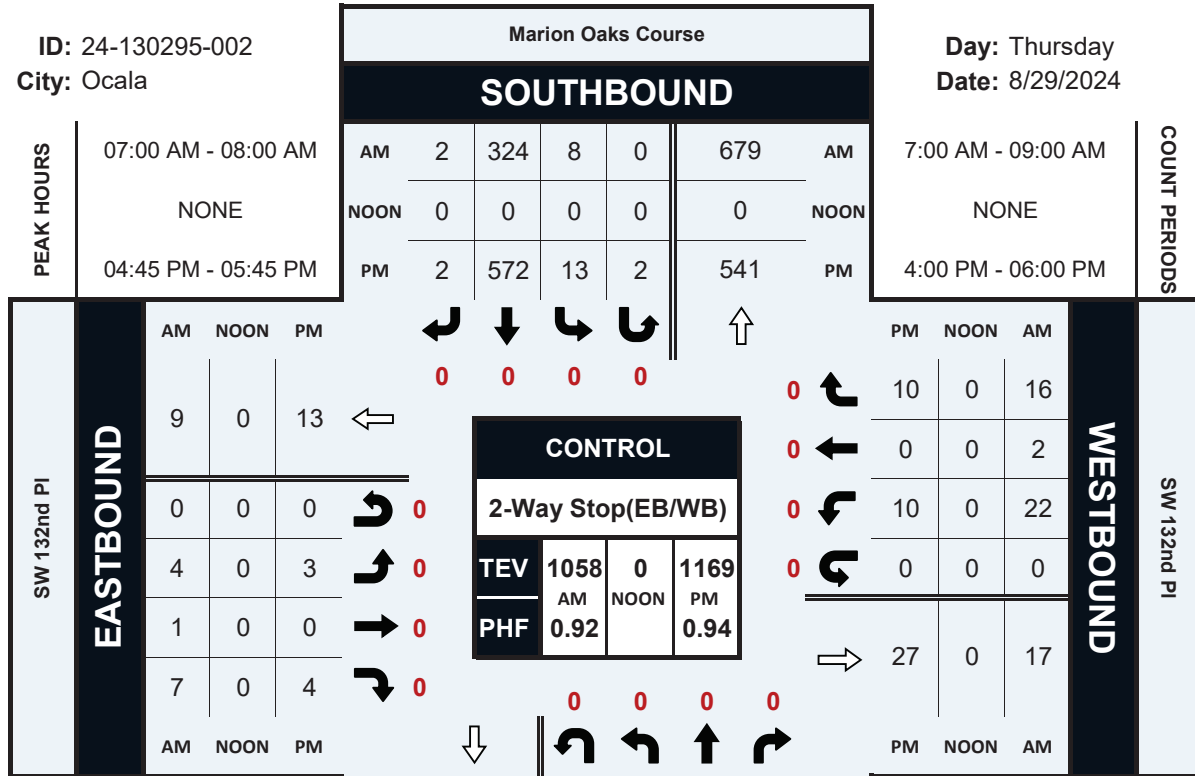
Prepared by National Data & Surveying Services

# Marion Oaks Course & SW 132nd PI

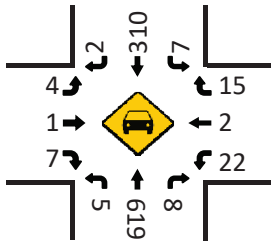
## Peak Hour Turning Movement Count

ID: 24-130295-002  
City: Ocala

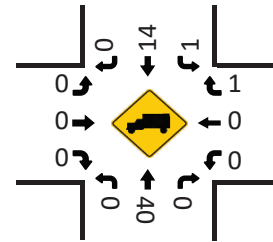
Day: Thursday  
Date: 8/29/2024



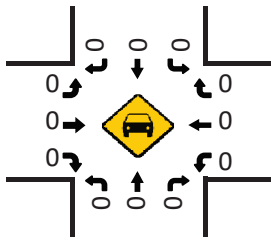
Cars (AM)



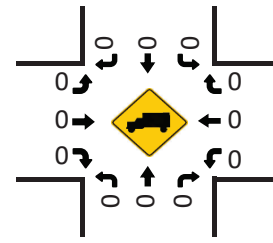
HT (AM)



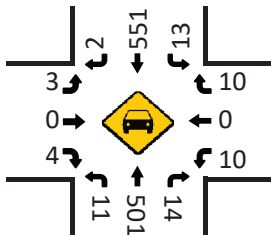
Cars (NOON)



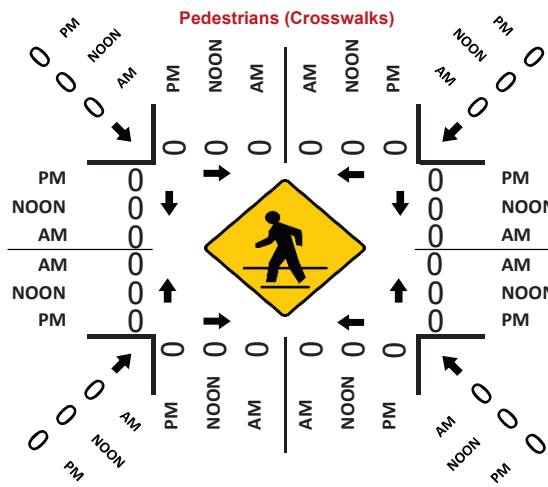
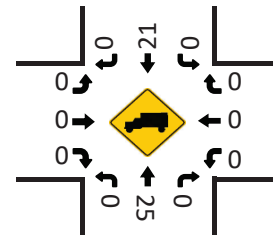
HT (NOON)



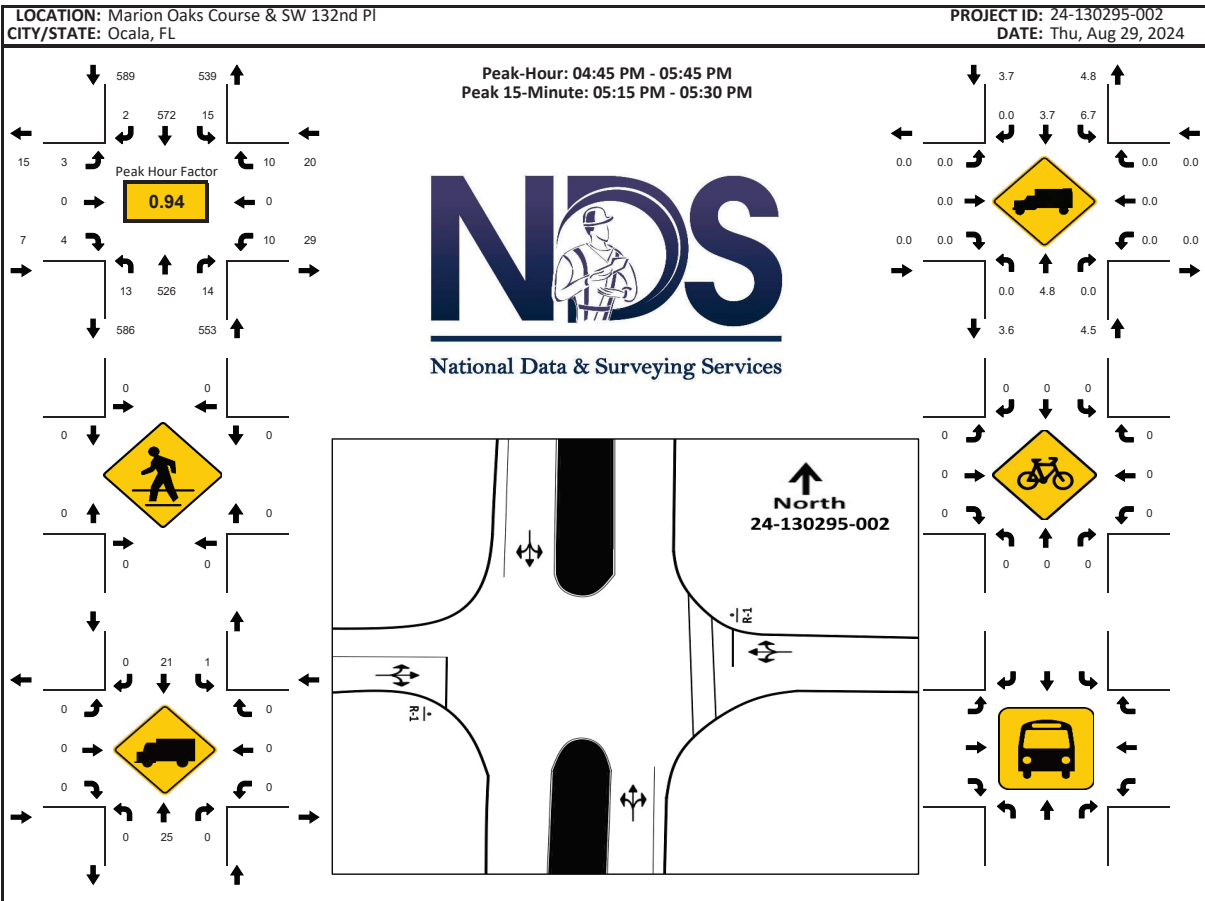
Cars (PM)



HT (PM)







15-Min Count Period Beginning At	Marion Oaks Course Northbound					Marion Oaks Course Southbound					SW 132nd Pl Eastbound					SW 132nd Pl Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	6	115	3	0		3	142	0	0		1	0	1	0		2	0	2	0		275	1134
4:15 PM	2	119	5	0		4	145	1	0		0	0	4	0		1	0	2	0		283	1141
4:30 PM	1	140	4	0		3	144	0	0		0	0	1	0		5	0	4	0		302	1168
4:45 PM	4	123	5	0		1	136	0	0		2	0	1	0		1	0	1	0		274	1169
5:00 PM	2	122	3	0		2	142	2	1		1	0	1	0		2	0	4	0		282	1153
5:15 PM	3	144	4	2		7	141	0	0		0	0	2	0		5	0	2	0		310	871
5:30 PM	2	137	2	0		3	153	0	1		0	0	0	0		2	0	3	0		303	561
5:45 PM	3	116	2	0		1	134	0	0		0	1	0	0		1	0	0	0		258	258
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	16	576	20	8		28	612	8	4		8	0	8	0		20	0	16	0		1324	
Heavy Trucks	0	36	0	0		0	24	0	4		0	0	0	0		0	0	0	0		60	
Pedestrians	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Buses	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Stopped Buses	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** SW 49th Ave Rd & Marion Oaks Trl  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-003  
**Date:** 8/29/2024

### Data - Total

NS/EW Streets:	SW 49th Ave Rd				SW 49th Ave Rd				Marion Oaks Trl				Marion Oaks Trl				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	413
7:15 AM	1	63	5	0	59	22	6	0	41	47	2	0	5	8	154	0	455
7:30 AM	2	55	4	0	76	21	5	0	30	35	1	0	5	41	180	0	475
7:45 AM	7	55	0	0	68	34	6	0	32	16	1	0	9	42	205	0	387
8:00 AM	1	45	0	0	77	23	12	0	28	12	1	0	5	19	164	0	291
8:15 AM	1	18	0	0	70	18	11	0	30	13	3	0	2	14	111	0	336
8:30 AM	1	15	0	0	79	33	11	0	27	15	1	0	2	18	134	0	306
8:45 AM	1	19	0	0	77	19	19	0	27	14	2	0	2	8	118	0	318
	1	19	0	0	102	29	11	0	19	15	1	0	1	11	108	1	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	15	289	9	0	608	199	81	0	234	167	12	0	31	161	1174	1	2981
	4.79%	92.33%	2.88%	0.00%	68.47%	22.41%	9.12%	0.00%	56.66%	40.44%	2.91%	0.00%	2.27%	11.78%	85.88%	0.07%	
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	11	218	9	0	280	100	29	0	131	110	5	0	24	110	703	0	1730
<b>PEAK HR FACTOR :</b>	0.393	0.865	0.450	0.000	0.909	0.735	0.604	0.000	0.799	0.585	0.625	0.000	0.667	0.655	0.857	0.000	0.911
		0.862				0.913				0.683				0.817			
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	367
4:15 PM	2	18	1	0	138	40	24	0	12	17	1	0	1	14	99	0	398
4:30 PM	1	21	1	0	146	33	31	0	19	13	1	0	0	15	116	1	443
4:45 PM	4	30	2	0	150	36	42	1	17	14	4	0	0	17	125	1	421
5:00 PM	2	19	1	0	139	38	31	0	22	17	1	0	5	17	128	1	440
5:15 PM	1	33	3	0	143	46	33	0	13	18	2	0	4	19	124	1	469
5:30 PM	1	36	2	0	149	25	29	0	25	27	0	0	2	32	141	0	457
5:45 PM	2	31	1	0	155	31	32	0	25	16	2	0	3	23	136	0	401
	1	21	2	0	151	35	29	0	25	12	1	0	1	18	105	0	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	14	209	13	0	1171	284	251	1	158	134	12	0	16	155	974	4	3396
	5.93%	88.56%	5.51%	0.00%	68.60%	16.64%	14.70%	0.06%	51.97%	44.08%	3.95%	0.00%	1.39%	13.49%	84.77%	0.35%	
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	6	119	7	0	586	140	125	0	85	78	5	0	14	91	529	2	1787
<b>PEAK HR FACTOR :</b>	0.750	0.826	0.583	0.000	0.945	0.761	0.947	0.000	0.850	0.722	0.625	0.000	0.700	0.711	0.938	0.500	0.953
		0.846				0.958				0.808				0.909			

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** SW 49th Ave Rd & Marion Oaks Trl  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-003  
**Date:** 8/29/2024

### Data - Cars

NS/EW Streets:	SW 49th Ave Rd				SW 49th Ave Rd				Marion Oaks Trl				Marion Oaks Trl				
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	57	5	0	53	19	5	0	41	45	2	0	5	7	147	0	387
7:15 AM	2	53	4	0	75	18	4	0	28	35	1	0	5	39	174	0	438
7:30 AM	7	52	0	0	66	25	6	0	31	15	1	0	9	41	198	0	451
7:45 AM	1	37	0	0	76	19	11	0	27	11	0	0	4	18	150	0	354
8:00 AM	1	18	0	0	66	16	11	0	28	13	3	0	2	14	105	0	277
8:15 AM	1	14	0	0	75	28	11	0	27	15	1	0	2	17	128	0	319
8:30 AM	1	18	0	0	68	16	18	0	27	13	1	0	1	6	111	0	280
8:45 AM	1	13	0	0	91	24	10	0	19	14	1	0	1	11	105	1	291
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	15	262	9	0	570	165	76	0	228	161	10	0	29	153	1118	1	2797
	5.24%	91.61%	3.15%	0.00%	70.28%	20.35%	9.37%	0.00%	57.14%	40.35%	2.51%	0.00%	2.23%	11.76%	85.93%	0.08%	
<b>PEAK HR :</b>	07:00 AM - 08:00 AM				270	81	26	0	127	106	4	0	23	105	669	0	TOTAL
<b>PEAK HR VOL :</b>	11	199	9	0	270	81	26	0	127	106	4	0	23	105	669	0	1630
<b>PEAK HR FACTOR :</b>	0.393	0.873	0.450	0.000	0.888	0.810	0.591	0.000	0.774	0.589	0.500	0.000	0.639	0.640	0.845	0.000	0.904
		0.869				0.889				0.673				0.803			
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	2	18	1	0	128	38	24	0	12	16	0	0	1	14	97	0	351
4:15 PM	1	21	1	0	140	32	31	0	18	12	1	0	0	15	105	1	378
4:30 PM	4	27	2	0	144	35	40	1	16	12	4	0	0	15	121	1	422
4:45 PM	2	17	1	0	138	38	31	0	20	15	1	0	5	17	119	1	405
5:00 PM	1	32	3	0	137	44	33	0	13	18	2	0	4	19	116	1	423
5:15 PM	1	35	2	0	141	24	28	0	25	27	0	0	2	31	136	0	452
5:30 PM	2	30	1	0	154	29	32	0	25	16	2	0	3	22	133	0	449
5:45 PM	1	21	2	0	148	33	29	0	23	12	1	0	1	18	100	0	389
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	14	201	13	0	1130	273	248	1	152	128	11	0	16	151	927	4	3269
	6.14%	88.16%	5.70%	0.00%	68.40%	16.53%	15.01%	0.06%	52.23%	43.99%	3.78%	0.00%	1.46%	13.75%	84.43%	0.36%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM				570	135	124	0	83	76	5	0	14	89	504	2	TOTAL
<b>PEAK HR VOL :</b>	6	114	7	0	570	135	124	0	83	76	5	0	14	89	504	2	1729
<b>PEAK HR FACTOR :</b>	0.750	0.814	0.583	0.000	0.925	0.767	0.939	0.000	0.830	0.704	0.625	0.000	0.700	0.718	0.926	0.500	0.956
		0.836				0.964				0.788				0.901			

