TRAFFIC IMPACT ANALYSIS

ALBRIGHT PROPERTY

CITY OF OCALA, FLORIDA

Prepared for:

CLAY ALBRIGHT, INC.

Prepared by:

KIMLEY-HORN AND ASSOCIATES, INC.

SEPTEMBER 2021

Kimley»Horn

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142000002
September 2021
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Kimley»Horn

THIS IS TO CERTIFY THAT THE ENCLOSED CALCULATIONS WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

AMBER L. GARTNER, P.E
STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 72294
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY AMBER L. GARTNER, P.E. ON THE DATE INDICATED HERE.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

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AMBER L. GARTNER, P.E.
Florida Registration #72294
Kimley-Horn Registry #696

EXECUTIVE SUMMARY

Kimley-Horn has performed a Traffic Impact Analysis (TIA) for a proposed residential development. The project site is generally located on the southwest corner of SR 464 and SE 24th Street (unsignalized) in the City of Ocala, Florida.

A comprehensive plan amendment and rezoning application for the property are under review by the City of Ocala. The proposed zoning is R-3 and will allow up to 320 residential dwelling units. Access to the site will be provided via SE 24th Street, which connects to SR 464/Maricamp Road at an existing right-in/right-out intersection. SE 24th Street will be extended westward along the project frontage, with two access driveways constructed to SE 24th Street for the proposed residential development.

The traffic analysis was performed considering a buildout year of 2025 and a development program of 320 multi-family dwelling units. The operating conditions within the study area were evaluated for the PM peak hour existing conditions, future background (before addition of project traffic) conditions and buildout traffic conditions (with project traffic) for the study area intersections and roadway segments.

There are transportation improvements within the study area identified to be needed prior to the addition of project traffic. Traffic from the proposed development does not have an adverse impact on the operating conditions of the roadway segments or intersections within the study area.

The following traffic operational improvements are proposed at the intersection of SR 464 and SE 24th Street to facilitate ingress and egress traffic from the proposed site.

- Signal timing adjustments to allow for additional green time for the eastbound left-turn movement
- Extension of the eastbound left-turn lane to allow for additional queue storage
- Installation of a R10-30 “Right Turn on Red Must Yield to U-Turn” sign and post for the southbound right-turn movement from SE 24th Street to SR 464

The project owner will enter into a Concurrency Development Agreement for contribution of proportionate share towards these improvements.

The analysis has been performed in accordance with the City of Ocala/Marion County Traffic Impact Analysis guidelines and the previously approved methodology. The analysis herein supports the traffic concurrency reservation for the site.

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INTRODUCTION

Kimley-Horn has performed a TIA for the proposed Albright Property. The project site is generally located on the southwest corner of SR 464 and SE 24th Street (unsignalized) in the City of Ocala, Florida. The site is proposed to contain a residential development, with up to 320 dwelling units allowed.

The TIA identifies transportation needs within the study area under existing conditions, future background conditions (before the addition of project traffic) and project buildout conditions (with project traffic) for the PM peak hour. Additionally, the intersection of SR 464 and SE 24th Street (signalized) was analyzed for existing conditions, future background conditions (before the addition of project traffic) and project buildout conditions (with project traffic) for the AM peak hour. The eastbound left turn lane on SR 464 at SE 24th Street (signalized) and westbound left turn lane on SR 464 at SE 30th Avenue (unsignalized) were evaluated for improvements needed to accommodate the ingress and egress u-turns for the project.

The right-in/right-out intersection on SR 464 to SE 24th Street (unsignalized) will be utilized for ingress and egress project traffic. A roadway agreement (Agreement Regarding SE 24th Street, dated May 17 2021) has been executed with the adjacent ARC Commercial project for improvements to SE 24th Street. The ARC Commercial project will be responsible for constructing an eastbound right turn lane from SR 464 to SE 24th Street.

This analysis has been performed in accordance with the City of Ocala/Marion County Traffic Impact Analysis guidelines and the methodology, which was approved by the City of Ocala. The approved methodology and methodology correspondence are included in the **Appendix**.

This TIA is based on data collected by Kimley-Horn and supplemented by information obtained from the Ocala Marion TPO, Marion County, and the Florida Department of Transportation (FDOT) sources. The study observed the established procedures found in Institute of Transportation Engineers (ITE) sources, FDOT sources, and the *2016 Highway Capacity Manual* (HCM 2016 or HCM6).

PROJECT TRAFFIC

TRIP GENERATION

The trip generation potential of the proposed development program was calculated based on rates and equations contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual,* 10th Edition. ITE land use code 220 (Multi-Family Residential [Low-Rise]) was applied to determine the development's trip generation potential. No internal capture or pass-by was applied.

Based on the development program provided, the project is anticipated to generate 2,378 net new daily trips, 144 net new AM peak hour trips (33 in, 111 out), and 166 net new PM peak hour trips (105 in, 61 out) at full buildout. **Table 1** illustrates the trip generation calculations for the site.

Table 1: Trip Generation

Land Use	Intensity	Daily Trips	AM Peak Hour of Adjacent Street			PM Peak Hour of Adjacent Street		
			Total	In	Out	Total	In	Out
Proposed Development Buildout								
Multi-Family Residential (Low-Rise)	320 DU	2,378	144	33	111	166	105	61

Trip Generation was calculated using the data from ITE's Trip Generation Manual, 10th Edition.

Multi-Family Residential (Low-Rise) [ITE 220]

Daily	T = 7.56(X) - 40.86; (X is number of dwelling units)
AM Peak Hour of Adjacent Street	Ln(T) = 0.95Ln(X) - 0.51; (X is number of dwelling units); (23% in, 77% out)
PM Peak Hour of Adjacent Street	Ln(T) = 0.89Ln(X) - 0.02; (X is number of dwelling units); (63% in, 37% out)

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TRIP DISTRIBUTION, ASSIGNMENT, AND STUDY AREA

The project's trip distribution was determined based on the Central Florida Regional Planning Model (CFRPM) version 6.1, which is based on the Florida Standard Urban Transportation Planning Model (FSUTMS). The trip distribution utilized for the analysis was approved during the methodology process.

Project traffic was assigned within the study area by applying the external trip distribution to the trip generation potential. The study area for the project included all roadway segments where project traffic consumes 3% or more of the subject segment's peak hour directional service capacity, plus one segment beyond, consistent with the approved methodology. The service volumes for evaluated roadways were obtained utilizing functional classification and level of service information published by the Ocala Marion TPO and FDOT.

The project significance calculations are provided within the methodology document located in the **Appendix**.

The following roadway segments are included within the study area, and were evaluated for PM peak hour traffic conditions (4 - 6 PM) directional level of service:

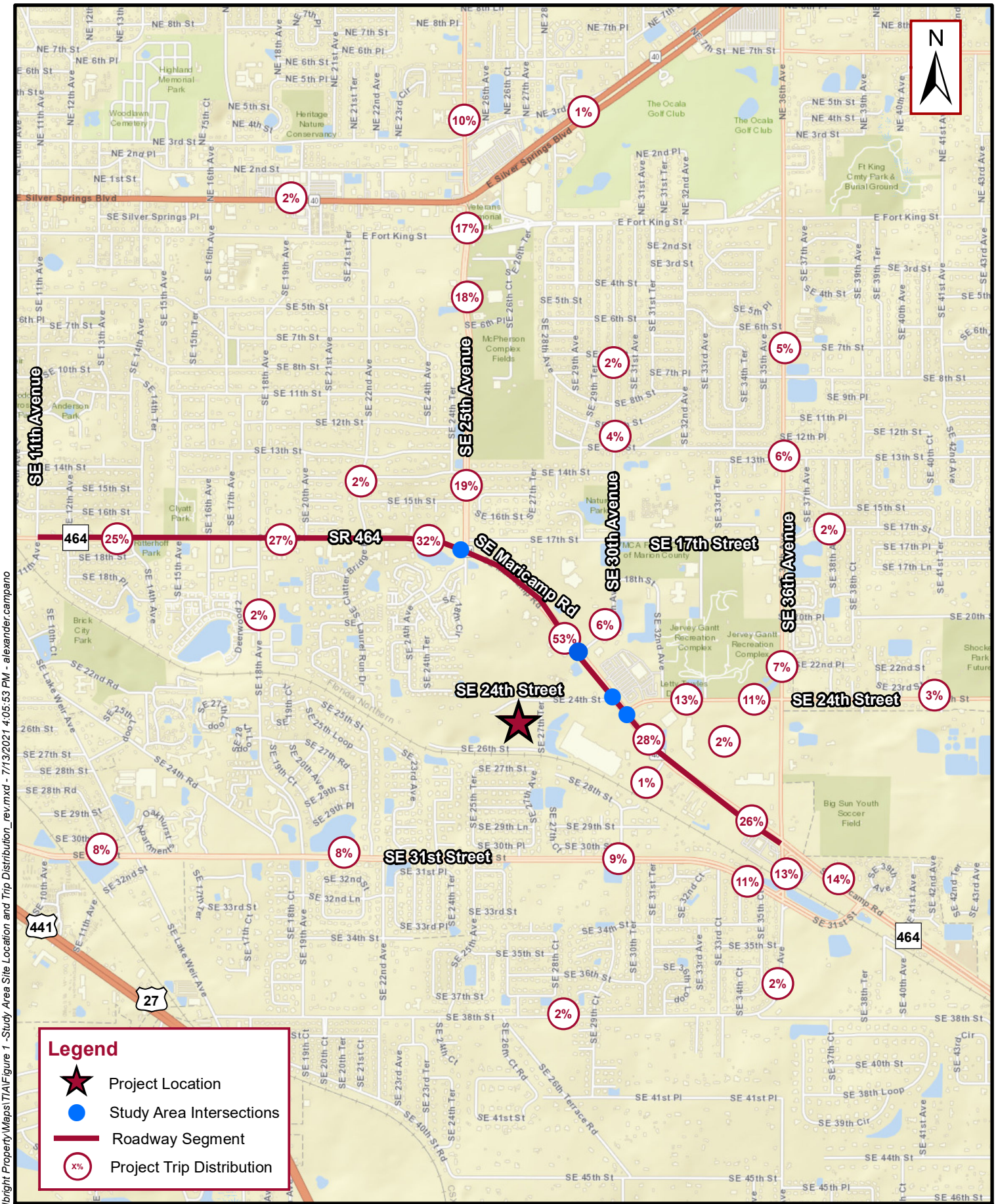
- SR 464/Maricamp Road from SE 11th Avenue to SE 25th Avenue (one link beyond, not significant)
- SR 464/Maricamp Road from SE 25th Avenue to SE 24th Street (significantly impacted)
- SR 464/Maricamp Road from SE 24th Street to SE 36th Avenue (one link beyond, not significant)

The following study area intersections were studied within the traffic impact analysis for the PM peak hour:

- SR 464/Maricamp Road and SE 25th Avenue (signalized)
- SR 464/Maricamp Road and SE 30th Avenue (unsignalized)
- SR 464/Maricamp Road and SE 24th Street (right-in/right-out)
- SR 464/Maricamp Road and SE 24th Street (signalized)

In addition, the intersection of SR 464/Maricamp Road and SE 24th Street (signalized) was evaluated during the AM peak hour.

Figure 1 illustrates the project traffic trip distribution and the study area roadway segments and intersections.



K:\OCA_GIS\142000002-Albright Property\Maps\TIA\Figure 1 -Study Area Site Location and Trip Distribution_rev.mxd - 7/13/2021 4:05:53 PM - alexander.campano

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FIGURE 1 - STUDY AREA, SITE LOCATION, AND TRIP DISTRIBUTION

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EXISTING CONDITIONS ANALYSIS

EXISTING TRAFFIC VOLUME DEVELOPMENT

Turning movement counts were collected at the study area intersections during the PM peak hour of adjacent street traffic (4 – 6 PM) on Wednesday May 12, 2021 and Tuesday June 8, 2021. An additional turning movement count was collected for the intersection of SR 464 at SE 24th Street (signalized) during the AM peak hour of adjacent street traffic (7 – 9 AM) on Tuesday June 8, 2021.

The peak hour factors, right turn on red percentage (RTOR%), and truck percentages observed in the field were utilized for the intersection operational analyses for all scenarios. A minimum truck percentage of 2% was utilized for the analysis. The truck percentages from the turning movement counts were reviewed against the truck factors reported by FDOT and found to be consistent.

Peak season factors published by FDOT for year 2019 were utilized to adjust the observed traffic volumes to peak season volumes. The latest year 2020 peak season factors were not utilized due to traffic patterns being atypical in 2020 due to the Covid-19 pandemic.

The collected turning movement counts were utilized for the roadway segment level of service analysis and intersection operational analysis. The intersection volume development sheets located in the **Appendix** show how the observed traffic volumes were factored to develop the existing year 2021 peak season traffic volumes.

EXISTING CONDITIONS ROADWAY SEGMENT ANALYSIS

Study area roadway segments were evaluated to determine the existing PM peak hour levels of service. The adopted LOS service volumes were obtained using the City of Ocala Comprehensive Plan, latest Marion County Roadway Segment Tables and the 2020 FDOT Quality/Level of Service Handbook. The service volumes utilized for the analysis were proposed during the methodology review process.

The existing PM peak hour directional traffic volumes on the roadway segments were calculated using the PM peak hour turning movement counts. The reported 2021 existing traffic volume was generated from the approach and departure volumes for the study area intersection and adjusted to peak season using the applicable FDOT peak season factors.

Table 2 illustrates the existing peak hour traffic volume and level of service for roadway segments in the study area during the PM peak hour. All the study area roadway segments are shown to operate within the adopted level of service standard under existing PM peak hour traffic conditions.

Table 2: Existing Conditions PM Peak Hour Roadway Segment Analysis (2021)

Roadway		Roadway Attributes [1]						Existing PM Peak Hour Peak Season (2021) [2]					
		Functional Classification	Area Type	Adopted LOS	Number of Lanes	Peak Hour Directional Service Capacity	Daily Service Capacity	Volumes		V/C Ratios		LOS [3]	
From	To							NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
SR 464													
SE 11th Avenue	SE 25th Avenue	Minor Arterial	U	E	4D	2,100	41,790	1,803	1,249	0.86	0.59	C	C
SE 25th Avenue	SE 24th Street	Minor Arterial	U	E	4D	2,100	41,790	1,765	1,177	0.84	0.56	C	C
SE 24th Street	SE 36th Avenue	Minor Arterial	U	E	4D	2,100	41,790	1,607	1,124	0.77	0.54	C	C

Notes:
1. The roadway attributes were obtained from the latest FDOT Urban Area Boundary & Federal Functional Classification Map for Marion County, City of Ocala Comprehensive Plan Transportation Element, and THE 2020 FDOT Quality/LOS Handbook.
2. Volumes derived form the observed traffic counts and ajusted to peak season using FDOT Traffic Online MOCF and weekly adjustment factors.
3. LOS derived utilizng the 2020 FDOT Quality/LOS Tables.

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EXISTING CONDITIONS INTERSECTION ANALYSIS

The existing (2021) intersection operating conditions were evaluated using the collected traffic counts modified to peak season as summarized above. The operating conditions at the study intersections were analyzed using the Synchro 11 software package, which implements the procedures of the latest Highway Capacity Manual (HCM 6). Existing lane geometry, peak hour factors, right turn on red percentage (RTOR%), and truck percentages observed in the field were utilized for the capacity analyses.

Table 3 provides a summary of the intersection analysis.

The intersection of SR 464 and SE 25th Avenue operates with level of service (LOS) F for the northbound and southbound minor street approaches, with volume to capacity (V/C) ratios less than 1.0 for PM peak hour existing conditions. The eastbound left-turn movement operates with LOS F and V/C ratio less than 1.0. The overall LOS for the intersection is E.

The southbound stop-controlled through/left-turn movement on SE 30th Avenue at SR 464 operates with LOS F, with V/C ratio less than 1.0 for existing PM peak hour traffic conditions.

All four left-turn movements at the intersection of SR 464 and SE 24th Street (signalized) operate with LOS F, with the westbound left-turn and northbound right-turn operating with V/C ratios greater than 1.0 for existing PM peak hour traffic conditions. The overall LOS for the intersection is E. The intersection operates with LOS F for the eastbound and westbound left-turn movements and V/C ratios less than 1.0 for existing AM peak hour traffic conditions.

The Synchro 11 analysis output is provided in the **Appendix**.

Table 3: Existing Conditions Peak Hour Intersection Analysis Summary (2021)

Intersection	2021 Existing Conditions		
	LOS	Delay (S)	Max Movement V/C
Signalized[1]			
SR 464 & SE 25th Ave	E	64.0	0.97
SR 464 & SE 24th St (AM)	C	26.0	0.84
SR 464 & SE 24th St (PM)	E	57.8	1.53
Unsignalized[2]			
SR 464 & SE 30th Ave	E/C	47.9/20.0	0.29
SR 464 & SE 24th St (Driveway)	C	18.3	0.09

Notes:

1. For signalized intersections, LOS and delay are reported for the entire intersection.

2. Intersection LOS and delay at unsignalized intersections are reported for the stop-controlled approaches only; values are reported as NB/SB LOS and delay.

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FUTURE TRAFFIC CONDITIONS

BACKGROUND DEVELOPMENT TRAFFIC AND TRANSPORTATION IMPROVEMENTS

The Albright property shares SE 24th Street as an access roadway with property owned by Advocacy Resource Center Marion, Inc. (ARC). A portion (approximately 4.35 acres) of the ARC property is proposed to be developed with the Maricamp Road Commercial Development and the remainder of the ARC property will continue to be used for institutional purposes. Traffic from the proposed ARC Commercial development has been included as background traffic at the request of the City of Ocala. The ARC Commercial development proposes 57,630 square feet of retail uses in the northwest corner of the intersection of SR 464 and SE 24th Street (unsignalized). The trip generation and distribution provided in the ARC Commercial methodology (prepared by ETM, dated August 2, 2021).

To address the cumulative impact of both developments on the shared roadway, ARC and the owner of the Albright property entered into that certain Agreement Regarding SE 24th Street on May 17, 2021 (Agreement). The Agreement provides a mechanism for the parties to improve SE 24th Street (west of SR 464) to City standards in connection with development of both parties' properties.

The ARC Commercial development has proposed to construct the following site access improvements, which were assumed in the background and buildout conditions analysis:

- Construction of an eastbound right-turn lane on SR 464 at SE 24th Street (unsignalized)
- Construction of an eastbound right-turn lane on SR 464 at SE 30th Avenue
- Construction of an additional northbound egress lane on SE 30th Avenue (left-turn lane and through-right turn lane)

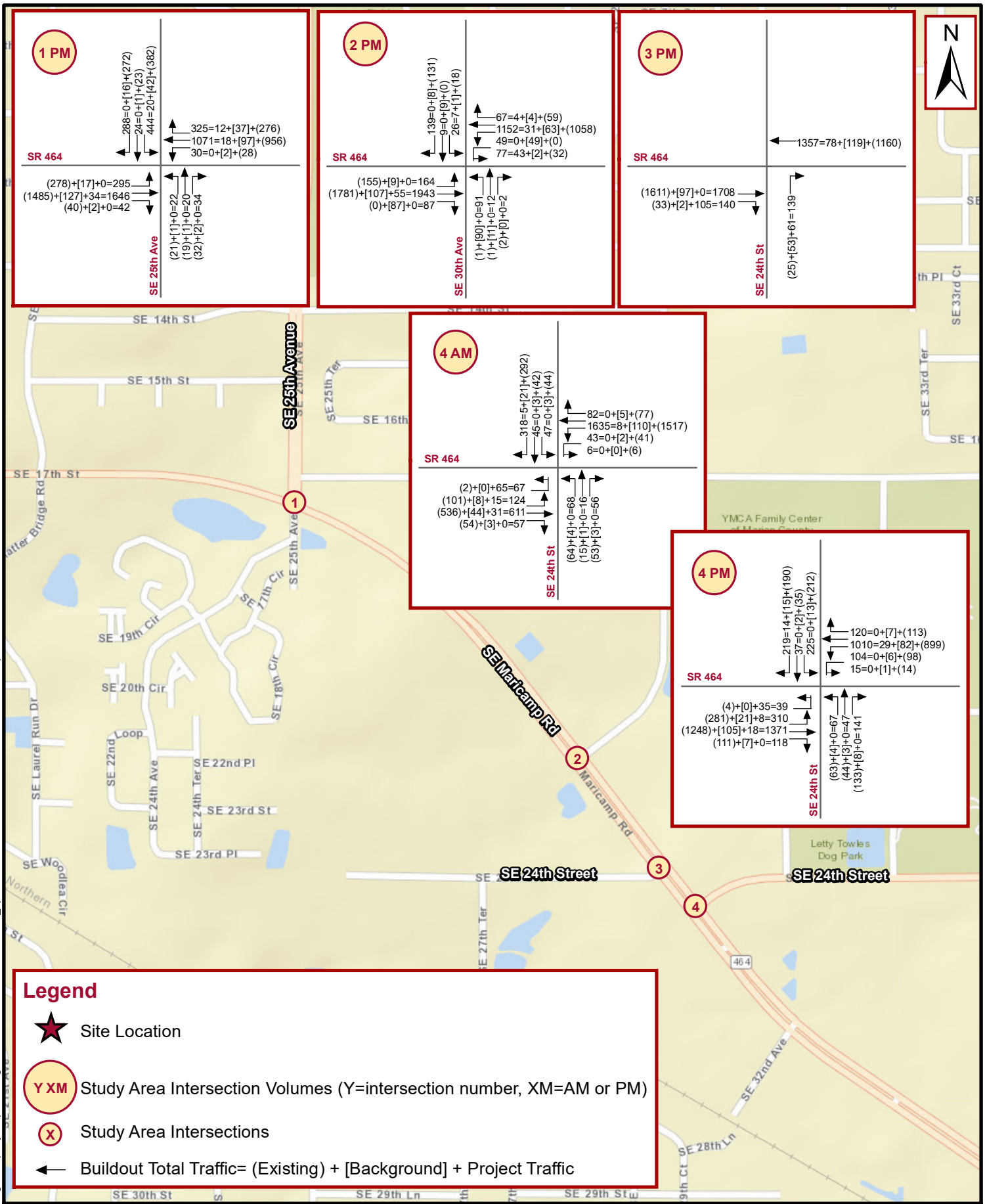
The ARC Commercial development traffic was included as background traffic in the analysis. Excerpts from the ARC Commercial development detailing the trip generation potential and trip distribution are included in the **Appendix**.

FUTURE TRAFFIC VOLUME DEVELOPMENT

Future background traffic volumes were calculated using existing peak season traffic volumes, an annual background growth rate applied between the 2021 existing year and 2025 buildout timeframe, plus background project traffic. A 1.50% background annual growth rate was utilized per the approved methodology.

The total buildout traffic volumes were calculated as the sum of the background traffic volumes and project traffic. The PM peak hour project traffic volumes were calculated as an average across the segment length for the roadway segment evaluation.

Worksheets detailing the future conditions intersection volume development are contained in the **Appendix**. The weekday peak hour buildout total traffic volumes are illustrated in **Figure 2**.



K:\OCA_GIS\142000002-Albright Property\Maps\TIA\Figure 2 - Peak Hour Buildout Traffic_updated.mxd - 9/9/2021 4:50:34 PM - Alexander.Campano

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FIGURE 2 - PEAK HOUR BUILDOUT TOTAL TRAFFIC

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FUTURE BACKGROUND ROADWAY SEGMENT ANALYSIS

The roadway segments within the study area were evaluated for level of service under future background traffic conditions (before the addition of project traffic) during the PM peak hour. Traffic from the ARC Commercial development is included as background traffic for the future background roadway segment analysis.

The service volumes for roadways within the study area were obtained utilizing functional classification and level of service information published by the Ocala Marion TPO and FDOT. All study area roadway segments are shown to operate within the adopted service capacity under future background (non-project) traffic conditions during the PM peak hour.

The future background conditions roadway segment analyses are detailed in **Table 4**.

FUTURE BUILDOUT ROADWAY SEGMENT ANALYSIS

The roadway segments within the study area were evaluated for level of service under future buildout conditions during the PM peak hour. The service volumes utilized for the analysis are the same as those utilized for the future background conditions analysis.

All roadway segments within the study area are shown to operate with an acceptable level of service with 2025 buildout traffic volumes. The project does not have a significant and adverse impact on any of the roadway segments within the study area.

The buildout roadway segment analyses are detailed in **Table 5**.

Table 4: Future Background Conditions PM Peak Hour Roadway Segment Analysis (2025)

Roadway		Roadway Attributes [1]						Existing PM Peak Hour Peak Season (2021) [2]		Applied Growth Rate	Future Non-Project PM Peak Hour Traffic Conditions (2025) [3]									
		Functional Classification	Area Type	Adopted LOS	Number of Lanes	Peak Hour Directional Service Capacity	Daily Service Capacity	Volumes			Volumes		Vested		Total Background		V/C Ratios		LOS [4]	
From	To							NB / EB	SB / WB		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
SR 464																				
SE 11th Avenue	SE 25th Avenue	Minor Arterial	U	E	4D	2,100	41,790	1,803	1,249	1.5%	1,911	1,324	38	40	1,949	1,364	0.93	0.65	C	C
SE 25th Avenue	SE 24th Street	Minor Arterial	U	E	4D	2,100	41,790	1,765	1,177	1.5%	1,871	1,248	38	55	1,909	1,303	0.91	0.62	C	C
SE 24th Street	SE 36th Avenue	Minor Arterial	U	E	4D	2,100	41,790	1,607	1,124	1.5%	1,703	1,191	30	28	1,733	1,219	0.83	0.58	C	C

Notes:
1. The roadway attributes were obtained from the latest FDOT Urban Area Boundary & Federal Functional Classification Map for Marion County, City of Ocala Comprehensive Plan Transportation Element, and THE 2020 FDOT Quality/LOS Handbook.
2. Volumes derived form the observed traffic counts and ajusted to peak season using FDOT Traffic Online MOCF and weekly adjustment factors.
3. Volumes derived by applying the study area growth rate to the existing peak season volumes, with ARC Commercial project traffic added as vested traffic.
4. LOS derived utilizng the 2020 FDOT Quality/LOS Tables.

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Table 5: Buildout Conditions PM Peak Hour Roadway Segment Analysis (2025)

Roadway		Roadway Attributes [1]						Future Non-Project PM Peak Hour Traffic Conditions (2025) [2]		PM Peak Hour Project Traffic				Future Buildout PM Peak Hour Traffic Conditions (2025) [4]					
		Functional Classification	Area Type	Adopted LOS	Number of Lanes	Peak Hour Directional Service Capacity	Daily Service Capacity	Volumes		% Assign [3]	NB / EB	SB / WB	Max % Impact	Volumes		V/C Ratios		LOS [5]	
From	To							NB / EB	SB / WB					NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
SR 464																			
SE 11th Avenue	SE 25th Avenue	Minor Arterial	U	E	4D	2,100	41,790	1,949	1,364	28%	29	17	1.38%	1,978	1,381	0.94	0.66	C	C
SE 25th Avenue	SE 24th Street	Minor Arterial	U	E	4D	2,100	41,790	1,909	1,303	53%	56	32	2.67%	1,965	1,335	0.94	0.64	C	C
SE 24th Street	SE 36th Avenue	Minor Arterial	U	E	4D	2,100	41,790	1,733	1,219	26%	16	27	1.29%	1,749	1,246	0.83	0.59	C	C

Notes:
1. The roadway attributes were obtained from the latest FDOT Urban Area Boundary & Federal Functional Classification Map for Marion County, City of Ocala Comprehensive Plan Transportation Element, and THE 2020 FDOT Quality/LOS Handbook.
2. Volumes derived by applying the study area growth rate to the existing peak season volumes, with ARC Commercial project traffic added as vested traffic.
3. Percent project traffic was calcaulated using the average along the segment of the CFRPM v6.1 model output.
4. Buildout traffic volumes is the summation of background traffic plus project traffic.
5. LOS derived utilizng the 2020 FDOT Quality/LOS Tables.

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FUTURE BACKGROUND CONDITIONS INTERSECTION ANALYSIS

The intersections within the study area were evaluated to determine if improvements are needed to provide an acceptable level of service and intersection operations with future background traffic conditions prior to the addition of project traffic. The future background traffic volumes included existing peak season traffic volumes, background traffic growth and project traffic from the ARC Commercial development. Existing signal timings (as obtained from the City of Ocala), peak hour factors and percent heavy vehicles (as obtained from the traffic counts) were input into Synchro 11 for analysis.

The existing intersection geometry was used for the analysis of the signalized intersections of SR 464 with SE 25th Avenue and SE 24th Street. The following improvements proposed by the ARC Commercial development were utilized for the analysis of the two unsignalized intersections:

- Construction of an eastbound right-turn lane on SR 464 at SE 24th Street (unsignalized)
- Construction of an eastbound right-turn lane on SR 464 at SE 30th Avenue
- Construction of an additional northbound egress lane on SE 30th Avenue (left-turn lane and through-right turn lane)

Table 6 summarizes the resultant intersection LOS for the future background traffic conditions analysis.

The intersection of SR 464 at SE 24th Street (project access) within the study area is shown to operate with acceptable level of service, delay, and V/C ratios under future background traffic conditions.

The intersection of SR 464 at SE 25th Avenue operates with LOS F for three of the four left-turn movements, and a V/C ratio greater than 1.0 for the eastbound left-turn movement. The unsignalized intersection of SR 464 at SE 30th Avenue operates with significant delay and V/C ratio greater than 1.0 for both the northbound and southbound stop-controlled approaches. The intersection of SR 464 at SE 24th Street (signalized) operates with LOS F for all four left-turn movements, and V/C ratio greater than 1.0 for the westbound and northbound left-turn movements similar to existing conditions. The Synchro 11 output reports are provided in the **Appendix**.