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** SW 49th Ave Rd & Marion Oaks Trl  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-003  
**Date:** 8/29/2024

**Data - HT**

NS/EW Streets:	SW 49th Ave Rd				SW 49th Ave Rd				Marion Oaks Trl				Marion Oaks Trl				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	6	0	0	6	3	1	0	0	2	0	0	0	1	7	0	26
7:15 AM	0	2	0	0	1	3	1	0	2	0	0	0	0	2	6	0	17
7:30 AM	0	3	0	0	2	9	0	0	1	1	0	0	0	1	7	0	24
7:45 AM	0	8	0	0	1	4	1	0	1	1	1	0	1	1	14	0	33
8:00 AM	0	0	0	0	4	2	0	0	2	0	0	0	0	0	6	0	14
8:15 AM	0	1	0	0	4	5	0	0	0	0	0	0	0	1	6	0	17
8:30 AM	0	1	0	0	9	3	1	0	0	1	1	0	1	2	7	0	26
8:45 AM	0	6	0	0	11	5	1	0	0	1	0	0	0	0	3	0	27
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	27	0	0	38	34	5	0	6	6	2	0	2	8	56	0	184
	0.00%	100.00%	0.00%	0.00%	49.35%	44.16%	6.49%	0.00%	42.86%	42.86%	14.29%	0.00%	3.03%	12.12%	84.85%	0.00%	
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																TOTAL
<b>PEAK HR VOL :</b>	0	19	0	0	10	19	3	0	4	4	1	0	1	5	34	0	100
<b>PEAK HR FACTOR :</b>	0.000	0.594	0.000	0.000	0.417	0.528	0.750	0.000	0.500	0.500	0.250	0.000	0.250	0.625	0.607	0.000	0.758
	0.594				0.727				0.750				0.625				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	10	2	0	0	0	1	1	0	0	0	2	0	16
4:15 PM	0	0	0	0	6	1	0	0	1	1	0	0	0	0	11	0	20
4:30 PM	0	3	0	0	6	1	2	0	1	2	0	0	0	2	4	0	21
4:45 PM	0	2	0	0	1	0	0	0	2	2	0	0	0	0	9	0	16
5:00 PM	0	1	0	0	6	2	0	0	0	0	0	0	0	0	8	0	17
5:15 PM	0	1	0	0	8	1	1	0	0	0	0	0	0	1	5	0	17
5:30 PM	0	1	0	0	1	2	0	0	0	0	0	0	0	1	3	0	8
5:45 PM	0	0	0	0	3	2	0	0	2	0	0	0	0	0	5	0	12
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	8	0	0	41	11	3	0	6	6	1	0	0	4	47	0	127
	0.00%	100.00%	0.00%	0.00%	74.55%	20.00%	5.45%	0.00%	46.15%	46.15%	7.69%	0.00%	0.00%	7.84%	92.16%	0.00%	
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																TOTAL
<b>PEAK HR VOL :</b>	0	5	0	0	16	5	1	0	2	2	0	0	0	2	25	0	58
<b>PEAK HR FACTOR :</b>	0.000	0.625	0.000	0.000	0.500	0.625	0.250	0.000	0.250	0.250	0.000	0.000	0.000	0.500	0.694	0.000	0.853
	0.625				0.550				0.250				0.750				

## National Data & Surveying Services Intersection Turning Movement Count

**Location:** SW 49th Ave Rd & Marion Oaks Trl  
**City:** Ocala  
**Control:** Signalized

**Project ID:** 24-130295-003  
**Date:** 8/29/2024

### Data - Bikes

NS/EW Streets:	SW 49th Ave Rd				SW 49th Ave Rd				Marion Oaks Trl				Marion Oaks Trl				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
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	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
<b>TOTAL VOLUMES :</b>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<b>APPROACH %'s :</b>					0.00%	100.00%	0.00%	0.00%									
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

NS/EW Streets:	SW 49th Ave Rd				SW 49th Ave Rd				Marion Oaks Trl				Marion Oaks Trl				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	0	0	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	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	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	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	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	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>APPROACH %'s :</b>																	
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** SW 49th Ave Rd & Marion Oaks Trl  
**City:** Ocala

**Project ID:** 24-130295-003  
**Date:** 8/29/2024

### Data - Pedestrians (Crosswalks)

NS/EW Streets:	SW 49th Ave Rd		SW 49th Ave Rd		Marion Oaks Trl		Marion Oaks Trl		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
AM	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1	1
<b>TOTAL VOLUMES :</b>	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	1	1
<b>PEAK HR :</b>	<b>07:00 AM - 08:00 AM</b>								TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>									

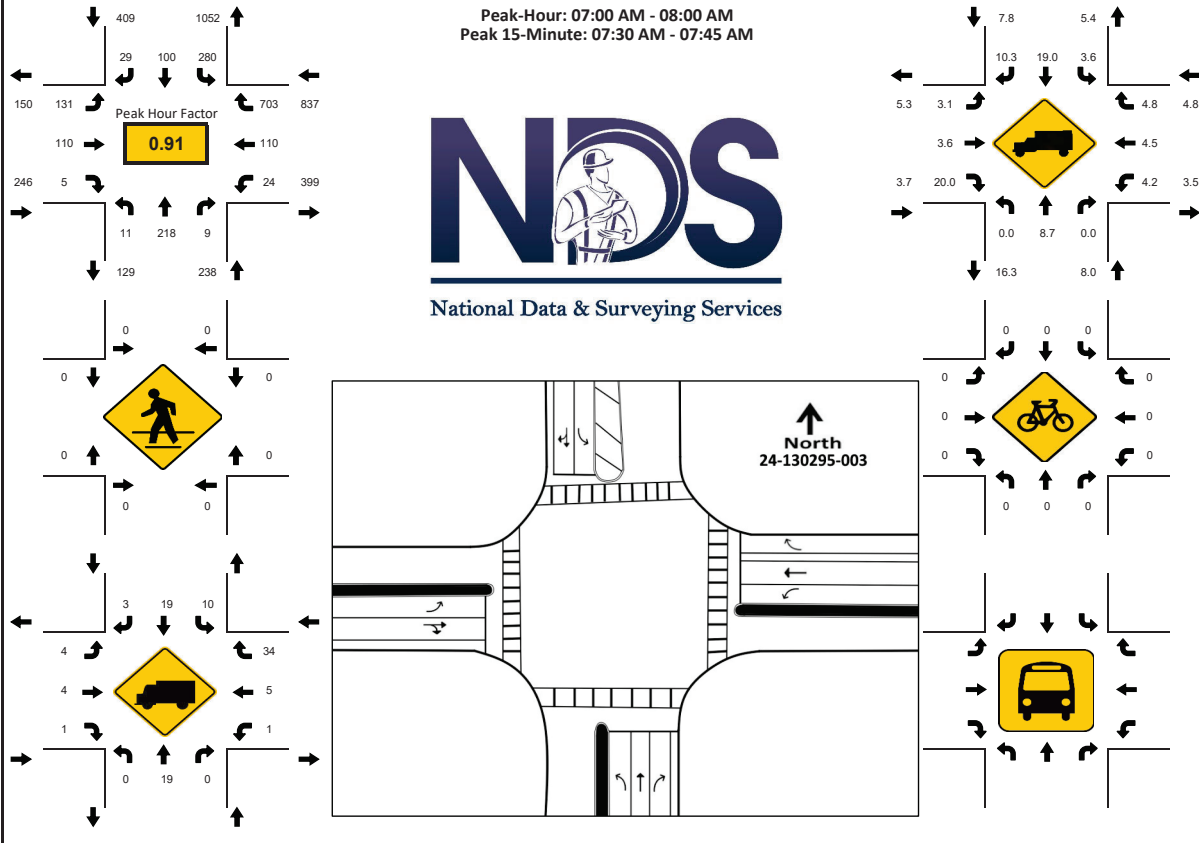
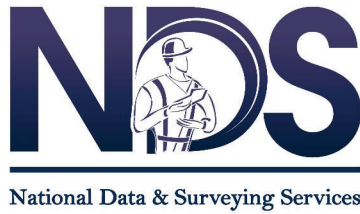
NS/EW Streets:	SW 49th Ave Rd		SW 49th Ave Rd		Marion Oaks Trl		Marion Oaks Trl		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
PM	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
<b>APPROACH %'s :</b>	0	1	0	0	0	0	0	1	2
<b>PEAK HR :</b>	<b>04:45 PM - 05:45 PM</b>								TOTAL
<b>PEAK HR VOL :</b>	0	1	0	0	0	0	0	1	2
<b>PEAK HR FACTOR :</b>		0.250						0.250	0.250



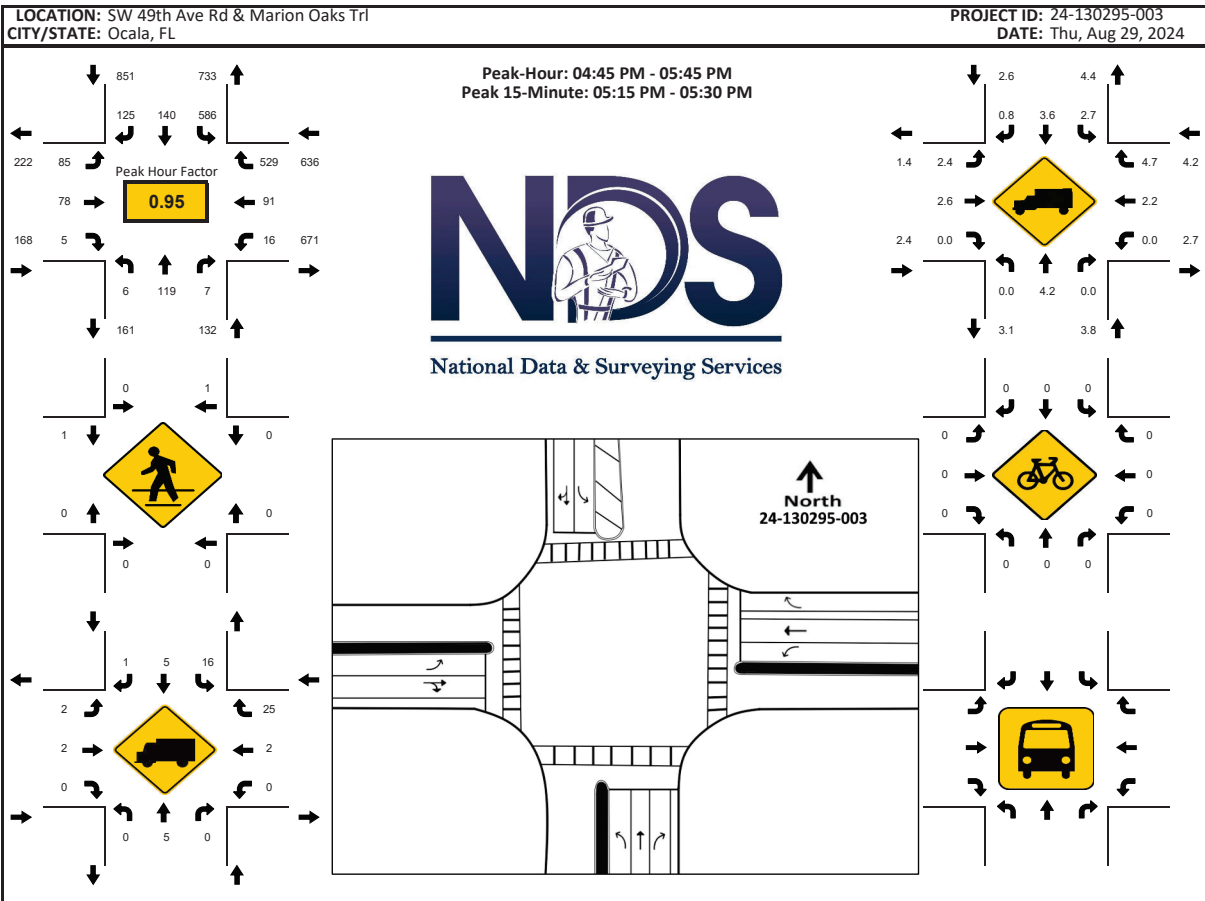
LOCATION: SW 49th Ave Rd & Marion Oaks Trl  
CITY/STATE: Ocala, FL

PROJECT ID: 24-130295-003  
DATE: Thu, Aug 29, 2024

Peak-Hour: 07:00 AM - 08:00 AM  
Peak 15-Minute: 07:30 AM - 07:45 AM



15-Min Count Period Beginning At	SW 49th Ave Rd Northbound					SW 49th Ave Rd Southbound					Marion Oaks Trl Eastbound					Marion Oaks Trl Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	1	63	5	0		59	22	6	0		41	47	2	0		5	8	154	0		413	1730
7:15 AM	2	55	4	0		76	21	5	0		30	35	1	0		5	41	180	0		455	1608
7:30 AM	7	55	0	0		68	34	6	0		32	16	1	0		9	42	205	0		475	1489
7:45 AM	1	45	0	0		77	23	12	0		28	12	1	0		5	19	164	0		387	1320
8:00 AM	1	18	0	0		70	18	11	0		30	13	3	0		2	14	111	0		291	1251
8:15 AM	1	15	0	0		79	33	11	0		27	15	1	0		2	18	134	0		336	960
8:30 AM	1	19	0	0		77	19	19	0		27	14	2	0		2	8	118	0		306	624
8:45 AM	1	19	0	0		102	29	11	0		19	15	1	0		1	11	108	1		318	318
Peak 15-Min Flowrates	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Total	
All Vehicles	28	252	20	0		308	136	48	0		164	188	8	0		36	168	820	0		2176	
Heavy Trucks	0	32	0	0		24	36	4	0		8	8	4	0		4	8	56	0		184	
Pedestrians	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Buses	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Stopped Buses	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	