Table 6: Background Conditions Peak Hour Intersection Analysis (2025)

Intersection	2025 Background Conditions		
	LOS [3]	Delay (S) [3]	Max Movement V/C
Signalized[1]			
SR 464 & SE 25th Ave	E	65.7	1.03
SR 464 & SE 24th St (Signalized, AM)	C	28.2	0.85
SR 464 & SE 24th St (Signalized, PM)	E	62.9	1.63
Unsignalized[2]			
SR 464 & SE 30th Ave	F/+	3721.8/+	7.90
SR 464 & SE 24th St (Driveway)	C	22.9	0.29

Notes:

1. For signalized intersections, LOS and delay are reported for the entire intersection.

2. Intersection LOS and delay at unsignalized intersections are reported for the stop-controlled approaches only; values are reported as NB/SB LOS and delay.

3. Synchro cannot compute LOS and delay for the intersection of SR 464 at SE 30th Avenue because the calculations are not computed for such high volumes.

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FUTURE BUILDOUT CONDITIONS INTERSECTION ANALYSIS

The intersection operations were evaluated under 2025 buildout traffic conditions during the peak hour. The 2025 future buildout traffic conditions analysis included future background (non-project) traffic and project traffic. Intersection volume development worksheets detailing the traffic projections at each intersection are provided in the **Appendix**.

The same geometry and control utilized for the background conditions analysis was used for the buildout conditions analysis. No significant change in the operating conditions is shown with the addition of traffic from the proposed Albright development.

The eastbound left-turn movement at the intersection of SR 464 and SE 25th Avenue is shown to operate with LOS F and V/C ratio greater than 1.0 with buildout traffic conditions. Project traffic from the Albright development does not utilize this traffic movement and does not adversely impact to the overall traffic operations at the intersection when compared to the background condition.

The side-street stop-controlled approaches at the intersection of SR 464 and SE 30th Avenue are shown to operate with LOS F and V/C ratios greater than 1.0. Project traffic from the Albright development does not adversely affect the overall traffic operations at the intersection when compared to the background condition.

The intersection of SR 464 and SE 24th Street (project access roadway) is shown to operate with acceptable level of service, delay, and V/C ratios under buildout traffic conditions.

The addition of project egress traffic to the eastbound left-turn movement at the intersection of SR 464 and SE 24th Street (signalized) results in a V/C greater than 1.0 for that movement. Mitigation is recommended to increase the green time to the eastbound left-turn movement and extend the eastbound left-turn lane to the greatest extent possible without impacting the adjacent turn lane into the Publix. The westbound left-turn and northbound left-turn movements also operate with LOS F and V/C ratios greater than 1.0; however, the Albright property has no traffic utilizing those movements. The proposed improvements to the eastbound left-turn movement will not adversely affect the operating conditions of the westbound left-turn or northbound left-turn movements.

The anticipated intersection operations at project buildout, with and without mitigation, are summarized in **Table 7**. The Synchro 11 output reports are provided in the **Appendix**.

Table 7: Buildout Conditions Peak Hour Intersection Analysis (2025)

Intersection	2025 Buildout Conditions		
	LOS [3]	Delay (S) [3]	Max Movement V/C
Signalized[1]			
SR 464 & SE 25th Ave	E	66.8	1.03
SR 464 & SE 24th St (Signalized, AM)	D	35.8	1.00
SR 464 & SE 24th St (Signalized, PM)	E	67.8	1.63
SR 464 & SE 24th St (Signalized, PM w/ Mitigation)	E	63.1	1.63
Unsignalized[2]			
SR 464 & SE 30th Ave	+/F	+/173.8	1.82
SR 464 & SE 24th St (Driveway)	D	30.8	0.52

Notes:

1. For signalized intersections, LOS and delay are reported for the entire intersection.

2. Intersection LOS and delay at unsignalized intersections are reported for the stop-controlled approaches only; values are reported as NB/SB LOS and delay.

3. Synchro cannot compute LOS and delay for the intersection of SR 464 at SE 30th Avenue because the calculations are not computed for such high volumes.

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TURN LANE AND QUEUE ANALYSIS

The existing westbound left-turn lane on SR 464 at SE 30th Avenue and the existing eastbound left-turn lane on SR 464 at SE 24th Street (signalized) were evaluated to determine if they have sufficient storage length for the projected traffic volumes at buildout. These movements will be utilized by u-turn traffic entering and exiting the development due to the right-in/right-out access for SE 24th Street at SR 464.

The required turn lane length was calculated as the deceleration length reported in Exhibit 212-1 of the FDOT Design Manual and 95th percentile queue length reported from the Synchro analysis. For signalized intersections the Synchro software outputs queue lengths in terms of feet, for stop-controlled intersections

queue length is reported (only for 95th percentile) in terms of number of vehicles. **Table 8** provides a summary of the turn lane length analysis.

The westbound left-turn lane on SR 464 at SE 30th Avenue is anticipated to have acceptable storage length at project buildout to accommodate background and project traffic. The eastbound left-turn lane on SR 464 at SE 24th Street (signalized) does not have sufficient storage for existing, future background, or future buildout conditions during the PM peak hour. Acceptable storage length, for the purpose of this analysis, is considered to be when the existing total turn lane length exceeds the 50th percentile queue length plus deceleration length, or the total turn lane length exceeds the 95th percentile queue length.

Table 8: Turn Lane Queue Analysis Summary

Intersection	Existing Total Turn Lane Length (Ft)	Required Deceleration (Ft) [1]	50th Percentile Queue Length (Ft) [2]	95th Percentile Queue Length (Ft) [2]	Decel L + 50th %tile Queue (Ft)	Decel L + 95th %tile queue (Ft)	Existing Storage Length Sufficient? (Y/N) [3]
WB Left Turn Lane on SR 464 at SE 30th Ave (PM)							
Existing	440	290	--	25	--	315	Y
Future Background	440	290	--	25	--	315	Y
Future Buildout	440	290	--	50	--	340	Y
EB Left Turn Lane on SR 464 at SE 24th St (Signalized, AM)							
Existing	480	350	125	200	475	550	Y
Future Background	480	350	125	200	475	550	Y
Future Buildout	480	350	225	400	575	750	Y
EB Left Turn Lane on SR 464 at SE 24th St (Signalized, PM)							
Existing	480	350	350	525	700	875	N
Future Background	480	350	375	575	725	925	N
Future Buildout	480	350	475	650	825	1,000	N
Future Buildout w/ Mitigation	550	350	425	525	775	875	Y

Notes:
1. Based on the 2020 FDOT Design Manual.
2. Based on the 50th (for signalized intersections only) and 95th percentile back of queue length as reported in Synchro 11.
3. Existing storage lengths were determined to be sufficient if the turn lane could accommodate the addition of the required deceleration length and 50th percentile queue length, or if the turn lane could accommodate the 95th percentile queue length.

K:\OCA_Civil\142000002-Albright Property TIA\calcs\xls\[AP, calcs, TIA PM .xlsx]Turn Lanes *9/9/21*

The developer proposes to contribute towards improvements to the eastbound left-turn movement on SR 464 at SE 24th Street (signalized) to include lengthening the turn lane and modifying signal timings to allow for more green time.

The eastbound left turn lane on SR 464 at SE 24th Street (signalized) has a PM peak hour buildout (with mitigation) 95th percentile queue length of 525 feet. This queue length is the same as the existing condition, and less than that for the future background condition.

Geometric constraints at the intersection limit the amount of additional turn lane length that can be added to the eastbound left turn lane on SR 464 at SE 24th Street. It is recommended to extend the eastbound left turn lane length on SR 464 at SE 24th Street to 550 feet, which is the maximum without impacting the eastbound left-turn lane into the Publix. The proposed improvements will provide for an equivalent 95th percentile queue length and approximately the same delay for the eastbound left-turn movement as existing PM peak hour conditions.

SITE ACCESS, BICYCLE, AND PEDESTRIAN CIRCULATION

Project traffic will enter and exit via SE 24th Street, which connects to SR 464 at a right-in/right-out connection (unsignalized). Project traffic exiting the site may desire to perform a u-turn at the intersection of SR 464 at SE 24th Street (signalized) or further downstream in order to travel westbound. There is approximately 350 feet between the stop bar serving the eastbound approach on SR 464 at SE 24th Street (signalized) and the right-in/right-out on SR 464 at SE 24th Street (unsignalized).

During the PM peak hour existing conditions scenario, the reported 50th percentile queue length is 350 feet for the eastbound left movement on SR 464 at SE 24th Street (signalized). During the PM peak hour buildout with improvements scenario, the reported 50th percentile queue length is 425 feet for the eastbound left movement. The Albright property will add an estimated 43 vehicles (35 u-turns, 8 left turns) to the eastbound left/u-turn movement during the PM peak hour. Comparing the PM peak hour existing conditions scenario and PM peak hour buildout with improvements scenarios, there is an increase of 3 vehicles (75 feet) to the 50th percentile queue length, and a 0.5 second increase in the eastbound approach delay. Egress vehicles from the Albright property will be able to fit into the eastbound left-turn storage lane when the queue length is less than the 50th percentile queue length during the peak period of the day (PM peak hour). During heavier traffic queues, egress traffic desiring to make a u-turn to travel west can utilize the median openings further downstream on SR 464.

The developer plans to contribute towards improvements to the eastbound left-turn movement on SR 464 at SE 24th Street (signalized) including signal timing adjustments to allow for additional green time and extension of the left-turn lane. These improvements will result in traffic operations at buildout being similar to existing and background traffic conditions.

Five years of historic crash data (2016 – 2020) was obtained from the Signal Four Analytics program for the roadway segment of SR 464 from SE 24th Street (unsignalized) to SE 24th Street (signalized).

There were 98 crashes reported within 500 feet of the signalized intersection of SR 464 and SE 24th Street between the years of 2016 and 2020. Over 50% of those crashes were rear end collisions, and approximately 33% were categorized as unknown or other. All crashes categorized as unknown crash type (24) occurred in 2016 and 2017.

The number of crashes reported drastically reduced in years 2019 and 2020 from the prior three years. The crashes reported for years 2019 and 2020 included rear end type (17 crashes), other (5 crashes), and left-turn (3 crashes). The predominately rear-end crash pattern is typical for signalized intersection. The historic crash patterns do not indicate a crash history for the eastbound left-turn movement. A summary of the crash type by year is provided in **Table 9.**

Due to the increase in traffic in the eastbound left-turn lane on SR 464 at SE 24th Street (signalized) to make a u-turn, a R10-30 sign is recommended for the southbound right-turn movement from SE 24th Street to SR 464 to eliminate conflicts between these movements. The sign can be post mounted adjacent to the turn lane.

R10-30

Table 9 – Crash Data Summary

Harmful Event	SR 464, from SE 24th St (unsignalized) to SE 24th St (signalized)					
	2016	2017	2018	2019	2020	Total
Angle	1	1	0	0	0	2
Left Turn	1	1	1	0	3	6
Other	1	1	1	2	3	8
Pedestrian	0	1	0	0	0	1
Rear End	5	7	22	8	9	51
Right Turn	0	0	1	0	0	1
Rollover	0	1	0	0	0	1
Sideswipe	2	0	2	0	0	4
Unknown	14	10	0	0	0	24
Total	**24**	**22**	**27**	**10**	**15**	**98**

k:\oca_civil\142000002-albright property tia\calcs\xls\[ap, calcs, tia pm.xlsx]crash data summary *7/19/21*

There are existing sidewalks along both sides of SR 464 from SE 25th Avenue to SE 24th Street (signalized). There are marked crosswalks with pedestrian crossing signals at the signalized intersections of SR 464 with SE 25th Avenue and SE 24th Street.

FDOT has a resurfacing project on SR 464 from US 441/Pine Avenue to SR 35/SE 58th Avenue (FM #4411411). Improvements include the addition of 4-foot-wide bike lanes west of SE 25th Avenue which transitions to paved shoulders east of SE 24th Street (signalized). These improvements will provide bicycle access to SE 24th Street (unsignalized).

An Agreement has been executed between the ARC Project and owner of the proposed Albright Property to improve SE 24th Street. Improvements include widening and reconstruction, making it a minimum two-lane paved public roadway with sidewalks, drainage, and related roadway improvements that are to be designed and constructed to standards acceptable to the City of Ocala and if applicable Marion County. The proposed typical section includes a paved shoulder that can be used for bicycles to travel from the Albright property to the new paved shoulders/bicycle lanes on SR 464. A sidewalk is proposed along SE 24th Street to connect to the existing sidewalk along SR 464 for pedestrian access to the Albright property.

CONCLUSION

Kimley-Horn has performed a Traffic Impact Analysis (TIA) for a proposed residential development. The project site is generally located on the southwest corner of SR 464 and SE 24th Street (unsignalized) in the City of Ocala, Florida.

A comprehensive plan amendment and rezoning application for the property are under review by the City of Ocala. The proposed zoning is R-3 and will allow up to 320 residential dwelling units. Access to the site will be provided via SE 24th Street, which connects to SR 464/Maricamp Road at an existing right-in/right-out intersection. SE 24th Street will be extended westward along the project frontage with two access driveways constructed to SE 24th Street for the proposed residential development.

The traffic analysis was performed considering a buildout year of 2025 and a development program of 320 multi-family dwelling units. The operating conditions within the study area were evaluated for the PM peak hour existing conditions, future background (before addition of project traffic) conditions, and buildout traffic conditions (with project traffic) for the study area intersections and roadway segments.

There are transportation improvements within the study area identified to be needed prior to the addition of project traffic. Traffic from the proposed development does not have an adverse impact on the operating conditions of the roadway segments or intersections within the study area.

The following traffic operational improvements are proposed at the intersection of SR 464 and SE 24th Street to facilitate ingress and egress traffic from the proposed site.