15-Min Count Period Beginning At	SW 49th Ave Rd Northbound					SW 49th Ave Rd Southbound					Marion Oaks Trl Eastbound					Marion Oaks Trl Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	2	18	1	0		138	40	24	0		12	17	1	0		1	14	99	0		367	1629
4:15 PM	1	21	1	0		146	33	31	0		19	13	1	0		0	15	116	1		398	1702
4:30 PM	4	30	2	0		150	36	42	1		17	14	4	0		0	17	125	1		443	1773
4:45 PM	2	19	1	0		139	38	31	0		22	17	1	0		5	17	128	1		421	1787
5:00 PM	1	33	3	0		143	46	33	0		13	18	2	0		4	19	124	1		440	1767
5:15 PM	1	36	2	0		149	25	29	0		25	27	0	0		2	32	141	0		469	1327
5:30 PM	2	31	1	0		155	31	32	0		25	16	2	0		3	23	136	0		457	858
5:45 PM	1	21	2	0		151	35	29	0		25	12	1	0		1	18	105	0		401	401
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	8	144	12	0		620	184	132	0		100	108	8	0		20	128	564	4		2032	
Heavy Trucks	0	8	0	0		32	8	4	0		8	8	0	0		0	4	36	0		108	
Pedestrians	0	0	0	0		0	4	0	0		4	0	0	0		0	0	0	0		8	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
Buses																						
Stopped Buses																						

2023 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL  
 CATEGORY: 3600 MARION COUNTYWIDE

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

\* PEAK SEASON

09-MAR-2024 18:41:41

830UPD

5\_3600\_PKSEASON.TXT

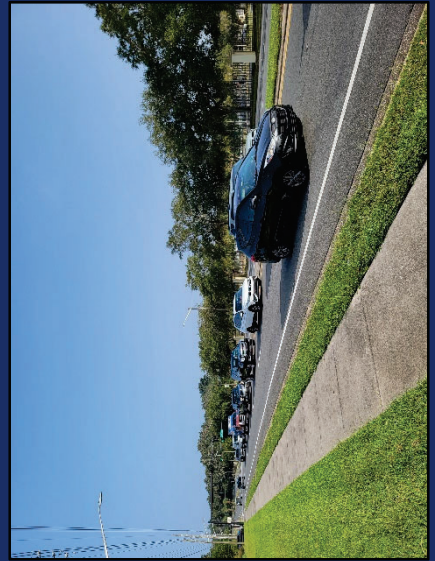
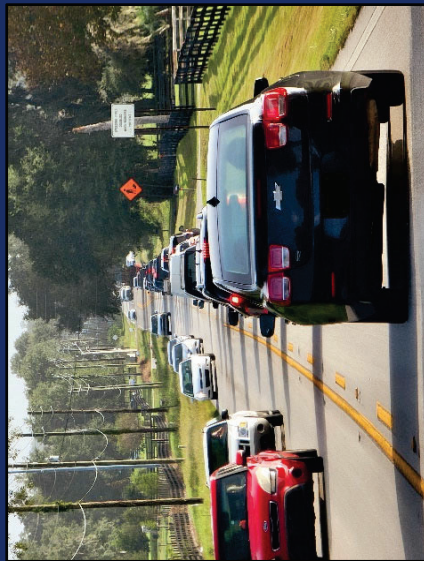
# 2024 Traffic Counts Report

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[www.ocalamariontpo.org](http://www.ocalamariontpo.org)



June 28, 2024



Location	Source	Count Type	2019	2020	2021	2022	2023	Ave Annual Growth Rate (%)
Marion Oaks Course								
N of CR 484	MC	3	6,900	7,500	13,300	12,200	13,300	21.7%
S of CR 484	FDOT	4	NC	6,500	7,600	7,600	7,900	N/A
Marion Oaks Drive								
W of Marion Oaks Boulevard	FDOT	4	4,400	4,400	4,800	4,800	5,000	3.3%
Marion Oaks Manor								
W of Marion Oaks Drive	FDOT	4	1,800	1,800	2,200	2,200	2,200	5.6%
Marion Oaks Trail								
E of SW 73rd Avenue Road	FDOT	4	1,800	1,800	2,100	2,100	2,100	4.2%
MLK Jr. Avenue								
US 27 to SR 40	OCA	2	22,700	19,400	7,800	13,500	14,700	1.9%
US 27 to NW 22nd Street	OCA	2	8,300	8,600	7,700	8,100	8,800	1.7%
NW 22nd Street to NW 31st Street	OCA	3	3,300	7,200	6,600	7,600	7,500	30.9%
SR 40 to SR 200	OCA	2	21,400	19,900	13,600	16,300	17,900	-2.2%
SR 200 to SR 464	OCA	3	7,300	6,800	6,600	7,400	7,600	1.3%
NE 2nd Street								
NE 8th Avenue to NE 25th Avenue	OCA	3	1,400	2,400	2,400	2,600	1,600	10.3%
NE 3rd Street								
SR 40 to NE 25th Avenue	OCA	3	2,100	1,700	2,000	1,800	1,900	-1.5%
NE 8th Avenue to NE 25th Avenue	OCA	2	3,500	3,100	3,200	3,800	4,100	4.6%
NE 7th Street								
SR 40 to NE 36th Avenue	OCA	3	5,200	4,600	NC	NC	NC	N/A
NE 36th Avenue to City Limits	OCA	3	7,900	8,000	NC	NC	NC	N/A
NE 8th Avenue								
NE 14th Street to SR 40	OCA	3	11,300	9,100	6,900	7,100	7,700	-8.1%
NE 8th Avenue Road								
NE 24th Street to NE 14th Street	OCA	3	6,400	6,200	7,500	7,500	7,600	4.8%

OCALA MARION TPO

# Congestion Management Process

## 2023 STATE OF THE SYSTEM REPORT















# Appendix D

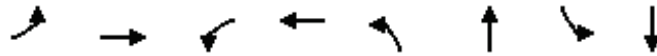
## Existing Conditions Synchro Printouts



Timings

101: Marion Oaks Course & CR 484

09/23/2024

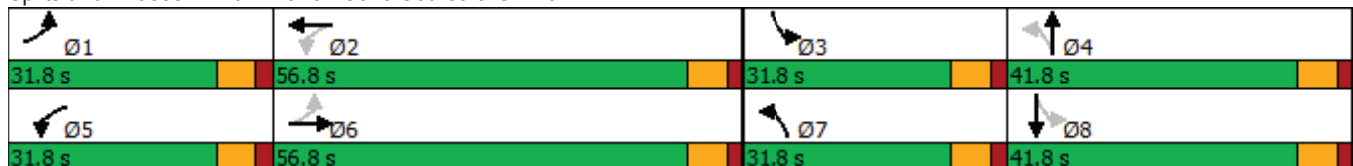


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	76	274	62	468	178	278	206	134
Future Volume (vph)	76	274	62	468	178	278	206	134
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	10.0	15.0	10.0	15.0	10.0	15.0	10.0	15.0
Minimum Split (s)	16.8	21.8	16.8	21.8	16.8	21.8	16.8	21.8
Total Split (s)	31.8	56.8	31.8	56.8	31.8	41.8	31.8	41.8
Total Split (%)	19.6%	35.0%	19.6%	35.0%	19.6%	25.8%	19.6%	25.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	62.6	54.2	60.3	50.1	49.1	33.7	53.5	35.9
Actuated g/C Ratio	0.45	0.39	0.43	0.36	0.35	0.24	0.38	0.26
v/c Ratio	0.33	0.27	0.13	0.73	0.41	0.86	0.71	0.41
Control Delay	25.0	30.5	21.7	38.0	29.6	69.5	40.1	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	30.5	21.7	38.0	29.6	69.5	40.1	44.3
LOS	C	C	C	D	C	E	D	D
Approach Delay		29.4		36.9		56.3		42.0
Approach LOS		C		D		E		D

Intersection Summary

Cycle Length: 162.2  
 Actuated Cycle Length: 139.3  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 41.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 86.1%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 101: Marion Oaks Course & CR 484



HCM 6th Signalized Intersection Summary

101: Marion Oaks Course & CR 484

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	274	61	62	468	350	178	278	80	206	134	41
Future Volume (veh/h)	76	274	61	62	468	350	178	278	80	206	134	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1811	1796	1856	1737	1781	1856	1856	1870	1856	1826	1781
Adj Flow Rate, veh/h	80	288	64	65	493	368	187	293	84	217	141	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	6	7	3	11	8	3	3	2	3	5	8
Cap, veh/h	266	1076	235	495	685	511	411	319	91	274	327	100
Arrive On Green	0.07	0.38	0.38	0.07	0.38	0.38	0.10	0.23	0.23	0.11	0.24	0.24
Sat Flow, veh/h	1697	2807	614	1767	1802	1343	1767	1386	397	1767	1343	409
Grp Volume(v), veh/h	80	175	177	65	451	410	187	0	377	217	0	184
Grp Sat Flow(s),veh/h/ln	1697	1721	1701	1767	1650	1495	1767	0	1784	1767	0	1752
Q Serve(g_s), s	3.6	9.2	9.4	2.8	30.7	30.8	10.5	0.0	27.1	12.1	0.0	11.7
Cycle Q Clear(g_c), s	3.6	9.2	9.4	2.8	30.7	30.8	10.5	0.0	27.1	12.1	0.0	11.7
Prop In Lane	1.00		0.36	1.00		0.90	1.00		0.22	1.00		0.23
Lane Grp Cap(c), veh/h	266	659	652	495	627	569	411	0	411	274	0	426
V/C Ratio(X)	0.30	0.27	0.27	0.13	0.72	0.72	0.45	0.00	0.92	0.79	0.00	0.43
Avail Cap(c_a), veh/h	467	659	652	709	627	569	575	0	475	415	0	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.8	27.8	27.9	21.0	34.8	34.8	33.7	0.0	49.4	35.9	0.0	42.1
Incr Delay (d2), s/veh	0.6	1.0	1.0	0.1	7.0	7.7	0.8	0.0	21.1	5.9	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	7.2	7.3	2.1	19.5	18.1	8.1	0.0	20.7	9.6	0.0	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	28.8	29.0	21.2	41.7	42.5	34.5	0.0	70.5	41.8	0.0	42.8
LnGrp LOS	C	C	C	C	D	D	C	A	E	D	A	D
Approach Vol, veh/h		432			926			564				401
Approach Delay, s/veh		28.3			40.6			58.6				42.2
Approach LOS		C			D			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.3	56.8	21.4	37.1	15.9	57.2	19.6	38.8				
Change Period (Y+Rc), s	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8				
Max Green Setting (Gmax), s	25.0	50.0	25.0	35.0	25.0	50.0	25.0	35.0				
Max Q Clear Time (g_c+I1), s	5.6	32.8	14.1	29.1	4.8	11.4	12.5	13.7				
Green Ext Time (p_c), s	0.2	5.5	0.4	1.1	0.1	2.3	0.4	1.0				

Intersection Summary

HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

HCM 6th TWSC

102: Marion Oaks Course & SW 132nd PI

09/23/2024

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	4	1	7	23	2	16	5	679	8	8	334	2
Future Vol, veh/h	4	1	7	23	2	16	5	679	8	8	334	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	6	2	6	2	13	4	2
Mvmt Flow	4	1	8	25	2	17	5	730	9	9	359	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1132	1127	360	1128	1124	735	361	0	0	739	0	0
Stage 1	378	378	-	745	745	-	-	-	-	-	-	-
Stage 2	754	749	-	383	379	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.26	4.12	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.354	2.218	-	-	2.317	-	-
Pot Cap-1 Maneuver	180	205	684	181	205	413	1198	-	-	819	-	-
Stage 1	644	615	-	406	421	-	-	-	-	-	-	-
Stage 2	401	419	-	640	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	169	201	684	176	201	413	1198	-	-	819	-	-
Mov Cap-2 Maneuver	283	308	-	298	312	-	-	-	-	-	-	-
Stage 1	639	606	-	403	418	-	-	-	-	-	-	-
Stage 2	380	416	-	623	606	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.5		17.4		0.1		0.2	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1198	-	-	435	335	819	-	-
HCM Lane V/C Ratio	0.004	-	-	0.03	0.132	0.011	-	-
HCM Control Delay (s)	8	0	-	13.5	17.4	9.4	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

Timings

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	135	113	25	113	724	11	225	9	288	103
Future Volume (vph)	135	113	25	113	724	11	225	9	288	103
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.9	36.9	21.9	36.9	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.6%	21.3%	12.6%	21.3%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	33.8	25.5	23.0	15.7	53.8	71.4	65.5	65.5	103.9	98.9
Actuated g/C Ratio	0.22	0.17	0.15	0.10	0.35	0.47	0.43	0.43	0.68	0.65
v/c Ratio	0.61	0.43	0.13	0.67	0.96	0.02	0.33	0.01	0.40	0.14
Control Delay	61.8	63.8	48.4	84.6	44.1	13.6	32.7	0.0	11.9	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	63.8	48.4	84.6	44.1	13.6	32.7	0.0	11.9	12.1
LOS	E	E	D	F	D	B	C	A	B	B
Approach Delay		62.7		49.5			30.6			11.9
Approach LOS		E		D			C			B

Intersection Summary

Cycle Length: 173.2

Actuated Cycle Length: 152.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 39.9

Intersection LOS: D

Intersection Capacity Utilization 82.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	113	5	25	113	724	11	225	9	288	103	30
Future Volume (veh/h)	135	113	5	25	113	724	11	225	9	288	103	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1841	1604	1841	1826	1826	1870	1767	1870	1841	1618	1752
Adj Flow Rate, veh/h	148	124	5	27	124	796	12	247	10	316	113	33
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	4	20	4	5	5	2	9	2	4	19	10
Cap, veh/h	264	434	18	320	347	470	613	775	695	628	649	190
Arrive On Green	0.08	0.25	0.25	0.02	0.19	0.19	0.01	0.44	0.44	0.11	0.54	0.54
Sat Flow, veh/h	1767	1757	71	1753	1826	1547	1781	1767	1585	1753	1204	352
Grp Volume(v), veh/h	148	0	129	27	124	796	12	247	10	316	0	146
Grp Sat Flow(s),veh/h/ln	1767	0	1828	1753	1826	1547	1781	1767	1585	1753	0	1555
Q Serve(g_s), s	10.4	0.0	9.0	1.9	9.3	30.0	0.6	14.4	0.6	15.1	0.0	7.5
Cycle Q Clear(g_c), s	10.4	0.0	9.0	1.9	9.3	30.0	0.6	14.4	0.6	15.1	0.0	7.5
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	264	0	452	320	347	470	613	775	695	628	0	838
V/C Ratio(X)	0.56	0.00	0.29	0.08	0.36	1.69	0.02	0.32	0.01	0.50	0.00	0.17
Avail Cap(c_a), veh/h	293	0	452	448	347	470	760	775	695	818	0	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	48.1	49.7	55.4	54.9	23.9	28.9	25.0	19.4	0.0	18.5
Incr Delay (d2), s/veh	1.9	0.0	0.3	0.1	0.6	320.8	0.0	1.1	0.0	0.6	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.2	0.0	7.4	1.5	7.7	90.4	0.5	10.5	0.4	10.1	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	0.0	48.4	49.8	56.1	375.6	23.9	30.0	25.1	20.0	0.0	18.9
LnGrp LOS	D	A	D	D	E	F	C	C	C	C	A	B
Approach Vol, veh/h		277			947			269			462	
Approach Delay, s/veh		47.6			324.5			29.5			19.7	
Approach LOS		D			F			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	92.2	19.3	36.9	25.1	76.3	10.4	45.8				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	15.0	30.0	* 35	* 65	15.0	30.0				
Max Q Clear Time (g_c+I1), s	2.6	9.5	12.4	32.0	17.1	16.4	3.9	11.0				
Green Ext Time (p_c), s	0.0	0.8	0.1	0.0	0.8	1.5	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	172.6
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖↗	↖	↗	↖↗	↖	↗
Traffic Volume (vph)	135	113	25	113	724	11	225	9	288	103
Future Volume (vph)	135	113	25	113	724	11	225	9	288	103
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.9	36.9	21.9	36.9	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.6%	21.3%	12.6%	21.3%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	35.5	27.2	22.6	15.3	41.9	72.2	66.3	66.3	93.2	88.3
Actuated g/C Ratio	0.25	0.19	0.16	0.11	0.29	0.50	0.46	0.46	0.65	0.62
v/c Ratio	0.52	0.38	0.12	0.64	0.59	0.02	0.31	0.01	0.44	0.15
Control Delay	51.7	57.0	43.7	78.2	4.7	12.3	27.3	0.0	13.4	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	57.0	43.7	78.2	4.7	12.3	27.3	0.0	13.4	13.1
LOS	D	E	D	E	A	B	C	A	B	B
Approach Delay		54.1		15.4			25.6			13.3
Approach LOS		D		B			C			B