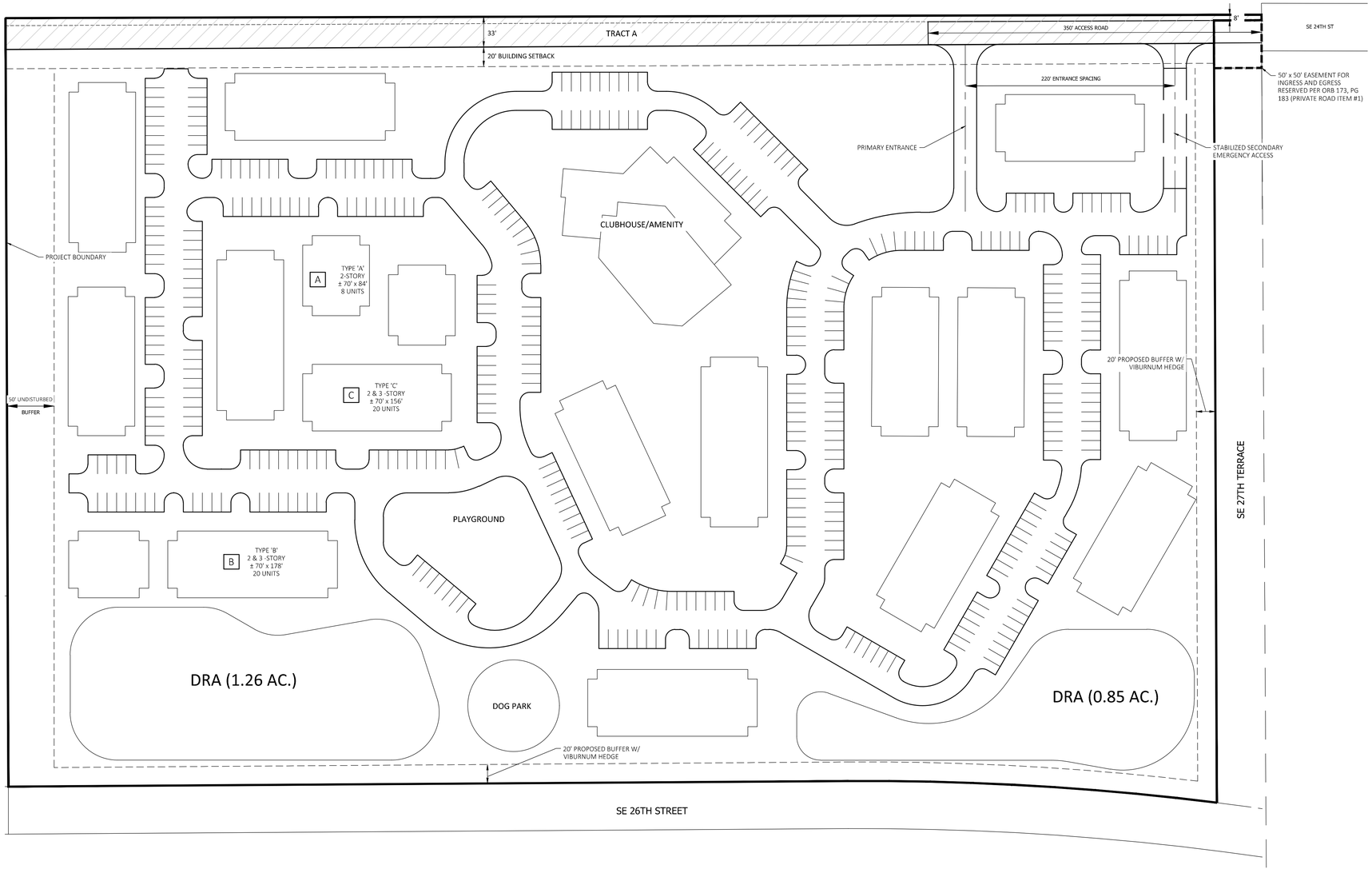
- Signal timing adjustments to allow for additional green time for the eastbound left-turn movement
- Extension of the eastbound left-turn lane to allow for additional queue storage
- Installation of a R10-30 “Right Turn on Red Must Yield to U-Turn” sign on post for the southbound right-turn movement from SE 24th Street to SR 464

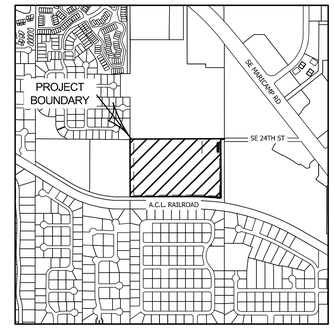
The project owner will enter into a Concurrency Development Agreement for contribution of proportionate share towards these improvements.

The analysis has been performed in accordance with the City of Ocala/Marion County Traffic Impact Analysis guidelines and the previously approved methodology. The analysis herein supports the proposed rezoning and traffic concurrency reservation for the site.

APPENDICES

APPENDIX A: CONCEPTUAL SITE DEVELOPMENT PLAN





VICINITY MAP
SCALE: 1" = 1,000'

SITE DATA TABLE

OWNER:
DEVELOPER: ALBRIGHT INC.
ADDRESS: PO BOX 3718
OCALA, FL, 34478

PARCELS:
29850-000-27

PROJECT AREA:
TOTAL = 23.65 ± AC.

LAND USE & ZONING:
EXISTING FUTURE LAND USE: LOW INTENSITY
EXISTING ZONING: N/A
PROPOSED ZONING: R-3

PARKING:
REQUIRED: 480 SPACES (320 UNITS X 1.5)
PROVIDED: 480 SPACES

DENSITY:
TOTAL ALLOWABLE = 320 UNITS
TOTAL PROPOSED = 320 UNITS

MINIMUM BUILDING SETBACKS:
FRONT - 20'
REAR STREET - 20'
REAR INTERIOR - 25'
SIDE STREET - 20'
SIDE INTERIOR - 8'

MAX BUILDING HEIGHT:
50'

NOTES

1. TRACT A - PROPOSED PRIVATE DRIVE, FUTURE CITY OF OCALA RIGHT OF WAY DEDICATION

NORTH

0 60' 120'
SCALE: 1"=60

Albright Ocala Apartments

OCALA, MARION COUNTY, FLORIDA

Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545

REVISIONS
DATE

ALBRIGHT OCALA APARTMENTS
CITY OF OCALA
MARION COUNTY, FLORIDA

CONCEPT PLAN

DATE 07-21-2021
DRAWN BY AAS
CHKD. BY TCB
JOB NO. 21-7032

SHT. 1 / 1

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

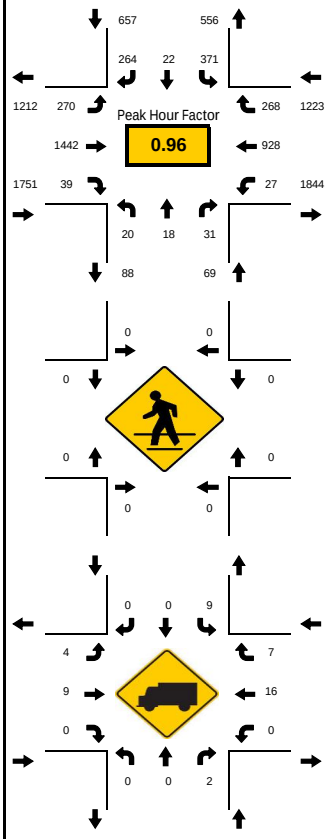
S:\Marion County\Albright Ocala SE 24th Street\PLANNING\CONCEPT\Albright Ocala 07-28-2021.dwg, 7/30/2021 11:15:43 AM

APPENDIX B: TURNING MOVEMENT COUNTS

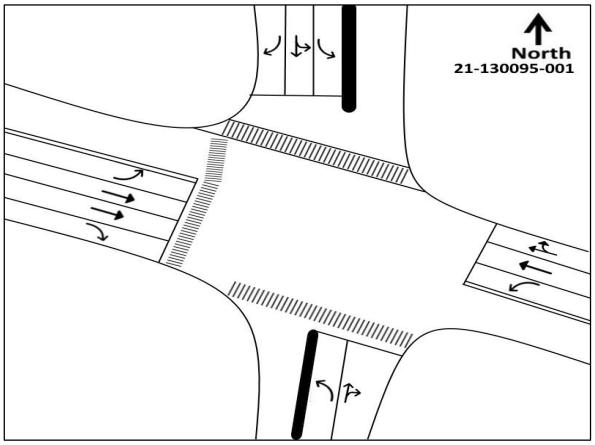
LOCATION: SE 25th Ave & SR 464/Maricamp Rd
CITY/STATE: Ocala, FL

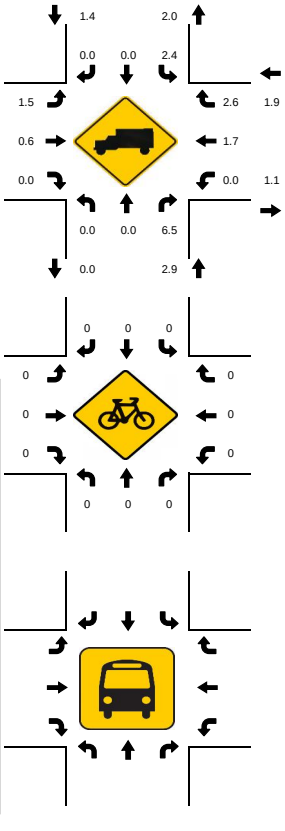
PROJECT ID: 21-130095-001
DATE: Wed, May 12, 2021

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



National Data & Surveying Services



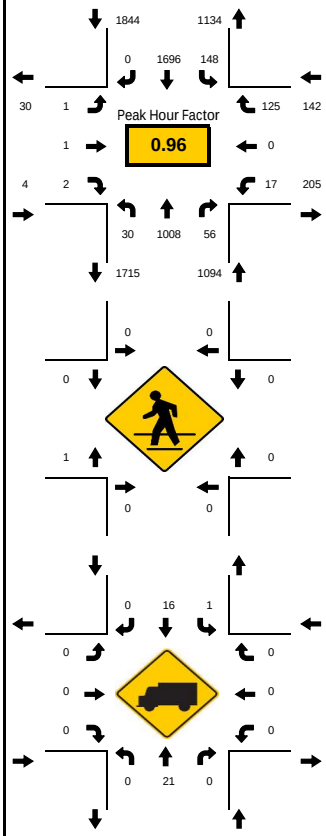


15-Min Count Period Beginning At	SE 25th Ave Northbound					SE 25th Ave Southbound					SR 464/Maricamp Rd Eastbound					SR 464/Maricamp Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	9	2	4	0		95	5	56	0		65	279	9	0		10	196	66	0		796	3484
04:15 PM	9	1	3	0		127	4	42	0		76	355	11	0		3	180	57	0		868	3602
04:30 PM	3	4	13	0		88	2	62	0		65	349	8	0		7	223	72	0		896	3700
04:45 PM	6	7	6	0		86	6	58	0		68	330	8	0		9	255	85	0		924	3624
05:00 PM	4	4	7	0		109	8	78	0		63	353	10	0		6	220	52	0		914	3437
05:15 PM	7	3	5	0		88	6	66	0		74	410	13	0		5	230	59	0		966	2523
05:30 PM	6	4	4	0		80	4	36	0		61	324	13	0		9	207	72	0		820	1557
05:45 PM	4	6	8	0		101	5	53	1		48	258	17	0		8	154	74	0		737	737
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	28	28	52	0		436	32	312	0		296	1640	52	0		36	1020	340	0		**4272**	
Heavy Trucks	0	0	8	0		16	0	0	0		8	16	0	0		0	28	16	0		**92**	
Pedestrians		0					0					0					0				**0**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

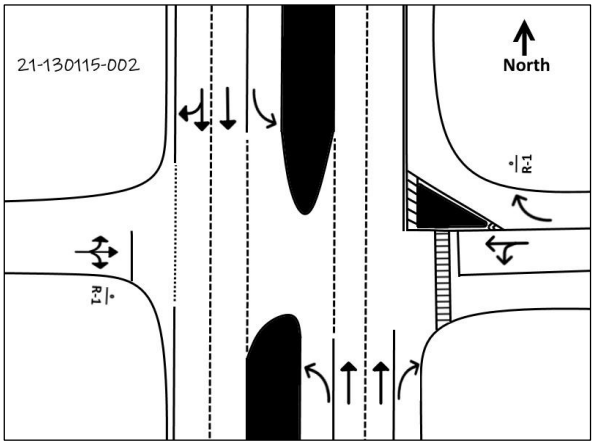
LOCATION: SR 464/SE Maricamp Rd & SE 30th Ave
CITY/STATE: Ocala, FL

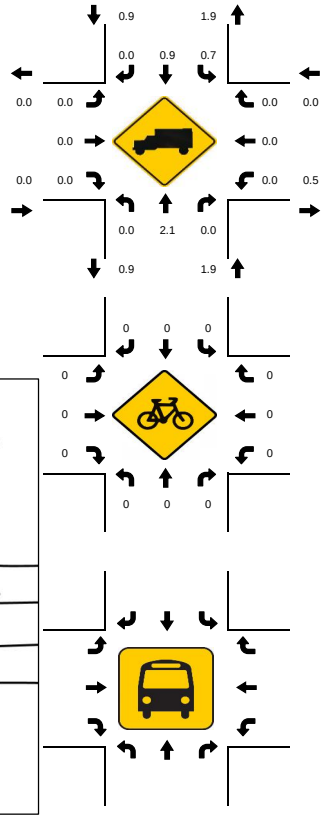
PROJECT ID: 21-130115-002
DATE: Tue, Jun 08, 2021

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



National Data & Surveying Services



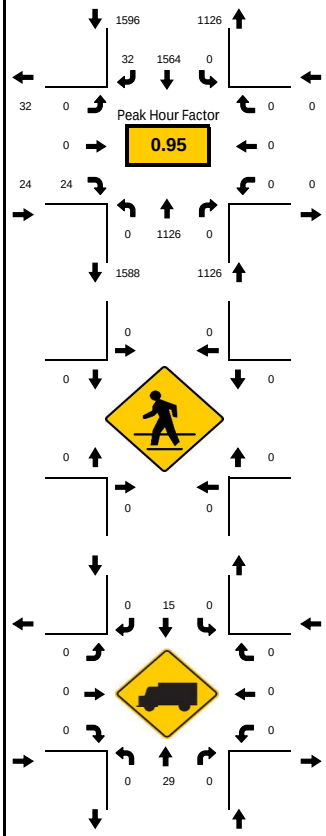


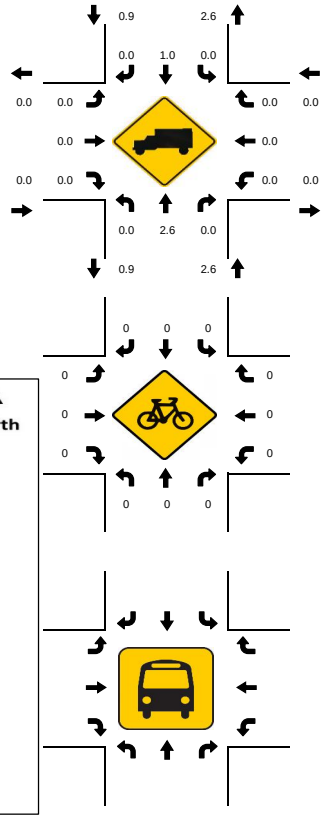
15-Min Count Period Beginning At	SR 464/SE Maricamp Rd Northbound					SR 464/SE Maricamp Rd Southbound					SE 30th Ave Eastbound					SE 30th Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	242	10	5		29	386	1	0		1	0	2	0		7	0	22	0		705	2924
04:15 PM	0	232	4	7		38	390	1	1		1	0	2	0		5	0	27	0		708	3019
04:30 PM	0	243	13	12		39	384	0	0		1	0	0	0		4	0	30	0		726	3084
04:45 PM	0	281	11	5		38	413	0	0		0	0	0	0		3	0	34	0		785	3066
05:00 PM	0	234	15	6		37	465	0	0		0	1	1	0		4	0	37	0		800	2982
05:15 PM	0	250	17	7		34	434	0	0		0	0	1	0		6	0	24	0		773	2182
05:30 PM	0	253	17	2		34	382	0	0		0	0	2	0		4	0	14	0		708	1409
05:45 PM	0	263	18	7		26	360	0	0		1	0	0	0		8	0	18	0		701	701
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	1124	68	48		156	1860	0	0		4	4	4	0		24	0	148	0		**3440**	
Heavy Trucks	0	28	0	0		4	16	0	0		0	0	0	0		0	0	0	0		**48**	
Pedestrians		0					0					4					0				**4**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