Intersection Summary

Cycle Length: 173.2

Actuated Cycle Length: 143.2

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 21.8

Intersection LOS: C

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	113	5	25	113	724	11	225	9	288	103	30
Future Volume (veh/h)	135	113	5	25	113	724	11	225	9	288	103	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1841	1604	1841	1826	1826	1870	1767	1870	1841	1618	1752
Adj Flow Rate, veh/h	148	124	5	27	124	796	12	247	10	316	113	33
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	4	20	4	5	5	2	9	2	4	19	10
Cap, veh/h	264	434	18	320	347	828	613	775	695	628	649	190
Arrive On Green	0.08	0.25	0.25	0.02	0.19	0.19	0.01	0.44	0.44	0.11	0.54	0.54
Sat Flow, veh/h	1767	1757	71	1753	1826	2723	1781	1767	1585	1753	1204	352
Grp Volume(v), veh/h	148	0	129	27	124	796	12	247	10	316	0	146
Grp Sat Flow(s),veh/h/ln	1767	0	1828	1753	1826	1362	1781	1767	1585	1753	0	1555
Q Serve(g_s), s	10.4	0.0	9.0	1.9	9.3	30.0	0.6	14.4	0.6	15.1	0.0	7.5
Cycle Q Clear(g_c), s	10.4	0.0	9.0	1.9	9.3	30.0	0.6	14.4	0.6	15.1	0.0	7.5
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	264	0	452	320	347	828	613	775	695	628	0	838
V/C Ratio(X)	0.56	0.00	0.29	0.08	0.36	0.96	0.02	0.32	0.01	0.50	0.00	0.17
Avail Cap(c_a), veh/h	293	0	452	448	347	828	760	775	695	818	0	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	48.1	49.7	55.4	54.0	23.9	28.9	25.0	19.4	0.0	18.5
Incr Delay (d2), s/veh	1.9	0.0	0.3	0.1	0.6	22.3	0.0	1.1	0.0	0.6	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.2	0.0	7.4	1.5	7.7	24.6	0.5	10.5	0.4	10.1	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	0.0	48.4	49.8	56.1	76.3	23.9	30.0	25.1	20.0	0.0	18.9
LnGrp LOS	D	A	D	D	E	E	C	C	C	C	A	B
Approach Vol, veh/h		277			947			269			462	
Approach Delay, s/veh		47.6			72.9			29.5			19.7	
Approach LOS		D			E			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	92.2	19.3	36.9	25.1	76.3	10.4	45.8				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	15.0	30.0	* 35	* 65	15.0	30.0				
Max Q Clear Time (g_c+I1), s	2.6	9.5	12.4	32.0	17.1	16.4	3.9	11.0				
Green Ext Time (p_c), s	0.0	0.8	0.1	0.0	0.8	1.5	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	50.8
HCM 6th LOS	D

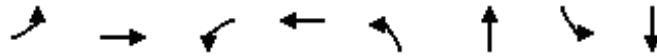
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

101: Marion Oaks Course & CR 484

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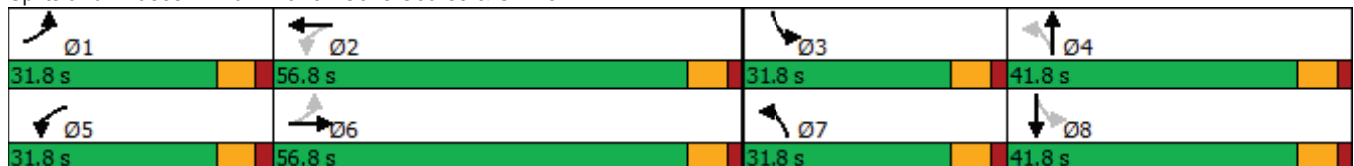


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	15	526	219	525	94	190	304	309
Future Volume (vph)	15	526	219	525	94	190	304	309
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	10.0	15.0	10.0	15.0	10.0	15.0	10.0	15.0
Minimum Split (s)	16.8	21.8	16.8	21.8	16.8	21.8	16.8	21.8
Total Split (s)	31.8	56.8	31.8	56.8	31.8	41.8	31.8	41.8
Total Split (%)	19.6%	35.0%	19.6%	35.0%	19.6%	25.8%	19.6%	25.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	60.5	50.4	76.2	70.0	39.1	27.6	57.6	39.3
Actuated g/C Ratio	0.41	0.34	0.52	0.47	0.27	0.19	0.39	0.27
v/c Ratio	0.06	0.60	0.58	0.59	0.35	0.86	0.91	0.67
Control Delay	21.4	43.5	27.2	28.8	34.0	80.7	64.8	56.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	43.5	27.2	28.8	34.0	80.7	64.8	56.1
LOS	C	D	C	C	C	F	E	E
Approach Delay		43.0		28.5		68.7		60.3
Approach LOS		D		C		E		E

Intersection Summary

Cycle Length: 162.2  
 Actuated Cycle Length: 147.5  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 44.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 89.2%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 101: Marion Oaks Course & CR 484



HCM 6th Signalized Intersection Summary

101: Marion Oaks Course & CR 484

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	526	121	219	525	372	94	190	81	304	309	7
Future Volume (veh/h)	15	526	121	219	525	372	94	190	81	304	309	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1796	1856	1870	1811	1856	1870	1796	1870	1841	1870	1693
Adj Flow Rate, veh/h	16	554	127	231	553	392	99	200	85	320	325	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	7	3	2	6	3	2	7	2	4	2	14
Cap, veh/h	225	996	227	376	816	579	302	223	95	357	502	11
Arrive On Green	0.03	0.36	0.36	0.10	0.42	0.42	0.07	0.19	0.19	0.16	0.28	0.28
Sat Flow, veh/h	1781	2759	630	1781	1923	1363	1781	1196	508	1753	1824	39
Grp Volume(v), veh/h	16	342	339	231	495	450	99	0	285	320	0	332
Grp Sat Flow(s),veh/h/ln	1781	1706	1683	1781	1721	1566	1781	0	1705	1753	0	1863
Q Serve(g_s), s	0.8	22.2	22.3	10.9	32.2	32.2	6.1	0.0	22.6	19.8	0.0	21.8
Cycle Q Clear(g_c), s	0.8	22.2	22.3	10.9	32.2	32.2	6.1	0.0	22.6	19.8	0.0	21.8
Prop In Lane	1.00		0.37	1.00		0.87	1.00		0.30	1.00		0.02
Lane Grp Cap(c), veh/h	225	616	607	376	730	665	302	0	318	357	0	513
V/C Ratio(X)	0.07	0.56	0.56	0.61	0.68	0.68	0.33	0.00	0.90	0.90	0.00	0.65
Avail Cap(c_a), veh/h	487	616	607	525	730	665	497	0	431	393	0	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	35.4	35.4	25.3	32.2	32.2	40.8	0.0	55.1	37.3	0.0	44.3
Incr Delay (d2), s/veh	0.1	3.6	3.7	1.6	5.0	5.5	0.6	0.0	17.0	21.4	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	15.0	15.0	8.4	20.6	19.2	4.9	0.0	16.7	15.9	0.0	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	39.0	39.1	26.9	37.2	37.7	41.5	0.0	72.0	58.7	0.0	47.1
LnGrp LOS	C	D	D	C	D	D	D	A	E	E	A	D
Approach Vol, veh/h		697			1176			384			652	
Approach Delay, s/veh		38.8			35.4			64.1			52.8	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	65.6	28.9	32.6	20.2	56.8	16.6	45.0				
Change Period (Y+Rc), s	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8				
Max Green Setting (Gmax), s	25.0	50.0	25.0	35.0	25.0	50.0	25.0	35.0				
Max Q Clear Time (g_c+I1), s	2.8	34.2	21.8	24.6	12.9	24.3	8.1	23.8				
Green Ext Time (p_c), s	0.0	5.9	0.3	1.2	0.5	4.6	0.2	1.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			43.9									
HCM 6th LOS			D									

HCM 6th TWSC

102: Marion Oaks Course & SW 132nd PI

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Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	4	10	0	10	13	542	14	15	589	2
Future Vol, veh/h	3	0	4	10	0	10	13	542	14	15	589	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	7	4	2
Mvmt Flow	3	0	4	11	0	11	14	577	15	16	627	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1278	1280	628	1275	1274	585	629	0	0	592	0	0
Stage 1	660	660	-	613	613	-	-	-	-	-	-	-
Stage 2	618	620	-	662	661	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.263	-	-
Pot Cap-1 Maneuver	143	166	483	144	167	511	953	-	-	960	-	-
Stage 1	452	460	-	480	483	-	-	-	-	-	-	-
Stage 2	477	480	-	451	460	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	135	158	483	138	159	511	953	-	-	960	-	-
Mov Cap-2 Maneuver	263	278	-	265	279	-	-	-	-	-	-	-
Stage 1	442	448	-	469	472	-	-	-	-	-	-	-
Stage 2	457	469	-	435	448	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	16	0.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	953	-	-	356	349	960	-	-
HCM Lane V/C Ratio	0.015	-	-	0.021	0.061	0.017	-	-
HCM Control Delay (s)	8.8	0	-	15.3	16	8.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Timings

103: SW 49th Ave & Marion Oaks Trl

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Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	88	80	16	94	545	6	123	7	604	144
Future Volume (vph)	88	80	16	94	545	6	123	7	604	144
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.9	36.9	21.9	36.9	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.6%	21.3%	12.6%	21.3%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	32.2	24.2	20.5	13.8	54.5	70.9	65.2	65.2	106.2	103.7
Actuated g/C Ratio	0.21	0.16	0.13	0.09	0.36	0.46	0.43	0.43	0.70	0.68
v/c Ratio	0.38	0.31	0.09	0.59	0.63	0.01	0.17	0.01	0.69	0.25
Control Delay	54.3	61.6	48.7	82.1	5.8	12.8	29.3	0.0	16.5	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	61.6	48.7	82.1	5.8	12.8	29.3	0.0	16.5	10.1
LOS	D	E	D	F	A	B	C	A	B	B
Approach Delay		57.9		17.8			27.1			14.5
Approach LOS		E		B			C			B

Intersection Summary

Cycle Length: 173.2

Actuated Cycle Length: 152.8

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 20.7

Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↗
Traffic Volume (veh/h)	88	80	5	16	94	545	6	123	7	604	144	129
Future Volume (veh/h)	88	80	5	16	94	545	6	123	7	604	144	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1870	1826	1870	1841	1870	1856	1841	1870
Adj Flow Rate, veh/h	93	84	5	17	99	574	6	129	7	636	152	136
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	3	2	2	2	5	2	4	2	3	4	2
Cap, veh/h	241	376	22	303	336	602	480	716	616	839	529	473
Arrive On Green	0.05	0.22	0.22	0.02	0.18	0.18	0.01	0.39	0.39	0.21	0.59	0.59
Sat Flow, veh/h	1781	1734	103	1781	1870	1547	1781	1841	1585	1767	895	801
Grp Volume(v), veh/h	93	0	89	17	99	574	6	129	7	636	0	288
Grp Sat Flow(s),veh/h/ln	1781	0	1837	1781	1870	1547	1781	1841	1585	1767	0	1697
Q Serve(g_s), s	7.0	0.0	6.7	1.3	7.7	30.0	0.3	7.7	0.5	35.0	0.0	14.0
Cycle Q Clear(g_c), s	7.0	0.0	6.7	1.3	7.7	30.0	0.3	7.7	0.5	35.0	0.0	14.0
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	241	0	398	303	336	602	480	716	616	839	0	1003
V/C Ratio(X)	0.39	0.00	0.22	0.06	0.29	0.95	0.01	0.18	0.01	0.76	0.00	0.29
Avail Cap(c_a), veh/h	305	0	398	434	336	602	627	716	616	839	0	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	0.0	53.9	54.6	59.4	49.6	30.6	33.6	31.4	20.8	0.0	16.8
Incr Delay (d2), s/veh	1.0	0.0	0.3	0.1	0.5	25.7	0.0	0.6	0.0	4.0	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	0.0	5.6	1.1	6.6	35.4	0.3	6.4	0.3	21.8	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	0.0	54.2	54.6	59.9	75.3	30.6	34.1	31.4	24.8	0.0	17.6
LnGrp LOS	D	A	D	D	E	E	C	C	C	C	A	B
Approach Vol, veh/h		182			690			142			924	
Approach Delay, s/veh		53.1			72.6			33.8			22.5	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	106.0	15.9	36.9	42.2	72.2	9.6	43.1				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	15.0	30.0	* 35	* 65	15.0	30.0				
Max Q Clear Time (g_c+I1), s	2.3	16.0	9.0	32.0	37.0	9.7	3.3	8.7				
Green Ext Time (p_c), s	0.0	1.8	0.1	0.0	0.0	0.7	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖↗	↖	↗	↖↗	↖	↗
Traffic Volume (vph)	88	80	16	94	545	6	123	7	604	144
Future Volume (vph)	88	80	16	94	545	6	123	7	604	144
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.9	36.9	21.9	36.9	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.6%	21.3%	12.6%	21.3%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	32.2	24.2	20.5	13.8	54.5	70.9	65.2	65.2	106.2	103.7
Actuated g/C Ratio	0.21	0.16	0.13	0.09	0.36	0.46	0.43	0.43	0.70	0.68
v/c Ratio	0.38	0.31	0.09	0.59	0.43	0.01	0.17	0.01	0.69	0.25
Control Delay	54.3	61.6	48.7	82.1	3.4	12.8	29.3	0.0	16.5	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	61.6	48.7	82.1	3.4	12.8	29.3	0.0	16.5	10.1
LOS	D	E	D	F	A	B	C	A	B	B
Approach Delay		57.9		15.8			27.1			14.5
Approach LOS		E		B			C			B

Intersection Summary

Cycle Length: 173.2

Actuated Cycle Length: 152.8

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 20.0

Intersection LOS: B

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖↗	↖	↗	↖↗	↖	↗	↖↗
Traffic Volume (veh/h)	88	80	5	16	94	545	6	123	7	604	144	129
Future Volume (veh/h)	88	80	5	16	94	545	6	123	7	604	144	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1870	1826	1870	1841	1870	1856	1841	1870
Adj Flow Rate, veh/h	93	84	5	17	99	574	6	129	7	636	152	136
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	3	2	2	2	5	2	4	2	3	4	2
Cap, veh/h	239	372	22	301	331	1054	482	718	618	842	531	475
Arrive On Green	0.05	0.21	0.21	0.02	0.18	0.18	0.01	0.39	0.39	0.21	0.59	0.59
Sat Flow, veh/h	1781	1734	103	1781	1870	2723	1781	1841	1585	1767	895	801
Grp Volume(v), veh/h	93	0	89	17	99	574	6	129	7	636	0	288
Grp Sat Flow(s),veh/h/ln	1781	0	1837	1781	1870	1362	1781	1841	1585	1767	0	1697
Q Serve(g_s), s	7.0	0.0	6.7	1.3	7.7	27.3	0.3	7.7	0.5	35.0	0.0	13.9
Cycle Q Clear(g_c), s	7.0	0.0	6.7	1.3	7.7	27.3	0.3	7.7	0.5	35.0	0.0	13.9
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	239	0	394	301	331	1054	482	718	618	842	0	1005
V/C Ratio(X)	0.39	0.00	0.23	0.06	0.30	0.54	0.01	0.18	0.01	0.76	0.00	0.29
Avail Cap(c_a), veh/h	304	0	394	432	337	1062	629	718	618	842	0	1005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	54.0	54.7	59.6	39.7	30.4	33.4	31.2	20.5	0.0	16.7
Incr Delay (d2), s/veh	1.0	0.0	0.3	0.1	0.5	0.6	0.0	0.5	0.0	3.9	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	0.0	5.6	1.1	6.6	14.1	0.3	6.4	0.3	21.6	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	0.0	54.3	54.8	60.1	40.2	30.4	33.9	31.2	24.4	0.0	17.4
LnGrp LOS	D	A	D	D	E	D	C	C	C	C	A	B
Approach Vol, veh/h		182			690			142			924	
Approach Delay, s/veh		53.3			43.4			33.6			22.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	106.0	15.8	36.4	42.2	72.2	9.6	42.7				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	15.0	30.0	* 35	* 65	15.0	30.0				
Max Q Clear Time (g_c+I1), s	2.3	15.9	9.0	29.3	37.0	9.7	3.3	8.7				
Green Ext Time (p_c), s	0.0	1.8	0.1	0.3	0.0	0.7	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



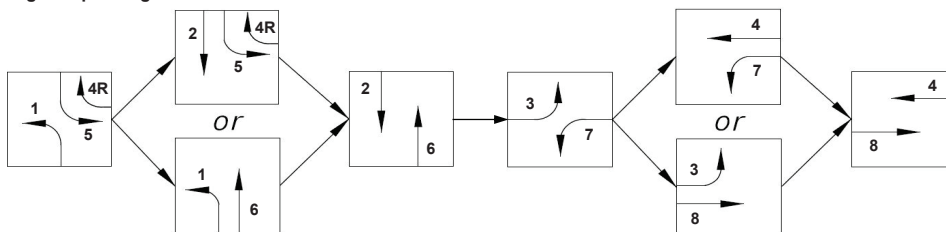
Marion County  
Office of the County Engineer

Signal ID	Major Street	Minor Street	Date	Technician
305	SW 49th Ave / SW 49th Ct Rd	Marion Oaks Trail	7/27/2023	Sufian Talukder & Matt Weisman (FDOT ICM Consultants)

Basic Timing

PHASE	Φ 1	Φ 2	Φ 3	Φ 4	Φ 5	Φ 6	Φ 7	Φ 8
DIRECTION	NBLT	SB	EBLT	WB	SBLT	NB	WBLT	EB
LEFT TURN MODE	Prot-Perm		Prot-Perm		Prot-Perm		Prot-Perm	
MIN GRN	5	15	5	10	5	15	5	10
GAP EXT	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAX 1	15	65	15	30	35	65	15	30
MAX 2								
YEL CLR	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
RED CLR	2.4	2.4	2.1	2.1	2.4	2.4	2.1	2.1
WALK		7		7		7		7
PED CLR		24		30		27		27
MIN RECALL		X				X		
MAX RECALL								
NON-LOCK CALL	X		X	X	X		X	X
DUAL ENTRY		X		X		X		X
NO SIMUL GAP	X		X	X	X		X	X

Signal Operating Plan



Additional Notes (Turning Restrictions?, Overlaps?, Etc.)

1) Flashing yellow arrow for Phases 1, 3, 5, & 7 operates 24/7.

Coordination? Yes  No

Splits for Coordination

Plan	Phase Number								Cycle Length	Offset
	1	2	3	4	5	6	7	8		

Weekday Schedule (Mon-Fri)

Plan	Start Time

Weekend Schedule (Sat-Sun)

Plan	Start Time

General Coordination Data

Coord Mode	Max Mode	Correction Mode	Offset Mode	Force Mode

Detector Data

Veh Detector Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Detector Phase	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Ped Detector Phase	1	2	3	4	5	6	7	8								
Ped Detector Phase	1	2	3	4	5	6	7	8								



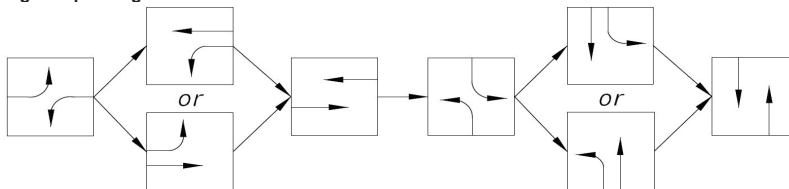
Marion County  
Office of the County Engineer

Signal ID	Major Street	Minor Street	Date	Technician
157	SW HWY 484	Marion Oaks Course	8/11/2023	Don Watson

Basic Timing

PHASE	Φ 1	Φ 2	Φ 3	Φ 4	Φ 5	Φ 6	Φ 7	Φ 8
DIRECTION	EBLT	WB	SBLT	NB	WBLT	EB	NBLT	SB
LEFT TURN MODE	Prot-Perm		Prot-Perm		Prot-Perm		Prot-Perm	
MIN GRN	10	15	10	15	10	15	10	15
GAP EXT	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
MAX 1	25	50	25	35	25	50	25	35
MAX 2								
YEL CLR	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
RED CLR	2.8	2.0	2.4	2.0	2.3	2.0	2.5	2.0
WALK		7		7		7		7
PED CLR		28		26		28		26
MIN RECALL		X				X		
MAX RECALL								
NON-LOCK CALL	X		X	X	X		X	X
DUAL ENTRY								
NO SIMUL GAP	X		X	X	X		X	X

Signal Operating Plan



Additional Notes (Turning Restrictions?, Overlaps?, Etc.)

Coordination? Yes  No

Splits for Coordination

Plan	Phase Number								Cycle Length	Offset
	1	2	3	4	5	6	7	8		

Weekday Schedule (Mon-Fri)

Plan	Start Time

Weekend Schedule (Sat-Sun)

Plan	Start Time

General Coordination Data

Coord Mode	Max Mode	Correction Mode	Offset Mode	Force Mode

Detector Data

Veh Detector Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Detector Phase	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Ped Detector Phase	1	2	3	4	5	6	7	8								
Ped Detector Phase	1	2	3	4	5	6	7	8								

# Appendix E

## Turning Movement Worksheets



### CR 484 at Marion Oaks Course AM Peak Hour

Existing TMCs	Eastbound			Westbound			Northbound			Southbound					
	U	L	T	U	L	T	U	L	T	U	L	T	R		
Existing Count	0	74	266	1	59	454	340	0	173	270	78	0	200	130	40
Date of Count	8/29/2024														
Adjusted Count	0	76	274	1	61	468	350	0	178	278	80	0	206	134	41
	SF														
	1.03														

Existing Approach & Departure Volumes	West Leg			East Leg			South Leg			North Leg		
	EB: 411	WB: 687	EB: 0.37	WB: 0.63	EB: 561	WB: 880	EB: 0.39	WB: 0.61	NB: 536	SB: 256	NB: 704	SB: 381
Directional Factors Based on Existing Counts	EB: 0.37	WB: 0.63	EB: 0.39	WB: 0.61	EB: 0.68	SB: 0.32	NB: 0.65	SB: 0.35				

**Future Background**      Year    2026

	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%	2.0%	2.0%	
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%	2.0%	2.0%	2.0%
Simple Volume Growth	0	3	11	2	19	14	0	2	19	14	5	0	19	13	4	0	19	13	4
Applied Bckgrnd Growth	0	3	11	2	19	14	0	2	19	14	5	0	19	13	4	0	19	13	4
Total Bckgrnd PK-Hr Vols	0	79	285	63	487	364	0	63	487	364	85	0	225	147	45	0	225	147	45

**Project Trips**

	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
New Ext Inbound Volume	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%
New Ext Outbound Volume	0.0%	29	0	0	0	0	30.0%	20.0%	20.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Inbound Volume	0.0%	0	0	0	28	28	0	43	28	0	0	0	0
Pass-By Outbound Volume	0	21	-21	0	0	0	0.0%	-20.0%	0.0%	0.0%	0.0%	0.0%	-10.0%
Total Project Trips	0	50	-21	0	64	28	0	64	28	0	29	0	-10

Total Pk-Hr Volumes	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
	0	129	264	63	101	515	364	85	326	85	225	137	45







## Marion Oaks Course at Driveway #2 AM Peak Hour

Existing TMCs	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Existing Count	0	0	0	0	0	0	0	0	704	0	0	381	0
Date of Count	8/29/2024			SF			1.03						
Adjusted Count	0	0	0	0	0	0	0	0	725	0	0	392	0

Existing Approach & Departure Volumes	West Leg			East Leg			South Leg			North Leg			
	EB: 0	WB: 0	EB: #DIV/0!	EB: 0	WB: 0	EB: #DIV/0!	NB: 725	SB: 392	NB: 0.65	NB: 725	SB: 392	NB: 0.65	SB: 0.35
Directional Factors Based on Existing Counts	EB: #DIV/0!	WB: #DIV/0!	WB: #DIV/0!	EB: #DIV/0!	WB: #DIV/0!	WB: #DIV/0!	NB: 725	SB: 392	NB: 0.65	NB: 725	SB: 392	NB: 0.65	SB: 0.35

**Future Background**      Year    2026

Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	4.7%	4.7%	4.7%	4.7%	4.7%
Simple Volume Growth	0	0	0	0	0	0	0	0	68	0	0	37	0
Applied Bckgrnd Growth	0	0	0	0	0	0	0	0	68	0	0	37	0
Total Bckgrnd PK-Hr Vols	0	0	0	0	0	0	0	0	793	0	0	429	0

**Project Trips**

Project Trips	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
New Ext Inbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	30.0%	0.0%	0.0%
New Ext Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Inbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	10.0%	-10.0%	0.0%
Pass-By Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Project Trips	0	0	0	0	0	0	74	0	-31	109	53	-10	0

Total Pk-Hr Volumes	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Total Pk-Hr Volumes	0	0	0	0	0	0	74	0	762	109	53	419	0

## Marion Oaks Course at Driveway #2 PM Peak Hour

Existing TMCs	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Existing Count	0	0	0	0	0	0	0	0	576	0	0	620	0
Date of Count	8/29/2024			SF			1.03						
Adjusted Count	0	0	0	0	0	0	0	0	593	0	0	639	0

Existing Approach & Departure Volumes	West Leg			East Leg			South Leg			North Leg			
	EB: 0	WB: 0	EB: #DIV/0!	EB: 0	WB: 0	EB: #DIV/0!	NB: 593	SB: 639	NB: 0.48	NB: 593	SB: 639	NB: 0.48	SB: 0.52
Directional Factors Based on Existing Counts	EB: #DIV/0!	WB: #DIV/0!	WB: #DIV/0!	EB: #DIV/0!	WB: #DIV/0!	WB: #DIV/0!	NB: 593	SB: 639	NB: 0.48	NB: 593	SB: 639	NB: 0.48	SB: 0.52

### Future Background Year 2026

	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Simple Volume Growth	0	0	0	0	0	0	0	0	0	56	0	60	60	0
Applied Bckgrnd Growth	0	0	0	0	0	0	0	0	0	56	0	60	60	0
Total Bckgrnd PK-Hr Vols	0	0	0	0	0	0	0	0	0	649	0	699	699	0

### Project Trips

	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
New Ext Inbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	30.0%	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%	0.0%	0.0%
Pass-By Inbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	10.0%	-10.0%	0.0%
Pass-By Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	67	13	-13	0
Total Project Trips	0	0	0	0	0	0	0	0	0	98	36	-13	0

Total Pk-Hr Volumes	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
	0	0	0	0	0	0	0	0	609	98	36	686	0

## Marion Oaks Course at SW 132nd Place AM Peak Hour

Existing TMCs	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Existing Count	0	4	1	0	22	2	0	5	659	8	8	324	2
Date of Count	8/29/2024												
Adjusted Count	0	4	1	0	23	2	0	5	679	8	8	334	2
	SF 1.03												

Existing Approach & Departure Volumes	West Leg			East Leg			South Leg			North Leg		
	EB: 12	WB: 9	EB: 0.57	EB: 17	WB: 41	EB: 0.29	NB: 692	SB: 364	NB: 0.66	NB: 699	SB: 344	NB: 0.67
Directional Factors Based on Existing Counts	WB: 0.43		WB: 0.71			SB: 0.34						SB: 0.33

### Future Background Year 2026

	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%	2.0%
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%	2.0%
Simple Volume Growth	0	0	0	0	1	0	0	1	0	0	1	0	0	64	1	0	31
Applied Bckgrnd Growth	0	0	0	0	1	0	0	1	0	0	1	0	0	64	1	0	31
Total Bckgrnd PK-Hr Vols	0	4	1	0	24	2	0	5	743	9	0	9	0	365	2	0	4.7%

### Project Trips

	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
New Ext Inbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%
New Ext Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Inbound Volume	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%
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%	0.0%	0.0%
Total Project Trips	0	0	0	0	0	0	0	0	43	0	0	43	0

Total Pk-Hr Volumes	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
	0	4	1	0	24	2	0	5	786	9	0	408	2

## Marion Oaks Course at SW 132nd Place PM Peak Hour

Existing TMCs	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Existing Count	0	3	0	0	10	0	2	11	526	14	2	13	572
Date of Count	8/29/2024			SF			1.03						
Adjusted Count	0	3	0	0	10	0	2	11	542	14	2	13	589

Existing Approach & Departure Volumes	West Leg			East Leg			South Leg			North Leg			
	EB: 7	WB: 13	EB: 0.35	EB: 27	WB: 20	EB: 0.57	NB: 569	SB: 605	NB: 0.48	NB: 557	SB: 606	NB: 0.48	SB: 0.52
Directional Factors Based on Existing Counts	WB: 0.65			WB: 0.43			SB: 0.52			SB: 0.52			

### Future Background Year 2026

	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%	2.0%
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%	2.0%
Simple Volume Growth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Applied Bckgrnd Growth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Bckgrnd PK-Hr Vols	0	3	0	0	10	0	2	12	593	15	2	14	644				

### Project Trips

	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
New Ext Inbound Volume	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%
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%	0.0%	0.0%
Pass-By Inbound Volume	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%
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%	0.0%	0.0%
Total Project Trips	0	0	0	0	0	0	0	0	23	0	0	0	23

Total Pk-Hr Volumes	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
	0	3	0	0	10	0	2	12	616	15	2	14	667

## Marion Oaks Trail at SW 49th Avenue AM Peak Hour

Existing TMCs	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Existing Count	0	131	110	0	24	110	0	11	218	0	280	100	29
Date of Count	8/29/2024												
Adjusted Count	0	135	113	0	25	113	0	11	225	0	288	103	30
	SF			SF			1.03						

Existing Approach & Departure Volumes	West Leg			East Leg			South Leg			North Leg		
	EB: 253	WB: 154	EB: 0.62	EB: 410	WB: 862	EB: 0.32	NB: 245	SB: 133	NB: 0.65	NB: 1,084	SB: 421	NB: 0.72
Directional Factors Based on Existing Counts	WB: 0.38			WB: 0.68			SB: 0.35			SB: 0.28		