LOCATION: SR 464/Maricamp Rd & SE 24th St (North)
CITY/STATE: Ocala, FL

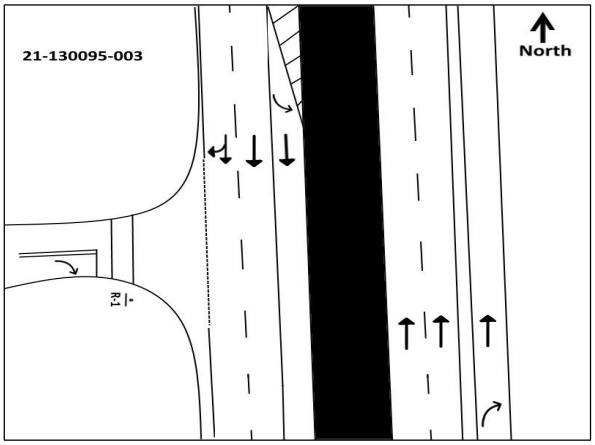
PROJECT ID: 21-130095-003
DATE: Wed, May 12, 2021

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





National Data & Surveying Services

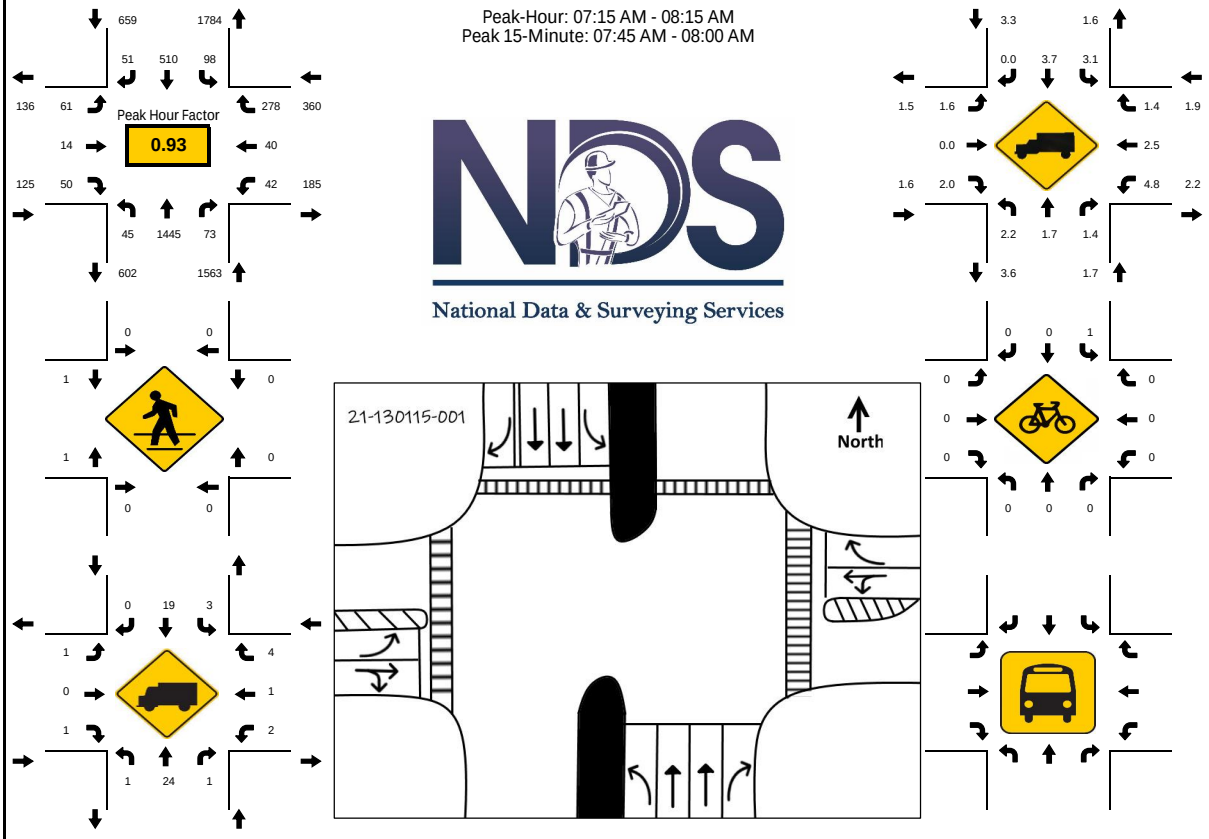


15-Min Count Period Beginning At	SR 464/Maricamp Rd Northbound					SR 464/Maricamp Rd Southbound					SE 24th St (North) Eastbound					SE 24th St (North) Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	0	245	0	0		0	366	4	0		0	0	7	0		0	0	0	0		622	2624
04:15 PM	0	267	0	0		0	408	3	0		0	0	6	0		0	0	0	0		684	2725
04:30 PM	0	289	0	0		0	397	6	0		0	0	0	0		0	0	0	0		692	2746
04:45 PM	0	269	0	0		0	339	5	0		0	0	13	0		0	0	0	0		626	2626
05:00 PM	0	290	0	0		0	418	12	0		0	0	3	0		0	0	0	0		723	2517
05:15 PM	0	278	0	0		0	410	9	0		0	0	8	0		0	0	0	0		705	1794
05:30 PM	0	237	0	0		0	326	6	0		0	0	3	0		0	0	0	0		572	1089
05:45 PM	0	221	0	0		0	284	4	0		0	0	8	0		0	0	0	0		517	517
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	0	1160	0	0		0	1672	48	0		0	0	52	0		0	0	0	0		**2932**	
Heavy Trucks	0	44	0	0		0	24	0	0		0	0	0	0		0	0	0	0		**68**	
Pedestrians		0					0					0					0				**0**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

LOCATION: SR 464/SE Maricamp Rd & SE 24th St/Markiv Automotive/Dayco Ocala Plant Dwy
CITY/STATE: Ocala, FL

PROJECT ID: 21-130115-001
DATE: Tue, Jun 08, 2021

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

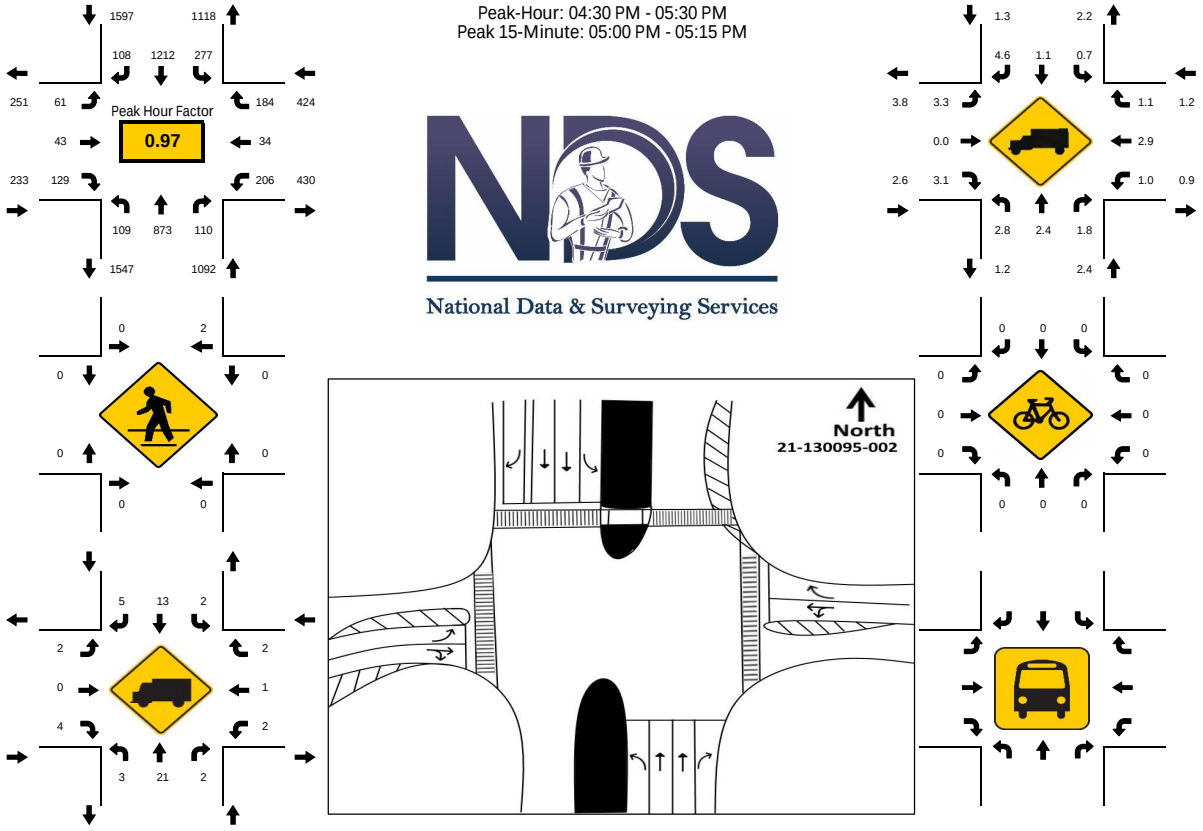


15-Min Count Period Beginning At	SR 464/SE Maricamp Rd Northbound					SR 464/SE Maricamp Rd Southbound					Markiv Automotive/Dayco Ocala Eastbound					Markiv Automotive/Dayco Ocala Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	10	285	8	2		15	108	10	0		8	4	8	0		1	8	32	0		499	2585
07:15 AM	10	322	20	0		25	127	15	0		15	3	14	0		10	14	78	0		653	2707
07:30 AM	11	425	15	2		18	118	10	1		14	1	11	0		6	8	63	0		703	2698
07:45 AM	7	389	18	3		29	140	11	0		21	5	14	0		13	9	71	0		730	2577
08:00 AM	11	309	20	1		24	125	15	1		11	5	11	0		13	9	66	0		621	2413
08:15 AM	7	326	16	4		26	125	11	2		13	10	13	0		20	9	62	0		644	1792
08:30 AM	9	260	18	5		23	142	17	0		6	6	14	0		21	5	56	0		582	1148
08:45 AM	8	274	25	1		19	131	7	1		8	3	15	0		21	3	50	0		566	566
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	44	1700	80	12		116	560	60	4		84	20	56	0		52	56	312	0		**3156**	
Heavy Trucks	4	32	4	0		4	40	0	0		4	0	4	0		4	4	8	0		**108**	
Pedestrians		0					0					4					0				**4**	
Bicycles	0	0	0	0		4	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

LOCATION: SR 464/Maricamp Rd & SE 24th St (South)
CITY/STATE: Ocala, FL

PROJECT ID: 21-130095-002
DATE: Wed, May 12, 2021

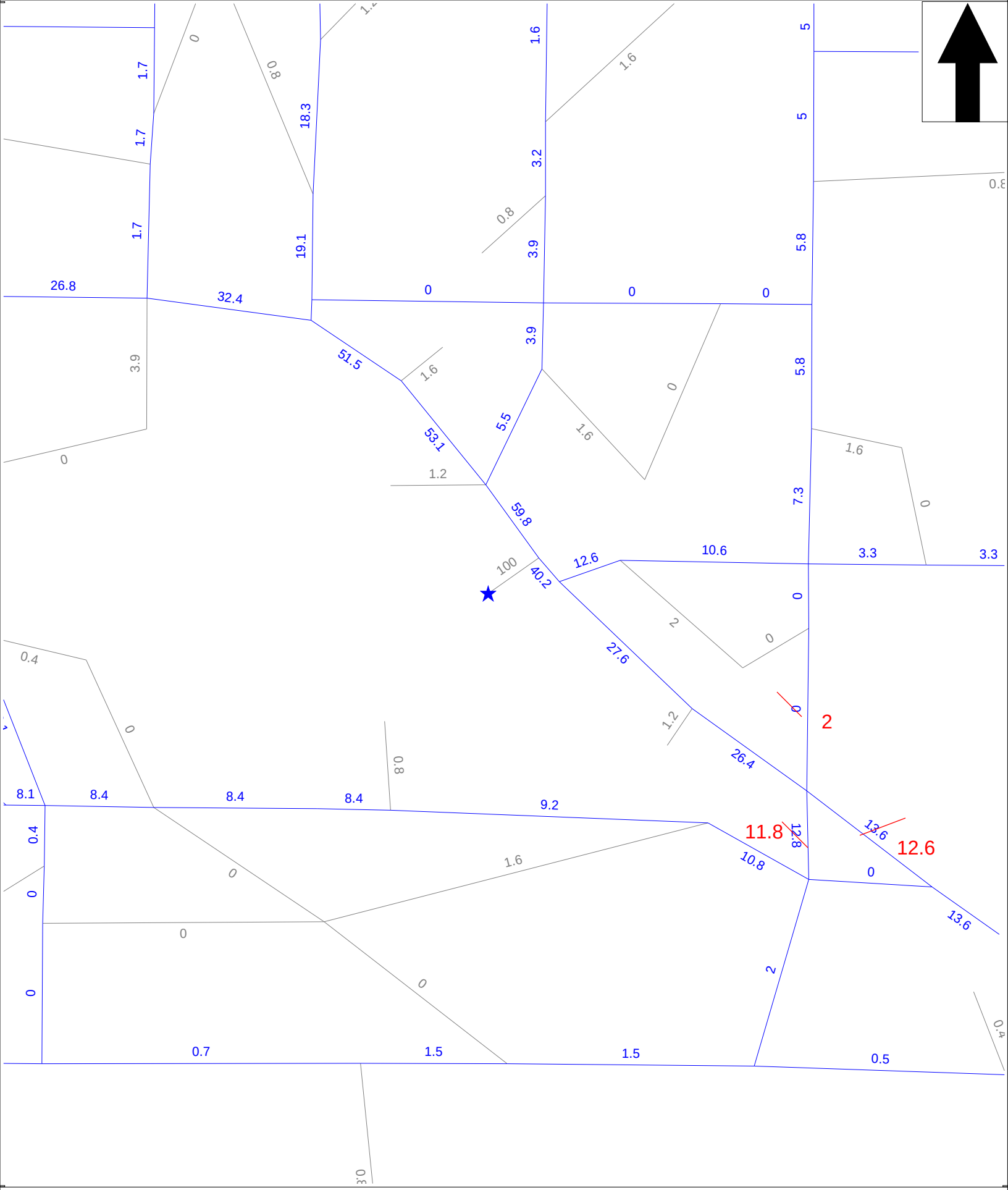
Peak-Hour: 04:30 PM - 05:30 PM
Peak 15-Minute: 05:00 PM - 05:15 PM



National Data & Surveying Services

15-Min Count Period Beginning At	SR 464/Maricamp Rd Northbound					SR 464/Maricamp Rd Southbound					SE 24th St (South) Eastbound					SE 24th St (South) Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	26	195	26	3		57	289	22	0		17	10	33	0		48	13	50	0		789	3230
04:15 PM	17	189	24	5		66	318	31	1		21	7	30	0		39	11	48	0		807	3301
04:30 PM	19	217	28	1		79	282	30	1		18	7	36	0		45	5	36	0		804	3346
04:45 PM	35	215	27	2		58	274	32	1		17	13	34	0		60	10	52	0		830	3280
05:00 PM	24	218	27	4		56	332	22	1		14	13	35	0		54	14	46	0		860	3122
05:15 PM	17	223	28	7		80	324	24	1		12	10	24	0		47	5	50	0		852	2262
05:30 PM	29	183	29	2		58	241	20	1		10	19	48	0		57	10	31	0		738	1410
05:45 PM	19	190	19	0		50	229	25	0		8	13	31	0		42	10	36	0		672	672
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	140	892	112	28		320	1328	128	4		72	52	144	0		240	56	208	0		**3724**	
Heavy Trucks	8	32	4	0		4	20	8	0		4	0	8	0		8	4	4	0		**104**	
Pedestrians		0					8					0					0				**8**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

APPENDIX C: PROJECT TRIP DISTRIBUTION



ALBRIGHT PROPERTY
320 MF DWELLING UNITS
CFRPM V 6.1
MAY 2021

APPENDIX D: VESTED TRAFFIC EXCERPTS

VISION ▪ EXPERIENCE ▪ RESULTS

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August 2nd, 2021

City of Ocala
Growth Management Department
Karen Cupp
Development Coordinator
201 SE 3rd Street, 2nd Floor
Ocala, Florida 34471
(352) 629-8335
(352) 629-8264 (Fax)
kcupp@ocalafl.org

RE: Transportation Methodology Application: Maricamp Road Commercial Development

Introduction

The proposed development is estimated to be 57,360 sf of commercial located on five outparcels on the southwest side of SE Maricamp Rd (SR-464) and SE 24th St within the City of Ocala, FL. SR-464 is a four-lane divided highway, with an access classification of 03, and a posted speed limit of 55 miles per hour. The property is currently served by an access from a full median opening at SR 464 and SE 30th Ave, as well as a right-in / right-out driveway at SE 24th St. Figure 1 illustrates the location of the project, while Figure 2 depicts the conceptual site plan for the development. A methodology meeting was held with the City of Ocala on June 8th, 2021.

A background growth rate of 1.2%, derived from the projected population growth for Ocala, was agreed upon. Internal capture between the residential land use at the Albright Development and the commercial land use at the SE Maricamp Rd Commercial Development was agreed upon. The 7-Eleven Development on the southeast corner of SR-464 at SE 25th Ave as well as the Albright Development at SE 24th St southwest of SR-464, will be included as background traffic for this analysis. These methodologies are included in Appendix A and Appendix B, respectively.

Figure 3: CFRPM Project Traffic Distribution

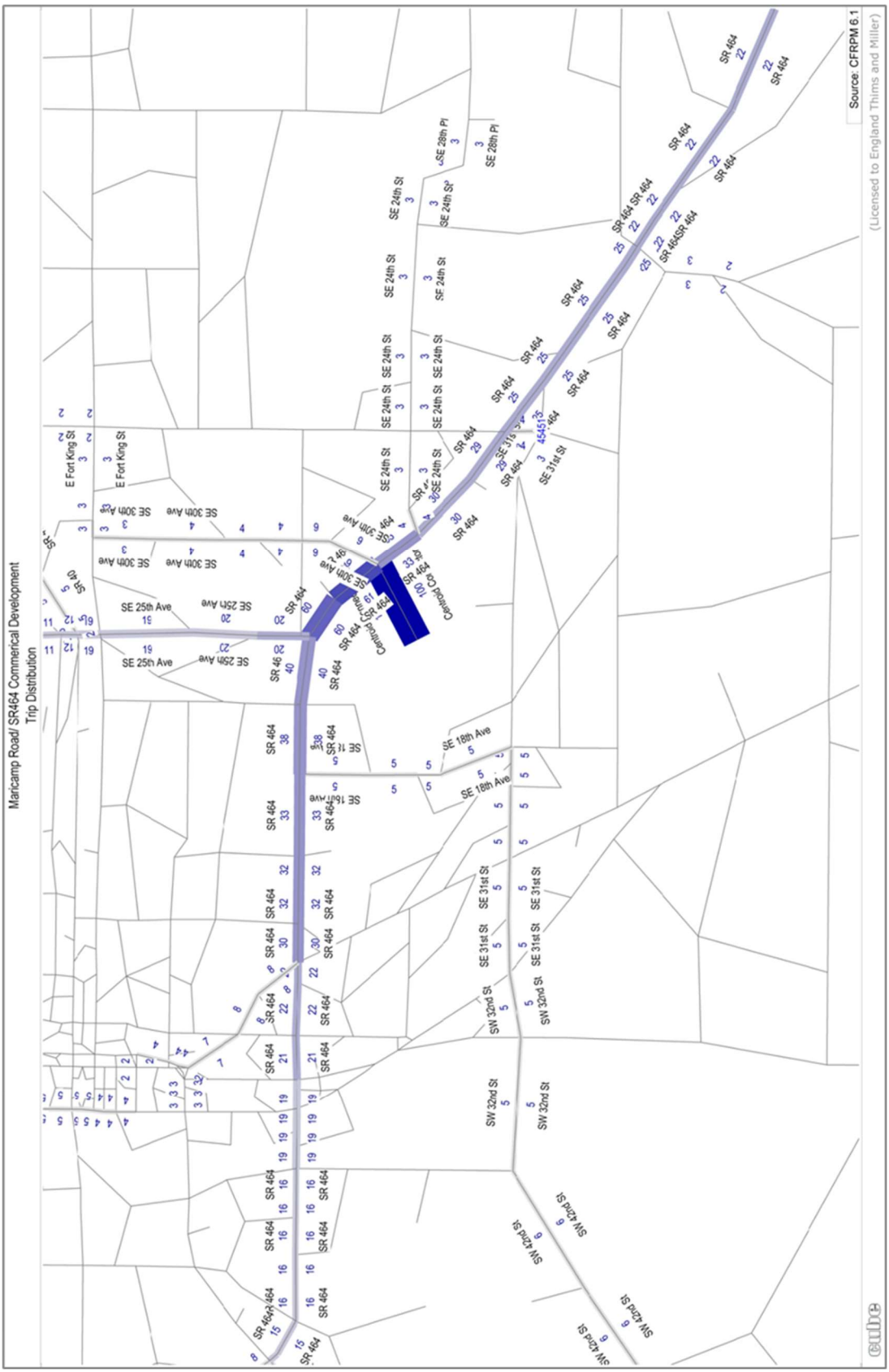

Table 2: Trip Generation Calculations

Daily

Land Use	ITE Land Use Code	Sq. Ft. or Number of Units	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross Trip Ends	Internal Capture		Pass-by		Net New External Trip Ends				
										Total Trip Ends	Entering		Exiting	
						%	Volume	%	Volume		%	Volume	%	Volume
Multi-Family Residential (Low-Rise)	220	320	DUs	T = 7.56(X) - 40.86	2,378	29%	680	0%	0	1,698	50%	849	50%	849
Shopping Center	820	57,630	Square Feet	Ln(T) = 0.68 Ln(X) + 5.57	4,133	16%	669	34%	1,178	2,286	50%	1,143	50%	1,143
Total					***6,511***	***21%***	***1,349***		***1,178***	***3,984***		***1,992***		***1,992***

AM Peak Hour

Land Use	ITE Land Use Code	Sq. Ft. or Number of Units	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross Trip Ends	Internal Capture		Pass-by		Net New External Trip Ends				
										Total Trip Ends	Entering		Exiting	
						%	Volume	%	Volume		%	Volume	%	Volume
Multi-Family Residential (Low-Rise)	220	320	DUs	Ln(T)=0.95Ln(X) - 0.51	144	18%	26	0%	0	118	23%	27	77%	91
Shopping Center	820	57,630	Square Feet	T = 0.50(X) + 151.78	181	14%	26	34%	53	102	62%	63	38%	39
Total					***325***	***16%***	***52***		***53***	***220***		***90***		***130***

PM Peak Hour

Land Use	ITE Land Use Code	Sq. Ft. or Number of Units	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross Trip Ends	Internal Capture		Pass-by		Net New External Trip Ends				
										Total Trip Ends	Entering		Exiting	
						%	Volume	%	Volume		%	Volume	%	Volume
Multi-Family Residential (Low-Rise)	220	320	DUs	Ln(T)=0.89(X) - 0.02	166	39%	65	0%	0	101	63%	64	37%	37
Shopping Center	820	57,630	Square Feet	Ln(T) = 0.74 Ln(X) + 2.89	361	18%	65	34%	101	195	48%	94	52%	101
Total					***527***	***25%***	***130***		***101***	***296***		***158***		***138***

APPENDIX E: SIGNAL TIMING DATA

City of Ocala

Intersection Timing Sheet

Station ID [6.1]

Intersection : 144 - SR 464 & SE 25th Ave (Standard File)

Unit Parameters [6.5]	I/O Mode [1.8.6]	Print Date	Date Implemented
Phase Mode:		5/19/2021 7:50:42 AM	

Communication [6.5]

IP Address	Subnet Mask	Gateway	Port
10.37.80.144	255.255.255.192	10.37.80.129	5144

Phase Timings [1.1.1]

	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8	ϕ9	ϕ10	ϕ11	ϕ12	ϕ13	ϕ14	ϕ15	ϕ16
Walk	0	7	0	0	0	7	0	7	0	0	0	0	0	0	0	0
Ped Clearance	0	29	0	0	0	34	0	26	0	0	0	0	0	0	0	0
Min Green	5	15	0	0	8	15	8	8	0	0	0	0	0	0	0	0
Gap Ext	3.5	4	0	0	3.5	4	3.5	3.5	0	0	0	0	0	0	0	0
Max1	23	40	0	0	15	40	23	23	0	0	0	0	0	0	0	0
Max2	23	40	0	0	23	40	23	26	0	0	0	0	0	0	0	0
Yellow Clr	5	5.1	0	0	5.1	5.1	3.5	4.5	0	0	0	0	0	0	0	0
Red Clr	2.6	2	0	0	2.1	2	3.1	3.3	0	0	0	0	0	0	0	0
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	3.5	4	0	3.5	3.5	4	0	3.5	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Flash Entry							ON	ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																

Phase Options [1.1.2]

	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8	ϕ9	ϕ10	ϕ11	ϕ12	ϕ13	ϕ14	ϕ15	ϕ16
Enable	ON	ON			ON	ON	ON	ON								
Lock Call	ON	ON			ON	ON										
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON				ON										
Sim Gap Enable		ON				ON										
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																

Phase Options Plus [1.1.3]

	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8	ϕ9	ϕ10	ϕ11	ϕ12	ϕ13	ϕ14	ϕ15	ϕ16
Reservice																
Ped Clr Thru Yellow																
Skip Red-NoCall																
Red Rest																
Max 2																
Max Inhibit																
Ped Delay																
Red Rest On Gap																
Conflicting P																
Green Ped Delay Time																
Omit Ycl																

Ped Out																							
Start Yel																							
Redirect P Calls From 1																							
Redirect P Calls To 1																							
Redirect P Calls From 2																							
Redirect P Calls To 2																							
Redirect P Calls From 3																							
Redirect P Calls To 3																							
Redirect P Calls From 4																							
Redirect P Calls To 4																							

Channel Assignment [1.8.1]

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PH/OLP #	1	2	3	4	5	6	7	8	1	2	3	4	2	4	6	8	1	3	5	7				
Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	PED	PED	PED	PED	VEH	VEH	VEH	VEH
Flash	RED	YEL	RED	RED	RED	YEL	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Alt Hz																								
Dimming Green																								
Dimming Yellow																								
Dimming Red																								
Dimming Cyc	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

I/O Channel Plus [1.8.4]

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	10	21	22	23	24
Flash Red																								
Flash Yellow																								
Flash Green																								
Inh Red Flash in Preempt																								
Color Flash Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olap Ovrd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Overlap Program Parameters [1.5.2.1]

Overlap	Included Phases								Modifer Phases								Type	Green	Yellow	Red
Overlap 1																	NORMAL		3.5	1.5
Overlap 2																	NORMAL		3.5	1.5
Overlap 3																	NORMAL		3.5	1.5
Overlap 4																	NORMAL		3.5	1.5
Overlap 5																	NORMAL		3.5	1.5
Overlap 6																	NORMAL		3.5	1.5
Overlap 7																	NORMAL		3.5	1.5
Overlap 8																	NORMAL		3.5	1.5
Overlap 9																	NORMAL		3.5	1.5
Overlap 10																	NORMAL		3.5	1.5
Overlap 11																	NORMAL		3.5	1.5
Overlap 12																	NORMAL		3.5	1.5
Overlap 13																	NORMAL		3.5	1.5
Overlap 14																	NORMAL		3.5	1.5
Overlap 15																	NORMAL		3.5	1.5
Overlap 16																	NORMAL		3.5	1.5

Overlap Conflict Parameters+ [1.5.2.2]

Overlap	Conflicting Phases								Conflicting Overlaps								Conflicting Peds							
Overlap 1																								
Overlap 2																								
Overlap 3																								
Overlap 4																								
Overlap 5																								
Overlap 6																								
Overlap 7																								
Overlap 8																								
Overlap 9																								
Overlap 10																								
Overlap 11																								
Overlap 12																								
Overlap 13																								
Overlap 14																								
Overlap 15																								
Overlap 16																								

Ring Sequence [1.2.4]

Ring	P1	P2	P3	P4	P5	P6	P7	P8
Ring 1	1	2		7	8	3	4	
Ring 2	5	6						
Ring 3								
Ring 4								

Phase Startup, Concur [1.1.4]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Startup	RED	GREEN	RED	RED	RED	GREEN	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED
Ring	1	1	1	1	2	2	1	1	0	0	0	0	0	0	0	0

Alternate Phase Program 1, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Alternate Phase Program 2, Interval Times [1.1.6.2]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Alternate Phase Program 1, Phase Options [1.1.6.2.1]

Column	Non Act1	Lock Call	Soft Recall	Dual Entry	Sim Gap Enb	Guar Pass	RIW	Cond Service	Reservice	Red Rest	Max 2	Ped Delay	Conf Phs1	Conf Phs1	Assign Phase
1		ON			ON									0	0
2		ON			ON									0	0
3		ON			ON									0	0
4		ON			ON									0	0
5		ON			ON									0	0
6		ON			ON									0	0
7		ON			ON									0	0
8		ON			ON									0	0