**Future Background**      Year    2026

Annual Growth Rate	3.0%	3.0%	3.0%	4.7%	4.7%	4.7%	4.7%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Simple Volume Growth	0	8	7	0	2	11	68	0	1	23	0	29	10
Applied Bckgrnd Growth	0	8	7	0	2	11	68	0	1	23	0	29	10
Total Bckgrnd PK-Hr Vols	0	143	120	5	0	27	124	0	12	248	0	317	113

**Project Trips**

Project Trips	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
New Ext Inbound Volume	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%
New Ext Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pass-By Inbound Volume	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%
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%	0.0%	0.0%
Total Project Trips	0	0	7	0	0	7	36	0	0	0	0	36	0

Total Pk-Hr Volumes	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Total Pk-Hr Volumes	0	143	127	5	0	27	131	0	12	248	0	353	113

## Marion Oaks Trail at SW 49th Avenue PM Peak Hour

Existing TMCs	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
Existing Count	0	85	78	2	14	91	0	6	119	7	586	140	125
Date of Count	8/29/2024												
Adjusted Count	0	88	80	2	14	94	0	6	123	7	604	144	129
	SF 1.03												

Existing Approach & Departure Volumes	West Leg			East Leg			South Leg			North Leg			
	EB: 173	WB: 229	EB: 0.43	EB: 693	WB: 655	EB: 0.51	NB: 136	SB: 163	NB: 0.45	NB: 756	SB: 877	NB: 0.46	SB: 0.54
Directional Factors Based on Existing Counts	WB: 0.57			WB: 0.49			SB: 0.55						

### Future Background Year 2026

	3.0%	3.0%	3.0%	3.0%	4.7%	4.7%	4.7%	4.7%	4.7%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Annual Growth Rate	0	5	5	0	0	1	9	9	51	0	1	12	1	0	60	14
Simple Volume Growth	0	5	5	0	0	1	9	9	51	0	1	12	1	0	60	14
Applied Bckgrnd Growth	0	93	85	5	2	15	103	596	8	0	7	135	8	0	664	158
Total Bckgrnd PK-Hr Vols																

### Project Trips

	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
New Ext Inbound Volume	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%
New Ext Outbound Volume	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	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%	0.0%	0.0%	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%	0.0%	0.0%
Total Project Trips	0	0	4	0	0	4	0	0	20	0	20	0	0

Total Pk-Hr Volumes	Eastbound			Westbound			Northbound			Southbound			
	U	L	T	U	L	T	U	L	T	U	L	T	R
	0	93	89	2	15	107	0	7	135	8	684	158	142

# Appendix F

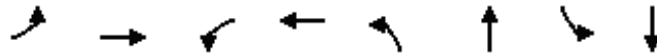
## Future Buildout (2025) Synchro Printouts



Timings

101: Marion Oaks Course & CR 484

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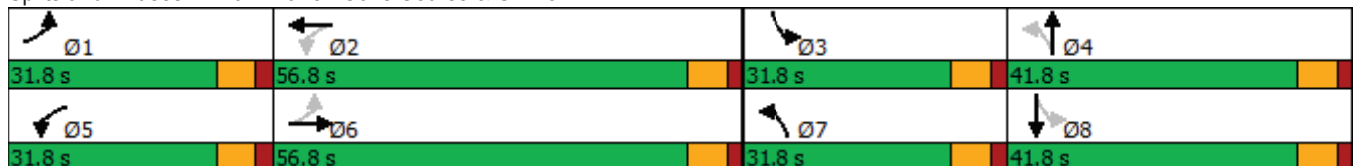


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	129	264	166	515	190	326	225	137
Future Volume (vph)	129	264	166	515	190	326	225	137
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	10.0	15.0	10.0	15.0	10.0	15.0	10.0	15.0
Minimum Split (s)	16.8	21.8	16.8	21.8	16.8	21.8	16.8	21.8
Total Split (s)	31.8	56.8	31.8	56.8	31.8	41.8	31.8	41.8
Total Split (%)	19.6%	35.0%	19.6%	35.0%	19.6%	25.8%	19.6%	25.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	63.6	50.2	65.4	51.1	51.8	35.1	57.8	38.1
Actuated g/C Ratio	0.43	0.34	0.45	0.35	0.35	0.24	0.39	0.26
v/c Ratio	0.58	0.30	0.36	0.81	0.44	1.00	0.83	0.42
Control Delay	32.3	35.3	24.5	44.8	31.8	96.6	62.6	47.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	35.3	24.5	44.8	31.8	96.6	62.6	47.5
LOS	C	D	C	D	C	F	E	D
Approach Delay		34.5		41.6		76.1		55.8
Approach LOS		C		D		E		E

Intersection Summary

Cycle Length: 162.2	
Actuated Cycle Length: 146.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 50.9	Intersection LOS: D
Intersection Capacity Utilization 91.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 101: Marion Oaks Course & CR 484



HCM 6th Signalized Intersection Summary

101: Marion Oaks Course & CR 484

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	264	63	166	515	364	190	326	85	225	137	45
Future Volume (veh/h)	129	264	63	166	515	364	190	326	85	225	137	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1811	1796	1856	1737	1781	1856	1856	1870	1856	1826	1781
Adj Flow Rate, veh/h	136	278	66	175	542	383	200	343	89	237	144	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	6	7	3	11	8	3	3	2	3	5	8
Cap, veh/h	232	994	232	485	677	478	438	357	93	268	352	115
Arrive On Green	0.07	0.36	0.36	0.08	0.37	0.37	0.10	0.25	0.25	0.12	0.27	0.27
Sat Flow, veh/h	1697	2769	646	1767	1847	1305	1767	1421	369	1767	1318	430
Grp Volume(v), veh/h	136	171	173	175	484	441	200	0	432	237	0	191
Grp Sat Flow(s),veh/h/ln	1697	1721	1695	1767	1650	1502	1767	0	1789	1767	0	1748
Q Serve(g_s), s	6.9	9.9	10.2	8.6	36.6	36.7	11.5	0.0	33.2	13.7	0.0	12.5
Cycle Q Clear(g_c), s	6.9	9.9	10.2	8.6	36.6	36.7	11.5	0.0	33.2	13.7	0.0	12.5
Prop In Lane	1.00		0.38	1.00		0.87	1.00		0.21	1.00		0.25
Lane Grp Cap(c), veh/h	232	618	608	485	605	550	438	0	450	268	0	467
V/C Ratio(X)	0.59	0.28	0.28	0.36	0.80	0.80	0.46	0.00	0.96	0.88	0.00	0.41
Avail Cap(c_a), veh/h	416	618	608	663	605	550	578	0	450	381	0	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	31.8	31.9	24.9	39.6	39.6	33.5	0.0	51.5	36.6	0.0	42.0
Incr Delay (d2), s/veh	2.3	1.1	1.2	0.5	10.7	11.7	0.7	0.0	32.5	15.8	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	7.8	7.9	6.7	23.3	21.7	8.8	0.0	26.1	11.5	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	32.9	33.1	25.3	50.3	51.2	34.3	0.0	84.0	52.4	0.0	42.6
LnGrp LOS	C	C	C	C	D	D	C	A	F	D	A	D
Approach Vol, veh/h		480			1100			632				428
Approach Delay, s/veh		32.9			46.7			68.2				48.0
Approach LOS		C			D			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	57.8	22.9	41.8	17.8	56.8	20.7	44.0				
Change Period (Y+Rc), s	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8				
Max Green Setting (Gmax), s	25.0	50.0	25.0	35.0	25.0	50.0	25.0	35.0				
Max Q Clear Time (g_c+I1), s	8.9	38.7	15.7	35.2	10.6	12.2	13.5	14.5				
Green Ext Time (p_c), s	0.3	4.8	0.5	0.0	0.4	2.2	0.4	1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				49.6								
HCM 6th LOS				D								

HCM 6th TWSC

102: Marion Oaks Course & SW 132nd PI

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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	4	1	7	24	2	17	5	786	9	9	408	2
Future Vol, veh/h	4	1	7	24	2	17	5	786	9	9	408	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	6	2	6	2	13	4	2
Mvmt Flow	4	1	8	26	2	18	5	845	10	10	439	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1330	1325	440	1325	1321	850	441	0	0	855	0	0
Stage 1	460	460	-	860	860	-	-	-	-	-	-	-
Stage 2	870	865	-	465	461	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.26	4.12	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.354	2.218	-	-	2.317	-	-
Pot Cap-1 Maneuver	132	156	617	133	157	354	1119	-	-	740	-	-
Stage 1	581	566	-	351	373	-	-	-	-	-	-	-
Stage 2	346	371	-	578	565	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	122	152	617	128	153	354	1119	-	-	740	-	-
Mov Cap-2 Maneuver	234	263	-	249	268	-	-	-	-	-	-	-
Stage 1	576	556	-	348	370	-	-	-	-	-	-	-
Stage 2	323	368	-	560	555	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15	20.2	0.1	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1119	-	-	372	283	740	-	-
HCM Lane V/C Ratio	0.005	-	-	0.035	0.163	0.013	-	-
HCM Control Delay (s)	8.2	0	-	15	20.2	9.9	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0	-	-

Timings

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	143	127	27	131	828	12	248	10	353	113
Future Volume (vph)	143	127	27	131	828	12	248	10	353	113
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.9	36.9	21.9	36.9	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.6%	21.3%	12.6%	21.3%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	38.7	27.3	25.6	18.0	59.9	71.0	65.1	65.1	107.3	102.1
Actuated g/C Ratio	0.24	0.17	0.16	0.11	0.37	0.44	0.41	0.41	0.67	0.64
v/c Ratio	0.62	0.47	0.14	0.71	1.10	0.02	0.39	0.01	0.51	0.16
Control Delay	61.7	66.4	47.8	88.1	90.2	14.4	36.6	0.0	14.7	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	66.4	47.8	88.1	90.2	14.4	36.6	0.0	14.7	13.4
LOS	E	E	D	F	F	B	D	A	B	B
Approach Delay		64.0		88.8			34.3			14.3
Approach LOS		E		F			C			B

Intersection Summary

Cycle Length: 173.2

Actuated Cycle Length: 160.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 59.9

Intersection LOS: E

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	127	5	27	131	828	12	248	10	353	113	33
Future Volume (veh/h)	143	127	5	27	131	828	12	248	10	353	113	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1841	1604	1841	1826	1826	1870	1767	1870	1841	1618	1752
Adj Flow Rate, veh/h	157	140	5	30	144	910	13	273	11	388	124	36
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	4	20	4	5	5	2	9	2	4	19	10
Cap, veh/h	255	439	16	310	344	513	571	722	648	619	648	188
Arrive On Green	0.08	0.25	0.25	0.02	0.19	0.19	0.01	0.41	0.41	0.14	0.54	0.54
Sat Flow, veh/h	1767	1766	63	1753	1826	1547	1781	1767	1585	1753	1205	350
Grp Volume(v), veh/h	157	0	145	30	144	910	13	273	11	388	0	160
Grp Sat Flow(s),veh/h/ln	1767	0	1829	1753	1826	1547	1781	1767	1585	1753	0	1555
Q Serve(g_s), s	11.1	0.0	10.3	2.2	11.0	30.0	0.7	17.2	0.7	19.7	0.0	8.4
Cycle Q Clear(g_c), s	11.1	0.0	10.3	2.2	11.0	30.0	0.7	17.2	0.7	19.7	0.0	8.4
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	255	0	454	310	344	513	571	722	648	619	0	836
V/C Ratio(X)	0.62	0.00	0.32	0.10	0.42	1.78	0.02	0.38	0.02	0.63	0.00	0.19
Avail Cap(c_a), veh/h	275	0	454	435	344	513	714	722	648	755	0	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.5	0.0	48.8	50.3	56.8	53.2	26.7	32.9	28.0	21.2	0.0	19.0
Incr Delay (d2), s/veh	3.6	0.0	0.4	0.1	0.8	356.8	0.0	1.5	0.0	1.2	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	0.0	8.3	1.7	8.8	106.2	0.5	12.2	0.5	12.6	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	0.0	49.2	50.4	57.6	409.9	26.7	34.4	28.0	22.4	0.0	19.5
LnGrp LOS	D	A	D	D	E	F	C	C	C	C	A	B
Approach Vol, veh/h		302			1084			297			548	
Approach Delay, s/veh		49.2			353.2			33.8			21.5	
Approach LOS		D			F			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	92.7	20.1	36.9	29.9	72.2	10.6	46.4				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	15.0	30.0	* 35	* 65	15.0	30.0				
Max Q Clear Time (g_c+I1), s	2.7	10.4	13.1	32.0	21.7	19.2	4.2	12.3				
Green Ext Time (p_c), s	0.0	0.9	0.1	0.0	1.0	1.6	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	188.1
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖↗	↖	↗	↖↗	↖	↗
Traffic Volume (vph)	143	127	27	131	828	12	248	10	353	113
Future Volume (vph)	143	127	27	131	828	12	248	10	353	113
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.0	37.8	21.0	37.8	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.1%	21.8%	12.1%	21.8%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	36.8	28.8	24.8	17.3	49.7	71.4	65.5	65.5	98.2	93.2
Actuated g/C Ratio	0.25	0.19	0.17	0.12	0.33	0.48	0.44	0.44	0.65	0.62
v/c Ratio	0.60	0.42	0.13	0.69	0.66	0.02	0.36	0.01	0.54	0.16
Control Delay	57.3	60.3	45.8	82.3	10.7	13.5	32.2	0.0	15.2	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	60.3	45.8	82.3	10.7	13.5	32.2	0.0	15.2	13.4
LOS	E	E	D	F	B	B	C	A	B	B
Approach Delay		58.7		21.2			30.2			14.7
Approach LOS		E		C			C			B

Intersection Summary

Cycle Length: 173.2  
 Actuated Cycle Length: 150  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 25.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 72.4%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	127	5	27	131	828	12	248	10	353	113	33
Future Volume (veh/h)	143	127	5	27	131	828	12	248	10	353	113	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1841	1604	1841	1826	1826	1870	1767	1870	1841	1618	1752
Adj Flow Rate, veh/h	157	140	5	30	144	910	13	273	11	388	124	36
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	4	20	4	5	5	2	9	2	4	19	10
Cap, veh/h	256	445	16	315	352	915	567	717	643	616	645	187
Arrive On Green	0.08	0.25	0.25	0.02	0.19	0.19	0.01	0.41	0.41	0.14	0.54	0.54
Sat Flow, veh/h	1767	1766	63	1753	1826	2723	1781	1767	1585	1753	1205	350
Grp Volume(v), veh/h	157	0	145	30	144	910	13	273	11	388	0	160
Grp Sat Flow(s),veh/h/ln	1767	0	1829	1753	1826	1362	1781	1767	1585	1753	0	1555
Q Serve(g_s), s	11.1	0.0	10.3	2.2	11.1	30.9	0.7	17.4	0.7	20.0	0.0	8.5
Cycle Q Clear(g_c), s	11.1	0.0	10.3	2.2	11.1	30.9	0.7	17.4	0.7	20.0	0.0	8.5
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	256	0	461	315	352	915	567	717	643	616	0	833
V/C Ratio(X)	0.61	0.00	0.31	0.10	0.41	0.99	0.02	0.38	0.02	0.63	0.00	0.19
Avail Cap(c_a), veh/h	266	0	461	429	352	915	709	717	643	748	0	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	0.0	48.7	50.1	56.6	53.0	27.2	33.4	28.5	21.6	0.0	19.3
Incr Delay (d2), s/veh	3.9	0.0	0.4	0.1	0.8	28.3	0.0	1.5	0.0	1.2	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	0.0	8.3	1.7	8.8	28.9	0.5	12.3	0.5	12.8	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	0.0	49.1	50.2	57.4	81.3	27.2	35.0	28.5	22.8	0.0	19.8
LnGrp LOS	D	A	D	D	E	F	C	C	C	C	A	B
Approach Vol, veh/h		302			1084			297			548	
Approach Delay, s/veh		49.2			77.3			34.4			21.9	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	92.9	20.1	37.8	30.1	72.2	10.6	47.3				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	14.1	30.9	* 35	* 65	14.1	30.9				
Max Q Clear Time (g_c+I1), s	2.7	10.5	13.1	32.9	22.0	19.4	4.2	12.3				
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	1.0	1.6	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
104: CR 484 & Driveway #1