Alternate Phase Program 2, Phase Options [1.1.6.2.2]

Column	Non Act1	Lock Call	Soft Recall	Dual Entry	Sim Gap Enb	Guar Pass	RIW	Cond Service	Reservice	Red Rest	Max 2	Ped Delay	Conf Phs1	Conf Phs1	Assign Phase
1		ON			ON									0	0
2		ON			ON									0	0
3		ON			ON									0	0
4		ON			ON									0	0
5		ON			ON									0	0
6		ON			ON									0	0
7		ON			ON									0	0
8		ON			ON									0	0

Alternate Phase Program 3, Phase Options [1.1.6.2.3]

Column	Non Act1	Lock Call	Soft Recall	Dual Entry	Sim Gap Enb	Guar Pass	RIW	Cond Service	Reservice	Red Rest	Max 2	Ped Delay	Conf Phs1	Conf Phs1	Assign Phase
1		ON			ON									0	0
2		ON			ON									0	0
3		ON			ON									0	0
4		ON			ON									0	0
5		ON			ON									0	0
6		ON			ON									0	0
7		ON			ON									0	0
8		ON			ON									0	0

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0

Coordination, Splits [2.7.1]

Split Table 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	29	90			18	101	18	23								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase						ON										

Split Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	37	77			18	96	18	28								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase						ON										

Split Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	36	82			18	100	18	34								
Mode	NON	MXP	NON	NON	NON	MXP	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase						ON										

Split Table 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	27	94			18	103	18	21								

No Short P 4								
Early Yield								
Offset	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN
CNA								
Max 2								
Float								
Min Veh Perm								
Min Ped Perm								
Percentage								
MI								
Ret Hold								
ASC								
Ph Opt Table								
Ph Time Table								
Det Grp								
Call Inh								
Olp Off 1								
Olp Off 2								
Olp Off 3								
Olp Off 4								
Olp Off 5								
Olp Off 6								
Olp Off 7								
Olp Off 8								
Dia Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT
Force Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT

TB Coor, Day Plan [4.4]

Day Plan Table 1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour		6	7	8	9	14	19									
Minute		30	15		30											
Action	100	1	4	1	2	3	100									

Day Plan Table 2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour		8	14	20												
Minute		30	30													
Action	100	1	2	100												

Day Plan Table 3	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour		9	14	19												
Minute		30	30													
Action	100	1	2	100												

Day Plan Table 4	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour																
Minute																
Action																

Day Plan Table 5	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour																
Minute																
Action																

Day Plan Table 6	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour																
Minute																
Action																

Day Plan Table 7	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour																
Minute																
Action																

Day Plan Table 8	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour																
Minute																
Action																

Day Plan Table 9	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour																
Minute																
Action																

Day Plan Table 10	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Hour																
Minute																

Action																

Day Plan Table 11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 13	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 14	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 18	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

TB Coor, Advanced Scheduler [4.3]

	Month												Day of Week							Day of Month									1									2									3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4																																																	1
5																																																	1
6																																																	1
7																																																	1
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20																																																	1
21																																																	1
22																																																	1
23																																																	1

City of Ocala

Intersection Timing Sheet

Station ID [6.1]

Intersection : 159 - SR 464 & SE 24th St- (Standard File)

Unit Parameters [6.5]	I/O Mode [1.8.6]	Print Date	Date Implemented
Phase Mode:		5/19/2021 7:51:51 AM	

Communication [6.5]

IP Address	Subnet Mask	Gateway	Port
10.37.80.159	255.255.255.192	10.37.80.129	5159

Phase Timings [1.1.1]

	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8	ϕ9	ϕ10	ϕ11	ϕ12	ϕ13	ϕ14	ϕ15	ϕ16
Walk	0	7	0	7	0	7	0	0	0	0	0	0	0	0	0	0
Ped Clearance	0	32	0	39	0	23	0	0	0	0	0	0	0	0	0	0
Min Green	6	12	0	8	6	12	0	0	0	0	0	0	0	0	0	0
Gap Ext	3	4	0	4	3	4	0	0	0	0	0	0	0	0	0	0
Max1	20	45	0	30	20	45	0	0	0	0	0	0	0	0	0	0
Max2	0	50	0	45	0	50	0	0	0	0	0	0	0	0	0	0
Yellow Clr	5.5	5.5	0	3.4	5.5	5.5	0	3.4	0	0	0	0	0	0	0	0
Red Clr	2.9	2	0	3.3	2.6	2	0	3.3	0	0	0	0	0	0	0	0
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Flash Entry				ON												
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																

Phase Options [1.1.2]

	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8	ϕ9	ϕ10	ϕ11	ϕ12	ϕ13	ϕ14	ϕ15	ϕ16
Enable	ON	ON		ON	ON	ON										
Lock Call	ON	ON			ON	ON										
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON				ON										
Sim Gap Enable		ON				ON										
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																

Phase Options Plus [1.1.3]

	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8	ϕ9	ϕ10	ϕ11	ϕ12	ϕ13	ϕ14	ϕ15	ϕ16
Reservice																
Ped Clr Thru Yellow																
Skip Red-NoCall																
Red Rest																
Max 2																
Max Inhibit																
Ped Delay																
Red Rest On Gap																
Conflicting P																
Green Ped Delay Time																
Omit Yel																

Ped Out																							
Start Yel																							
Redirect P Calls From 1																							
Redirect P Calls To 1																							
Redirect P Calls From 2																							
Redirect P Calls To 2																							
Redirect P Calls From 3																							
Redirect P Calls To 3																							
Redirect P Calls From 4																							
Redirect P Calls To 4																							

Channel Assignment [1.8.1]

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PH/OLP #	1	2	3	4	5	6	7	8	1	2	3	4	2	4	6	8	1	3	5	7				
Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	PED	PED	PED	PED	VEH	VEH	VEH	VEH
Flash	RED	YEL	RED	RED	RED	YEL	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Alt Hz																								
Dimming Green																								
Dimming Yellow																								
Dimming Red																								
Dimming Cyc	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

I/O Channel Plus [1.8.4]

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	10	21	22	23	24
Flash Red																								
Flash Yellow																								
Flash Green																								
Inh Red Flash in Preempt																								
Color Flash Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olap Ovrd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Overlap Program Parameters [1.5.2.1]

Overlap	Included Phases								Modifer Phases								Type	Green	Yellow	Red
Overlap 1																	NORMAL		3.5	1.5
Overlap 2																	NORMAL		3.5	1.5
Overlap 3																	NORMAL		3.5	1.5
Overlap 4																	NORMAL		3.5	1.5
Overlap 5																	NORMAL		3.5	1.5
Overlap 6																	NORMAL		3.5	1.5
Overlap 7																	NORMAL		3.5	1.5
Overlap 8																	NORMAL		3.5	1.5
Overlap 9																	NORMAL		3.5	1.5
Overlap 10																	NORMAL		3.5	1.5
Overlap 11																	NORMAL		3.5	1.5
Overlap 12																	NORMAL		3.5	1.5
Overlap 13																	NORMAL		3.5	1.5
Overlap 14																	NORMAL		3.5	1.5
Overlap 15																	NORMAL		3.5	1.5
Overlap 16																	NORMAL		3.5	1.5

Overlap Conflict Parameters+ [1.5.2.2]

Overlap	Conflicting Phases								Conflicting Overlaps								Conflicting Peds							
Overlap 1																								
Overlap 2																								
Overlap 3																								
Overlap 4																								
Overlap 5																								
Overlap 6																								
Overlap 7																								
Overlap 8																								
Overlap 9																								
Overlap 10																								
Overlap 11																								
Overlap 12																								
Overlap 13																								
Overlap 14																								
Overlap 15																								
Overlap 16																								

Ring Sequence [1.2.4]

Ring	P1	P2	P3	P4	P5	P6	P7	P8
Ring 1	1	2	3	4				
Ring 2	5	6	7	8				
Ring 3								
Ring 4								

Phase Startup, Concur [1.1.4]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Startup	RED	GREEN	RED	RED	RED	GREEN	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED
Ring	1	1	1	1	2	2	2	2	0	0	0	0	0	0	0	0

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Alternate Phase Program 1, Phase Options [1.1.6.2.1]

Column	Non Act1	Lock Call	Soft Recall	Dual Entry	Sim Gap Enb	Guar Pass	RIW	Cond Service	Reservice	Red Rest	Max 2	Ped Delay	Conf Phs1	Conf Phs1	Assign Phase
1		ON												0	0
2		ON												0	0
3		ON												0	0
4		ON												0	0
5		ON												0	0
6		ON												0	0
7		ON												0	0
8		ON												0	0

Alternate Phase Program 2, Phase Options [1.1.6.2.2]

Column	Non Act1	Lock Call	Soft Recall	Dual Entry	Sim Gap Enb	Guar Pass	RIW	Cond Service	Reservice	Red Rest	Max 2	Ped Delay	Conf Phs1	Conf Phs1	Assign Phase
1		ON												0	0
2		ON												0	0
3		ON												0	0
4		ON												0	0
5		ON												0	0
6		ON												0	0
7		ON												0	0
8		ON												0	0

Alternate Phase Program 3, Phase Options [1.1.6.2.3]

Column	Non Act1	Lock Call	Soft Recall	Dual Entry	Sim Gap Enb	Guar Pass	RIW	Cond Service	Reservice	Red Rest	Max 2	Ped Delay	Conf Phs1	Conf Phs1	Assign Phase
1		ON												0	0
2		ON												0	0
3		ON												0	0
4		ON												0	0
5		ON												0	0
6		ON												0	0
7		ON												0	0
8		ON												0	0

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0

Coordination, Splits [2.7.1]

Split Table 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	27	103		30	18	112		30								
Mode	NON	MIN	NON	NON	NON	MIN	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	43	81		36	18	106		36								
Mode	NON	MIN	NON	NON	NON	MIN	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	39	81		50	18	102		50								
Mode	NON	MIN	NON	NON	NON	MIN	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase		ON														

Split Table 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time																
Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
Coord Phase																

Float								
Min Veh Perm								
Min Ped Perm								
Percentage								
MI								
Ret Hold								
ASC								
Ph Opt Table								
Ph Time Table								
Det Grp								
Call Inh								
Olp Off 1								
Olp Off 2								
Olp Off 3								
Olp Off 4								
Olp Off 5								
Olp Off 6								
Olp Off 7								
Olp Off 8								
Dia Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT
Force Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT

TB Coor, Day Plan [4.4]

Day Plan Table 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour		6	9	14	19											
Minute		30	30													
Action	100	1	2	3	100											

Day Plan Table 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour		8	14	20												
Minute		30	30													
Action	100	1	2	100												

Day Plan Table 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour		9	14	19												
Minute		30	30													
Action	100	1	2	100												

Day Plan Table 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																

Minute																
Action																

Day Plan Table 12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 13	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 14	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 18	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

Day Plan Table 20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour																
Minute																
Action																

TB Coor, Advanced Scheduler [4.3]

	Month												Day of Week							Day of Month									1									2									3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4																																																	1
5																																																	1
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APPENDIX F: INTERSECTION VOLUME DEVELOPEMENT WORKSHEETS

INTERSECTION VOLUME DEVELOPMENT
SE 24th St (Signal) @ SR 464/Maricamp Rd
AM Peak Hour

Case	SE 24th St (Signal) Northbound				SE 24th St (Signal) Southbound				SR 464/Maricamp Rd Eastbound				SR 464/Maricamp Rd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6/8/21 Observed Volumes	0	61	14	50	0	42	40	278	2	96	510	51	6	39	1,445	73
Peak Season Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
2021 Peak Season Volumes	0	64	15	53	0	44	42	292	2	101	536	54	6	41	1,517	77
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2025 Peak Season Volumes	0	68	16	56	0	47	45	310	2	107	568	57	6	43	1,608	82
Vested Trips																
ARC Commercial	0	0	0	0	0	0	0	3	0	2	12	0	0	0	19	0
2025 Background Traffic	0	68	16	56	0	47	45	313	2	109	580	57	6	43	1,627	82
Auto Assignment								13.0%	59.0%	13.0%	28.0%				28.0%	
	--	--	--	--	--	--	--	IN	OUT	OUT	OUT	--	--	--	IN	--
Project Traffic (Net New Trips)	0	0	0	0	0	0	0	5	65	15	31	0	0	0	8	0
Total Build-Out Volumes	0	68	16	56	0	47	45	318	67	124	611	57	6	43	1,635	82

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Raw-To-Peak Season Factor:	1.05	Existing Year:	2021
100th Highest Hour Factor:	0.96	Buildout Year:	2025
Weekly Adjustment Factor:	1.01	Annual Growth Rate:	1.50%
		Growth Factor:	1.06

INTERSECTION VOLUME DEVELOPMENT
SE 25th Ave @ SR 464/Maricamp Rd
PM Peak Hour

Case	SE 25th Ave Northbound				SE 25th Ave Southbound				SR 464/Maricamp Rd Eastbound				SR 464/Maricamp Rd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5/12/21 Observed Volumes	0	20	18	31	0	371	22	264	0	270	1,442	39	0	27	928	268
Peak Season Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
2021 Peak Season Volumes	0	21	19	32	0	382	23	272	0	278	1,485	40	0	28	956	276
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2025 Peak Season Volumes	0	22	20	34	0	405	24	288	0	295	1,574	42	0	30	1,013	293
Vested Trips																
ARC Commercial	0	0	0	0	0	19	0	0	0	0	38	0	0	0	40	20
2025 Background Traffic	0	22	20	34	0	424	24	288	0	295	1,612	42	0	30	1,053	313
Auto Assignment						19.0%					32.0%				32.0%	19.0%
	--	--	--	--	--	IN	--	--	--	--	IN	--	--	--	OUT	OUT
Project Traffic (Net New Trips)	0	0	0	0	0	20	0	0	0	0	34	0	0	0	18	12
Total Build-Out Volumes	0	22	20	34	0	444	24	288	0	295	1,646	42	0	30	1,071	325

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Raw-To-Peak Season Factor:	1.03	Existing Year:	2021
100th Highest Hour Factor:	0.96	Buildout Year:	2025
Weekly Adjustment Factor:	0.99	Annual Growth Rate:	1.50%
		Growth Factor:	1.06

INTERSECTION VOLUME DEVELOPMENT
SE 30th Ave @ SR 464/Maricamp Rd
PM Peak Hour

Case	SE 30th Ave Northbound				SE 30th Ave Southbound				SR 464/Maricamp Rd Eastbound				SR 464/Maricamp Rd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6/8/21 Observed Volumes	0	1	1	2	0	17	0	125	0	148	1,696	0	30	0	1,008	56
Peak Season Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
2021 Peak Season Volumes	0	1	1	2	0	18	0	131	0	155	1,781	0	32	0	1,058	59
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2025 Peak Season Volumes	0	1	1	2	0	19	0	139	0	164	1,888	0	34	0	1,121	63
Vested Trips																
ARC Commercial	0	90	11	0	0	0	9	0	0	0	0	87	0	49	0	0
2025 Background Traffic	0	91	12	2	0	19	9	139	0	164	1,888	87	34	49	1,121	63
Auto Assignment						6.0%					53.0%		41.0%		53.0%	6.0%
	--	--	--	--	--	IN	--	--	--	--	IN	--	IN	--	OUT	OUT
Project Traffic (Net New Trips)	0	0	0	0	0	7	0	0	0	0	55	0	43	0	31	4
Total Build-Out Volumes	0	91	12	2	0	26	9	139	0	164	1,943	87	77	49	1,152	67