09/23/2024

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	644	900	85	0	172
Future Vol, veh/h	0	644	900	85	0	172
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	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	6	11	2	2	2
Mvmt Flow	0	678	947	89	0	181

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

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	537
HCM Lane V/C Ratio	-	-	-	0.337
HCM Control Delay (s)	-	-	-	15.1
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.5

HCM 6th TWSC  
105: Marion Oaks Course & Driveway #2

09/23/2024

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖	↗	↖	↖
Traffic Vol, veh/h	0	74	762	109	53	419
Future Vol, veh/h	0	74	762	109	53	419
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	-	300	300	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	6	2	2	4
Mvmt Flow	0	80	819	117	57	451

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	819	0	0	936
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218
Pot Cap-1 Maneuver	0	375	-	-	732
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	375	-	-	732
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

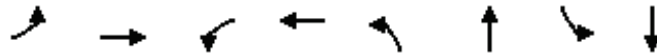
Approach	WB	NB	SB
HCM Control Delay, s	17.2	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	375	732
HCM Lane V/C Ratio	-	-	0.212	0.078
HCM Control Delay (s)	-	-	17.2	10.3
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.8	0.3

Timings

101: Marion Oaks Course & CR 484

09/23/2024

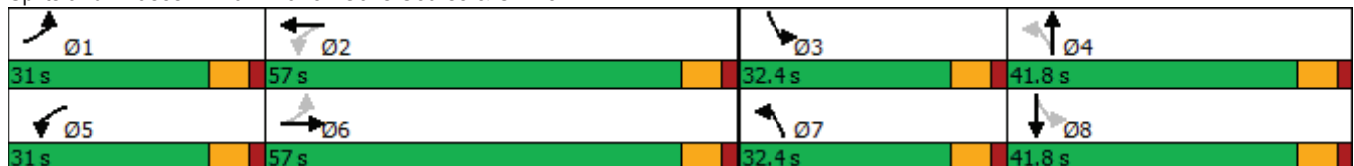


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	59	520	307	562	100	219	333	325
Future Volume (vph)	59	520	307	562	100	219	333	325
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	7	4	3	8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	7	4	3	8
Switch Phase								
Minimum Initial (s)	10.0	15.0	10.0	15.0	10.0	15.0	10.0	15.0
Minimum Split (s)	16.8	21.8	16.8	21.8	16.8	21.8	16.8	21.8
Total Split (s)	31.0	57.0	31.0	57.0	32.4	41.8	32.4	41.8
Total Split (%)	19.1%	35.1%	19.1%	35.1%	20.0%	25.8%	20.0%	25.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
Act Effct Green (s)	60.5	50.3	80.1	66.7	43.6	31.6	64.1	45.4
Actuated g/C Ratio	0.38	0.32	0.51	0.42	0.28	0.20	0.41	0.29
v/c Ratio	0.27	0.64	0.80	0.70	0.36	0.91	1.00	0.66
Control Delay	25.3	48.5	40.4	37.5	34.6	89.5	89.4	56.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	48.5	40.4	37.5	34.6	89.5	89.4	56.4
LOS	C	D	D	D	C	F	F	E
Approach Delay		46.6		38.2		76.1		72.9
Approach LOS		D		D		E		E

Intersection Summary

Cycle Length: 162.2  
 Actuated Cycle Length: 157.8  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 52.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 94.2%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 101: Marion Oaks Course & CR 484



HCM 6th Signalized Intersection Summary

101: Marion Oaks Course & CR 484

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	59	520	126	307	562	387	100	219	87	333	325	8
Future Volume (veh/h)	59	520	126	307	562	387	100	219	87	333	325	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1796	1856	1870	1811	1856	1870	1796	1870	1841	1870	1693
Adj Flow Rate, veh/h	62	547	133	323	592	407	105	231	92	351	342	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	7	3	2	6	3	2	7	2	4	2	14
Cap, veh/h	228	881	213	399	773	531	308	248	99	354	554	13
Arrive On Green	0.06	0.32	0.32	0.13	0.40	0.40	0.06	0.20	0.20	0.16	0.30	0.30
Sat Flow, veh/h	1781	2724	660	1781	1950	1340	1781	1222	487	1753	1820	43
Grp Volume(v), veh/h	62	342	338	323	522	477	105	0	323	351	0	350
Grp Sat Flow(s),veh/h/ln	1781	1706	1677	1781	1721	1570	1781	0	1709	1753	0	1863
Q Serve(g_s), s	3.4	26.3	26.5	18.2	40.8	40.8	7.1	0.0	28.8	25.3	0.0	25.0
Cycle Q Clear(g_c), s	3.4	26.3	26.5	18.2	40.8	40.8	7.1	0.0	28.8	25.3	0.0	25.0
Prop In Lane	1.00		0.39	1.00		0.85	1.00		0.28	1.00		0.02
Lane Grp Cap(c), veh/h	228	552	543	399	682	622	308	0	347	354	0	567
V/C Ratio(X)	0.27	0.62	0.62	0.81	0.77	0.77	0.34	0.00	0.93	0.99	0.00	0.62
Avail Cap(c_a), veh/h	399	552	543	440	682	622	488	0	385	354	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.7	44.4	44.5	31.2	40.6	40.6	44.6	0.0	60.7	44.6	0.0	46.2
Incr Delay (d2), s/veh	0.6	5.1	5.3	10.0	8.0	8.7	0.7	0.0	27.4	45.5	0.0	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	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	17.7	17.6	13.9	26.0	24.2	5.9	0.0	21.6	22.0	0.0	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	49.6	49.8	41.2	48.6	49.3	45.3	0.0	88.2	90.1	0.0	48.2
LnGrp LOS	C	D	D	D	D	D	D	A	F	F	A	D
Approach Vol, veh/h		742			1322			428				701
Approach Delay, s/veh		48.4			47.1			77.6				69.2
Approach LOS		D			D			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.1	68.3	32.4	38.3	27.4	57.0	16.7	54.1				
Change Period (Y+Rc), s	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8				
Max Green Setting (Gmax), s	24.2	50.2	25.6	35.0	24.2	50.2	25.6	35.0				
Max Q Clear Time (g_c+I1), s	5.4	42.8	27.3	30.8	20.2	28.5	9.1	27.0				
Green Ext Time (p_c), s	0.1	3.8	0.0	0.7	0.4	4.4	0.2	1.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				56.3								
HCM 6th LOS				E								

HCM 6th TWSC

102: Marion Oaks Course & SW 132nd PI

09/23/2024

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	4	10	0	10	14	616	15	16	667	2
Future Vol, veh/h	3	0	4	10	0	10	14	616	15	16	667	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	5	2	7	4	2
Mvmt Flow	3	0	4	11	0	11	15	655	16	17	710	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1444	1446	711	1440	1439	663	712	0	0	671	0	0
Stage 1	745	745	-	693	693	-	-	-	-	-	-	-
Stage 2	699	701	-	747	746	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.263	-	-
Pot Cap-1 Maneuver	110	132	433	111	133	461	888	-	-	896	-	-
Stage 1	406	421	-	434	445	-	-	-	-	-	-	-
Stage 2	430	441	-	405	421	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	103	124	433	105	125	461	888	-	-	896	-	-
Mov Cap-2 Maneuver	227	244	-	229	245	-	-	-	-	-	-	-
Stage 1	395	408	-	422	433	-	-	-	-	-	-	-
Stage 2	409	429	-	389	408	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.8		17.6		0.2		0.2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	312	306	896	-	-
HCM Lane V/C Ratio	0.017	-	-	0.024	0.07	0.019	-	-
HCM Control Delay (s)	9.1	0	-	16.8	17.6	9.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.2	0.1	-	-

Timings

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	93	89	17	107	616	7	135	8	684	158
Future Volume (vph)	93	89	17	107	616	7	135	8	684	158
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.9	36.9	21.9	36.9	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.6%	21.3%	12.6%	21.3%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	33.6	25.5	21.7	14.9	56.8	70.8	65.1	65.1	107.4	104.8
Actuated g/C Ratio	0.22	0.16	0.14	0.10	0.37	0.46	0.42	0.42	0.69	0.67
v/c Ratio	0.40	0.33	0.09	0.63	0.67	0.01	0.19	0.01	0.79	0.27
Control Delay	54.7	61.8	48.2	84.2	6.4	13.3	30.4	0.0	21.9	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	61.8	48.2	84.2	6.4	13.3	30.4	0.0	21.9	10.8
LOS	D	E	D	F	A	B	C	A	C	B
Approach Delay		58.3		18.7			28.1			18.5
Approach LOS		E		B			C			B

Intersection Summary

Cycle Length: 173.2

Actuated Cycle Length: 155.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 22.9

Intersection LOS: C

Intersection Capacity Utilization 80.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	89	5	17	107	616	7	135	8	684	158	142
Future Volume (veh/h)	93	89	5	17	107	616	7	135	8	684	158	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1870	1826	1870	1841	1870	1856	1841	1870
Adj Flow Rate, veh/h	98	94	5	18	113	648	7	142	8	720	166	149
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	3	2	2	2	5	2	4	2	3	4	2
Cap, veh/h	231	381	20	298	335	600	471	714	615	826	526	472
Arrive On Green	0.06	0.22	0.22	0.02	0.18	0.18	0.01	0.39	0.39	0.21	0.59	0.59
Sat Flow, veh/h	1781	1746	93	1781	1870	1547	1781	1841	1585	1767	894	802
Grp Volume(v), veh/h	98	0	99	18	113	648	7	142	8	720	0	315
Grp Sat Flow(s),veh/h/ln	1781	0	1839	1781	1870	1547	1781	1841	1585	1767	0	1696
Q Serve(g_s), s	7.4	0.0	7.5	1.4	8.8	30.0	0.4	8.6	0.5	35.0	0.0	15.7
Cycle Q Clear(g_c), s	7.4	0.0	7.5	1.4	8.8	30.0	0.4	8.6	0.5	35.0	0.0	15.7
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	231	0	401	298	335	600	471	714	615	826	0	998
V/C Ratio(X)	0.42	0.00	0.25	0.06	0.34	1.08	0.01	0.20	0.01	0.87	0.00	0.32
Avail Cap(c_a), veh/h	291	0	401	427	335	600	615	714	615	826	0	998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.0	0.0	54.2	54.7	60.1	51.3	30.7	34.0	31.5	25.2	0.0	17.4
Incr Delay (d2), s/veh	1.2	0.0	0.3	0.1	0.6	60.0	0.0	0.6	0.0	10.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	6.2	1.1	7.6	46.0	0.3	7.2	0.4	13.1	0.0	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	0.0	54.5	54.8	60.7	111.3	30.7	34.6	31.6	35.3	0.0	18.2
LnGrp LOS	D	A	D	D	E	F	C	C	C	D	A	B
Approach Vol, veh/h		197			779			157			1035	
Approach Delay, s/veh		53.3			102.7			34.3			30.1	
Approach LOS		D			F			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	105.8	16.3	36.9	42.2	72.2	9.7	43.4				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	15.0	30.0	* 35	* 65	15.0	30.0				
Max Q Clear Time (g_c+I1), s	2.4	17.7	9.4	32.0	37.0	10.6	3.4	9.5				
Green Ext Time (p_c), s	0.0	2.0	0.1	0.0	0.0	0.8	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	58.6
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖↗	↖	↗	↖↗	↖	↗
Traffic Volume (vph)	93	89	17	107	616	7	135	8	684	158
Future Volume (vph)	93	89	17	107	616	7	135	8	684	158
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	3	8	7	4	5	1	6		5	2
Permitted Phases	8		4		4	6		6	2	
Detector Phase	3	8	7	4	5	1	6	6	5	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	11.9	16.9	11.9	16.9	12.2	12.2	22.2	22.2	12.2	22.2
Total Split (s)	21.9	36.9	21.9	36.9	42.2	22.2	72.2	72.2	42.2	92.2
Total Split (%)	12.6%	21.3%	12.6%	21.3%	24.4%	12.8%	41.7%	41.7%	24.4%	53.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.2	7.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max
Act Effct Green (s)	33.6	25.5	21.7	14.9	56.8	70.8	65.1	65.1	107.4	104.8
Actuated g/C Ratio	0.22	0.16	0.14	0.10	0.37	0.46	0.42	0.42	0.69	0.67
v/c Ratio	0.40	0.33	0.09	0.63	0.46	0.01	0.19	0.01	0.79	0.27
Control Delay	54.7	61.8	48.2	84.2	3.3	13.3	30.4	0.0	21.9	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	61.8	48.2	84.2	3.3	13.3	30.4	0.0	21.9	10.8
LOS	D	E	D	F	A	B	C	A	C	B
Approach Delay		58.3		16.1			28.1			18.5
Approach LOS		E		B			C			B

Intersection Summary

Cycle Length: 173.2

Actuated Cycle Length: 155.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 22.0

Intersection LOS: C

Intersection Capacity Utilization 80.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 103: SW 49th Ave & Marion Oaks Trl



HCM 6th Signalized Intersection Summary

103: SW 49th Ave & Marion Oaks Trl

09/23/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	89	5	17	107	616	7	135	8	684	158	142
Future Volume (veh/h)	93	89	5	17	107	616	7	135	8	684	158	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1870	1870	1870	1826	1870	1841	1870	1856	1841	1870
Adj Flow Rate, veh/h	98	94	5	18	113	648	7	142	8	720	166	149
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	3	2	2	2	5	2	4	2	3	4	2
Cap, veh/h	231	381	20	298	335	1056	471	714	615	826	526	472
Arrive On Green	0.06	0.22	0.22	0.02	0.18	0.18	0.01	0.39	0.39	0.21	0.59	0.59
Sat Flow, veh/h	1781	1746	93	1781	1870	2723	1781	1841	1585	1767	894	802
Grp Volume(v), veh/h	98	0	99	18	113	648	7	142	8	720	0	315
Grp Sat Flow(s),veh/h/ln	1781	0	1839	1781	1870	1362	1781	1841	1585	1767	0	1696
Q Serve(g_s), s	7.4	0.0	7.5	1.4	8.8	30.0	0.4	8.6	0.5	35.0	0.0	15.7
Cycle Q Clear(g_c), s	7.4	0.0	7.5	1.4	8.8	30.0	0.4	8.6	0.5	35.0	0.0	15.7
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	231	0	401	298	335	1056	471	714	615	826	0	998
V/C Ratio(X)	0.42	0.00	0.25	0.06	0.34	0.61	0.01	0.20	0.01	0.87	0.00	0.32
Avail Cap(c_a), veh/h	291	0	401	427	335	1056	615	714	615	826	0	998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.0	0.0	54.2	54.7	60.1	41.2	30.7	34.0	31.5	25.2	0.0	17.4
Incr Delay (d2), s/veh	1.2	0.0	0.3	0.1	0.6	1.1	0.0	0.6	0.0	10.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	6.2	1.1	7.6	16.1	0.3	7.2	0.4	13.1	0.0	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	0.0	54.5	54.8	60.7	42.2	30.7	34.6	31.6	35.3	0.0	18.2
LnGrp LOS	D	A	D	D	E	D	C	C	C	D	A	B
Approach Vol, veh/h		197			779			157			1035	
Approach Delay, s/veh		53.3			45.2			34.3			30.1	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	105.8	16.3	36.9	42.2	72.2	9.7	43.4				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.9	6.9	* 7.2	* 7.2	6.9	6.9				
Max Green Setting (Gmax), s	* 15	* 85	15.0	30.0	* 35	* 65	15.0	30.0				
Max Q Clear Time (g_c+I1), s	2.4	17.7	9.4	32.0	37.0	10.6	3.4	9.5				
Green Ext Time (p_c), s	0.0	2.0	0.1	0.0	0.0	0.8	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
104: CR 484 & Driveway #1

09/23/2024

## Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations		↑↑	↑↑	↑		↑
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Traffic Vol, veh/h	0	1001	1141	77	0	149
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Future Vol, veh/h	0	1001	1141	77	0	149
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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	-	0
----------------	---	---	---	---	---	---

Veh in Median Storage, #	-	0	0	-	0	-
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Grade, %	-	0	0	-	0	-
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Peak Hour Factor	95	95	95	95	95	95
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Heavy Vehicles, %	2	7	6	2	2	2
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Mvmt Flow	0	1054	1201	81	0	157
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Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All	-	0	-	0	-	601
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Stage 1	-	-	-	-	-	-
---------	---	---	---	---	---	---

Stage 2	-	-	-	-	-	-
---------	---	---	---	---	---	---

Critical Hdwy	-	-	-	-	-	6.94
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Critical Hdwy Stg 1	-	-	-	-	-	-
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Critical Hdwy Stg 2	-	-	-	-	-	-
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Follow-up Hdwy	-	-	-	-	-	3.32
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Pot Cap-1 Maneuver	0	-	-	-	0	443
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Stage 1	0	-	-	-	0	-
---------	---	---	---	---	---	---

Stage 2	0	-	-	-	0	-
---------	---	---	---	---	---	---

Platoon blocked, %	-	-	-	-	-	-
--------------------	---	---	---	---	---	---

Mov Cap-1 Maneuver	-	-	-	-	-	443
--------------------	---	---	---	---	---	-----

Mov Cap-2 Maneuver	-	-	-	-	-	-
--------------------	---	---	---	---	---	---

Stage 1	-	-	-	-	-	-
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Stage 2	-	-	-	-	-	-
---------	---	---	---	---	---	---

Approach	EB	WB	SB
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HCM Control Delay, s	0	0	17.5
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HCM LOS			C
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Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
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Capacity (veh/h)	-	-	-	443
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HCM Lane V/C Ratio	-	-	-	0.354
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HCM Control Delay (s)	-	-	-	17.5
-----------------------	---	---	---	------

HCM Lane LOS	-	-	-	C
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HCM 95th %tile Q(veh)	-	-	-	1.6
-----------------------	---	---	---	-----

HCM 6th TWSC  
105: Marion Oaks Course & Driveway #2

09/23/2024

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↑	↖	↘	↑
Traffic Vol, veh/h	0	63	609	98	36	686
Future Vol, veh/h	0	63	609	98	36	686
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	-	300	300	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	5	2	2	4
Mvmt Flow	0	67	648	104	38	730

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	648	0	0	752
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218
Pot Cap-1 Maneuver	0	470	-	-	858
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	470	-	-	858
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	470	858
HCM Lane V/C Ratio	-	-	0.143	0.045
HCM Control Delay (s)	-	-	13.9	9.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

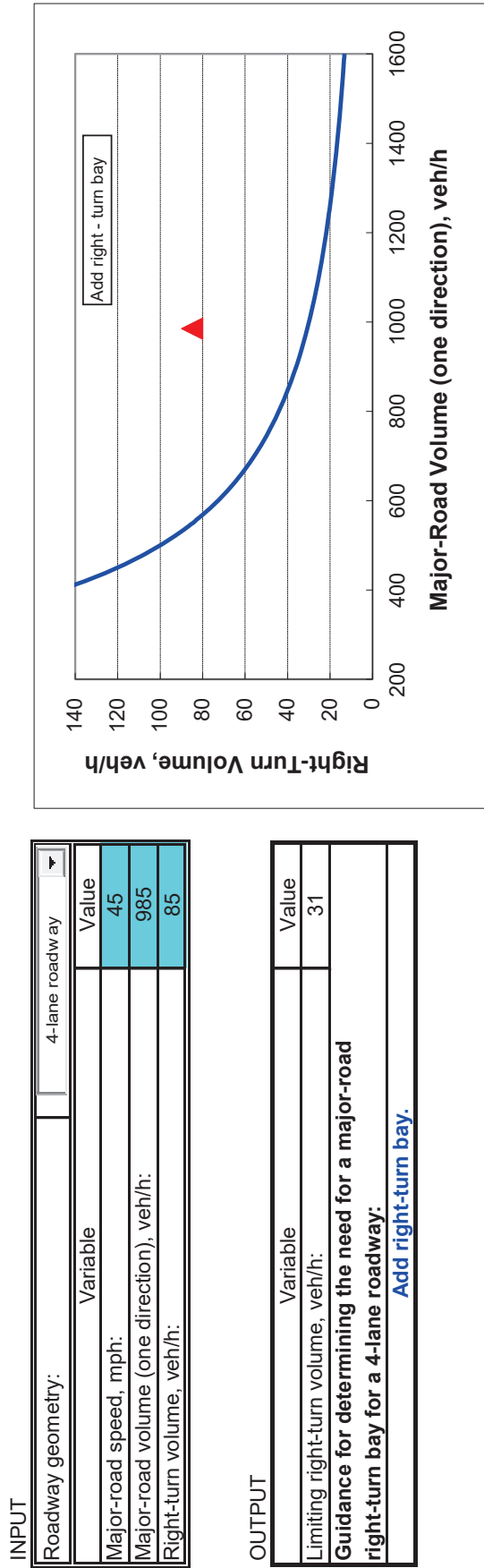
# Appendix G

## Turn-Lane Analysis Worksheets



Westbound Right-Turn Lane Analysis - CR 484 at Driveway #1 - AM Peak Hour

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



Westbound Right-Turn Lane Analysis - CR 484 at Driveway #1 - PM Peak Hour

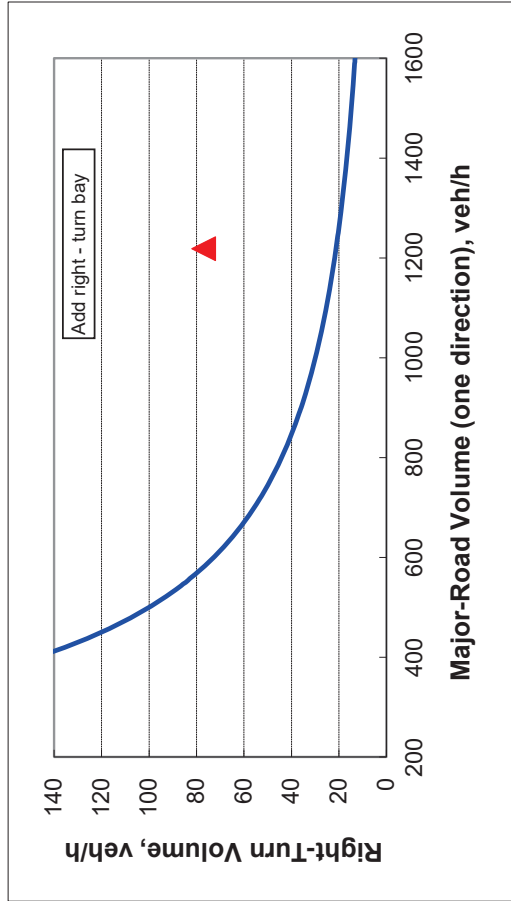
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	1218
Right-turn volume, veh/h:	77

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	21
<b>Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:</b>	
<b>Add right-turn bay.</b>	



Northbound Right-Turn Lane Analysis - Marion Oaks Course at Driveway #2 - AM Peak Hour

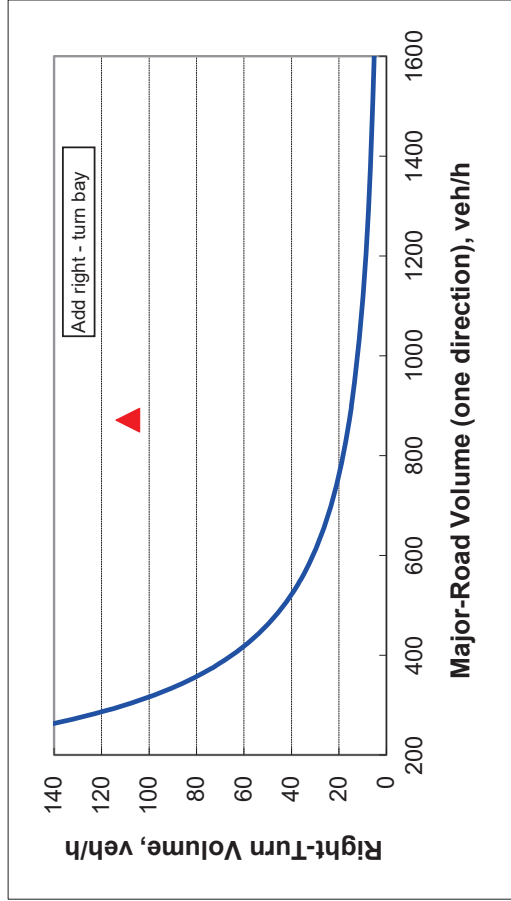
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	871
Right-turn volume, veh/h:	109

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	16
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Add right-turn bay.</b>	



Northbound Right-Turn Lane Analysis - Marion Oaks Course at Driveway #2 - PM Peak Hour

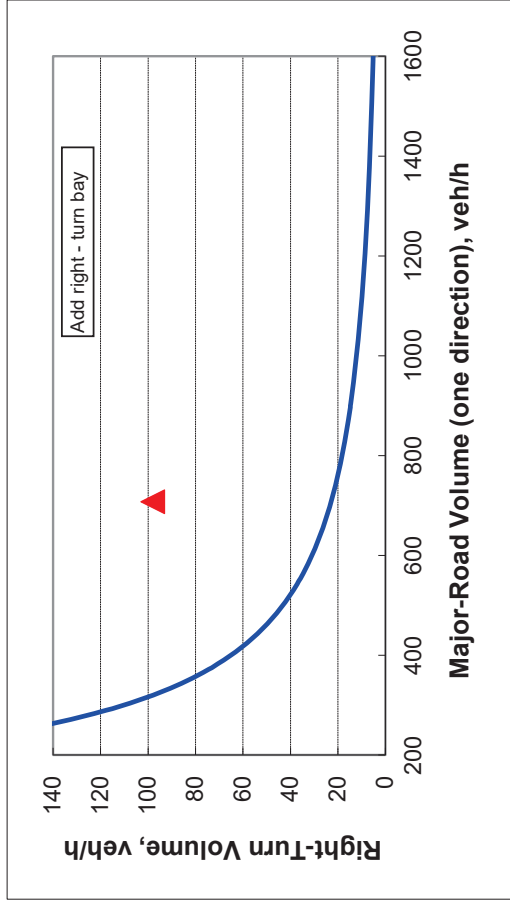
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	707
Right-turn volume, veh/h:	98

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	23
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Add right-turn bay.</b>	



Southbound Left-Turn Lane Analysis - Marion Oaks Course at Driveway #2 - AM Peak Hour

**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**

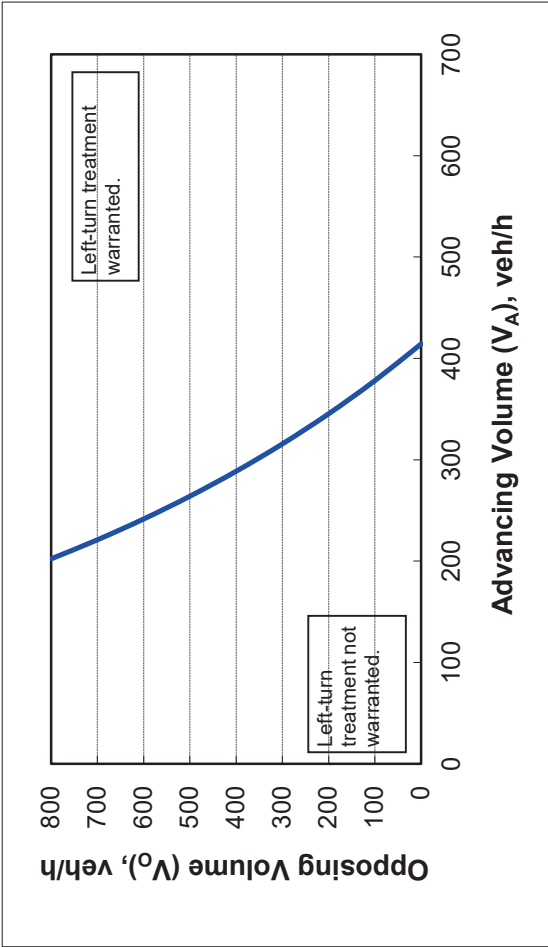
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	45
Percent of left-turns in advancing volume ( $V_A$ ), %:	11%
Advancing volume ( $V_A$ ), veh/h:	472
Opposing volume ( $V_O$ ), veh/h:	871

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	190
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment warranted.</b>	



**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	3.0

Southbound Left-Turn Lane Analysis - Marion Oaks Course at Driveway #2 - PM Peak Hour

**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**

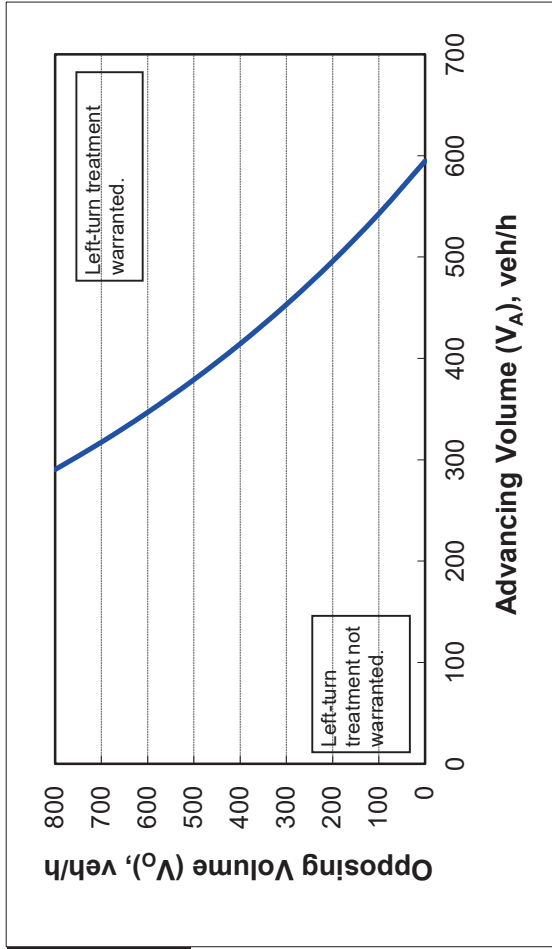
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	45
Percent of left-turns in advancing volume ( $V_A$ ), %:	5%
Advancing volume ( $V_A$ ), veh/h:	722
Opposing volume ( $V_O$ ), veh/h:	707

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	315
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment warranted.</b>	



**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	3.0