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Raw-To-Peak Season Factor:	1.05	Existing Year:	2021
100th Highest Hour Factor:	0.96	Buildout Year:	2025
Weekly Adjustment Factor:	1.01	Annual Growth Rate:	1.50%
		Growth Factor:	1.06

INTERSECTION VOLUME DEVELOPMENT
SE 24th St (Driveway) @ SR 464/Maricamp Rd
PM Peak Hour

	SE 24th St (Driveway) Northbound				N/A Southbound				SR 464/Maricamp Rd Eastbound				SR 464/Maricamp Rd Westbound			
Case	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5/12/21 Observed Volumes	0	0	0	24	0	0	0	0	0	0	1,564	32	0	0	1,126	0
Peak Season Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
2021 Peak Season Volumes	0	0	0	25	0	0	0	0	0	0	1,611	33	0	0	1,160	0
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2025 Peak Season Volumes	0	0	0	27	0	0	0	0	0	0	1,708	35	0	0	1,230	0
Vested Trips																
ARC Commercial	0	0	0	51	0	0	0	0	0	0	0	0	0	0	49	0
2025 Background Traffic	0	0	0	78	0	0	0	0	0	0	1,708	35	0	0	1,279	0
Auto Assignment				100.0%								100.0%			100.0%	
	--	--	--	OUT	--	--	--	--	--	--	--	IN	--	--	IN & OUT	--
Project Traffic (Net New Trips)	0	0	0	61	0	0	0	0	0	0	0	105	0	0	78	0
Total Build-Out Volumes	0	0	0	139	0	0	0	0	0	0	1,708	140	0	0	1,357	0

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Raw-To-Peak Season Factor:	1.03	Existing Year:	2021
100th Highest Hour Factor:	0.96	Buildout Year:	2025
Weekly Adjustment Factor:	0.99	Annual Growth Rate:	1.50%
		Growth Factor:	1.06

INTERSECTION VOLUME DEVELOPMENT
SE 24th St (Signal) @ SR 464/Maricamp Rd
PM Peak Hour

Case	SE 24th St (Signal) Northbound				SE 24th St (Signal) Southbound				SR 464/Maricamp Rd Eastbound				SR 464/Maricamp Rd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
5/12/21 Observed Volumes	0	61	43	129	0	206	34	184	4	273	1,212	108	14	95	873	110
Peak Season Factor	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
2021 Peak Season Volumes	0	63	44	133	0	212	35	190	4	281	1,248	111	14	98	899	113
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2025 Peak Season Volumes	0	67	47	141	0	225	37	201	4	298	1,323	118	15	104	953	120
Vested Trips																
ARC Commercial	0	0	0	0	0	0	0	4	0	4	30	0	0	0	28	0
2025 Background Traffic	0	67	47	141	0	225	37	205	4	302	1,353	118	15	104	981	120
Auto Assignment								13.0%	59.0%	13.0%	28.0%				28.0%	
	--	--	--	--	--	--	--	IN	OUT	OUT	OUT	--	--	--	IN	--
Project Traffic (Net New Trips)	0	0	0	0	0	0	0	14	35	8	18	0	0	0	29	0
Total Build-Out Volumes	0	67	47	141	0	225	37	219	39	310	1,371	118	15	104	1,010	120

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Raw-To-Peak Season Factor:	1.03	Existing Year:	2021
100th Highest Hour Factor:	0.96	Buildout Year:	2025
Weekly Adjustment Factor:	0.99	Annual Growth Rate:	1.50%
		Growth Factor:	1.06

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 3600 MARION COUNTYWIDE

MOCF: 0.96

WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	0.98	1.02
2	01/06/2019 - 01/12/2019	1.01	1.05
3	01/13/2019 - 01/19/2019	1.05	1.09
4	01/20/2019 - 01/26/2019	1.03	1.07
5	01/27/2019 - 02/02/2019	1.02	1.06
6	02/03/2019 - 02/09/2019	1.00	1.04
7	02/10/2019 - 02/16/2019	0.99	1.03
* 8	02/17/2019 - 02/23/2019	0.97	1.01
* 9	02/24/2019 - 03/02/2019	0.96	1.00
*10	03/03/2019 - 03/09/2019	0.95	0.99
*11	03/10/2019 - 03/16/2019	0.94	0.98
*12	03/17/2019 - 03/23/2019	0.94	0.98
*13	03/24/2019 - 03/30/2019	0.95	0.99
*14	03/31/2019 - 04/06/2019	0.95	0.99
*15	04/07/2019 - 04/13/2019	0.96	1.00
*16	04/14/2019 - 04/20/2019	0.96	1.00
*17	04/21/2019 - 04/27/2019	0.97	1.01
*18	04/28/2019 - 05/04/2019	0.98	1.02
*19	05/05/2019 - 05/11/2019	0.99	1.03
*20	05/12/2019 - 05/18/2019	0.99	1.03
21	05/19/2019 - 05/25/2019	1.00	1.04
22	05/26/2019 - 06/01/2019	1.01	1.05
23	06/02/2019 - 06/08/2019	1.01	1.05
24	06/09/2019 - 06/15/2019	1.02	1.06
25	06/16/2019 - 06/22/2019	1.02	1.06
26	06/23/2019 - 06/29/2019	1.02	1.06
27	06/30/2019 - 07/06/2019	1.03	1.07
28	07/07/2019 - 07/13/2019	1.03	1.07
29	07/14/2019 - 07/20/2019	1.03	1.07
30	07/21/2019 - 07/27/2019	1.03	1.07
31	07/28/2019 - 08/03/2019	1.03	1.07
32	08/04/2019 - 08/10/2019	1.03	1.07
33	08/11/2019 - 08/17/2019	1.03	1.07
34	08/18/2019 - 08/24/2019	1.04	1.08
35	08/25/2019 - 08/31/2019	1.05	1.09
36	09/01/2019 - 09/07/2019	1.06	1.10
37	09/08/2019 - 09/14/2019	1.07	1.11
38	09/15/2019 - 09/21/2019	1.09	1.14
39	09/22/2019 - 09/28/2019	1.06	1.10
40	09/29/2019 - 10/05/2019	1.04	1.08
41	10/06/2019 - 10/12/2019	1.02	1.06
42	10/13/2019 - 10/19/2019	1.00	1.04
43	10/20/2019 - 10/26/2019	1.00	1.04
44	10/27/2019 - 11/02/2019	1.00	1.04
45	11/03/2019 - 11/09/2019	0.99	1.03
46	11/10/2019 - 11/16/2019	0.99	1.03
47	11/17/2019 - 11/23/2019	0.99	1.03
48	11/24/2019 - 11/30/2019	0.99	1.03
49	12/01/2019 - 12/07/2019	0.99	1.03
50	12/08/2019 - 12/14/2019	0.98	1.02
51	12/15/2019 - 12/21/2019	0.98	1.02
52	12/22/2019 - 12/28/2019	1.01	1.05
53	12/29/2019 - 12/31/2019	1.05	1.09

* PEAK SEASON

APPENDIX G: SYNCHRO OUTPUTS

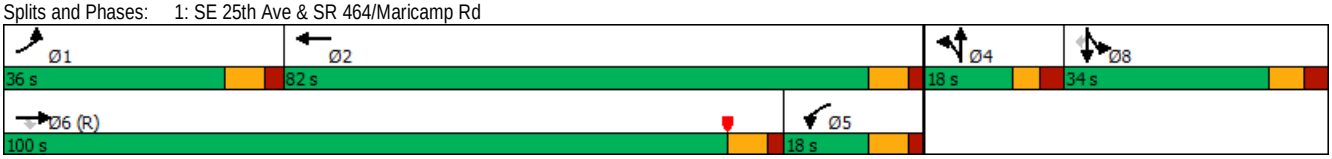
G1: Peak Hour 2021 Existing Traffic Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	278	1485	40	28	956	276	21	19	32	382	23	272
Future Volume (vph)	278	1485	40	28	956	276	21	19	32	382	23	272
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	290	1547	42	29	996	288	22	20	33	398	24	283
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	290	1547	42	29	1284	0	22	53	0	211	211	283
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases			6									8
Detector Phase	1	6	6	5	2		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	8.0	15.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	12.6	22.1	22.1	15.2	22.1		14.6	14.6		15.8	15.8	15.8
Total Split (s)	36.0	100.0	100.0	18.0	82.0		18.0	18.0		34.0	34.0	34.0
Total Split (%)	21.2%	58.8%	58.8%	10.6%	48.2%		10.6%	10.6%		20.0%	20.0%	20.0%
Yellow Time (s)	5.0	5.1	5.1	5.1	5.1		3.5	3.5		4.5	4.5	4.5
All-Red Time (s)	2.6	2.0	2.0	2.1	2.0		3.1	3.1		3.3	3.3	3.3
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)	7.6	7.1	7.1	7.2	7.1		6.6	6.6		7.8	7.8	7.8
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	Min		None	None		None	None	None
v/c Ratio	0.90	0.71	0.04	0.25	0.81		0.24	0.45		0.84	0.83	0.59
Control Delay	97.5	28.0	0.1	53.5	19.4		83.1	47.6		96.7	95.5	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	97.5	28.0	0.1	53.5	19.4		83.1	47.6		96.7	95.5	11.7
Queue Length 50th (ft)	318	773	0	28	185		24	22		237	237	0
Queue Length 95th (ft)	#528	813	0	m57	242		57	71		#387	#384	92
Internal Link Dist (ft)		1306			2465			699			1696	
Turn Bay Length (ft)	200		430	190			275			300		
Base Capacity (vph)	321	2208	1033	127	1612		117	142		269	271	491
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.90	0.70	0.04	0.23	0.80		0.19	0.37		0.78	0.78	0.58

Intersection Summary

Cycle Length: 170
Actuated Cycle Length: 170
Offset: 151 (89%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SE 25th Ave & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	1485	40	28	956	276	21	19	32	382	23	272
Future Volume (veh/h)	278	1485	40	28	956	276	21	19	32	382	23	272
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	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	290	1547	36	29	996	267	22	20	7	415	0	127
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	298	1713	764	146	1093	292	75	56	19	469	0	209
Arrive On Green	0.17	0.48	0.48	0.08	0.39	0.39	0.04	0.04	0.04	0.13	0.00	0.13
Sat Flow, veh/h	1781	3554	1585	1781	2773	740	1767	1313	460	3563	0	1585
Grp Volume(v), veh/h	290	1547	36	29	637	626	22	0	27	415	0	127
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1737	1767	0	1773	1781	0	1585
Q Serve(g_s), s	27.5	67.9	2.0	2.6	57.5	58.1	2.1	0.0	2.5	19.5	0.0	12.9
Cycle Q Clear(g_c), s	27.5	67.9	2.0	2.6	57.5	58.1	2.1	0.0	2.5	19.5	0.0	12.9
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	298	1713	764	146	700	685	75	0	75	469	0	209
V/C Ratio(X)	0.97	0.90	0.05	0.20	0.91	0.91	0.29	0.00	0.36	0.88	0.00	0.61
Avail Cap(c_a), veh/h	298	1942	866	146	783	765	119	0	119	549	0	244
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	70.4	40.4	23.3	72.8	48.6	48.8	78.9	0.0	79.1	72.5	0.0	69.7
Incr Delay (d2), s/veh	45.1	8.2	0.1	0.7	13.6	14.6	2.1	0.0	2.9	14.2	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	30.6	0.8	1.2	27.5	27.3	1.0	0.0	1.2	9.9	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.5	48.6	23.4	73.5	62.2	63.4	81.1	0.0	82.0	86.7	0.0	72.9
LnGrp LOS	F	D	C	E	E	E	F	A	F	F	A	E
Approach Vol, veh/h		1873			1292			49			542	
Approach Delay, s/veh		58.5			63.1			81.6			83.5	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	36.0	74.2		13.8	21.1	89.1		30.2				
Change Period (Y+Rc), s	7.6	* 7.2		6.6	7.2	7.1		7.8				
Max Green Setting (Gmax), s	28.4	* 75		11.4	10.8	92.9		26.2				
Max Q Clear Time (g_c+I1), s	29.5	60.1		4.5	4.6	69.9		21.5				
Green Ext Time (p_c), s	0.0	6.9		0.1	0.0	12.1		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		64.0	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	155	1781	0	32	0	1058	59	1	1	2	18	0	131
Future Volume (vph)	155	1781	0	32	0	1058	59	1	1	2	18	0	131
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	1855	0	33	0	1102	61	1	1	2	19	0	136
Shared Lane Traffic (%)													
Lane Group Flow (vph)	161	1855	0	0	33	1102	61	0	4	0	0	19	136
Sign Control		Free				Free			Stop			Stop	

Intersection Summary
Control Type: Unsignalized

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	155	1781	0	32	0	1058	59	1	1	2	18	0	131
Future Vol, veh/h	155	1781	0	32	0	1058	59	1	1	2	18	0	131
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	Yield
Storage Length	435	-	-	-	440	-	440	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	161	1855	0	33	0	1102	61	1	1	2	19	0	136

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	1163	0	0	1855	1855	0	0	2794	3406	928	2418	3345	551
Stage 1	-	-	-	-	-	-	-	2177	2177	-	1168	1168	-
Stage 2	-	-	-	-	-	-	-	617	1229	-	1250	2177	-
Critical Hdwy	4.14	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	596	-	-	*449	*509	-	-	6	~ 1	*341	*48	1	478
Stage 1	-	-	-	-	-	-	-	192	192	-	*206	266	-
Stage 2	-	-	-	-	-	-	-	444	248	-	*321	192	-
Platoon blocked, %		-	-	1	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	596	-	-	*446	*446	-	-	3	0	*341	*36	0	478
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	64	42	-	*94	68	-
Stage 1	-	-	-	-	-	-	-	140	140	-	*150	246	-
Stage 2	-	-	-	-	-	-	-	294	230	-	*231	140	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.4	47.9	20
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	88	596	-	-	* 446	-	-	94	478
HCM Lane V/C Ratio	0.047	0.271	-	-	0.075	-	-	0.199	0.285
HCM Control Delay (s)	47.9	13.3	-	-	13.7	-	-	52.6	15.5
HCM Lane LOS	E	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.1	1.1	-	-	0.2	-	-	0.7	1.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1611	33	0	1160	0	25
Future Volume (vph)	1611	33	0	1160	0	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	1696	35	0	1221	0	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1731	0	0	1221	0	26
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1611	33	0	1160	0	25
Future Vol, veh/h	1611	33	0	1160	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	1696	35	0	1221	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	866
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	297
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	297
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.3
HCM LOS			C

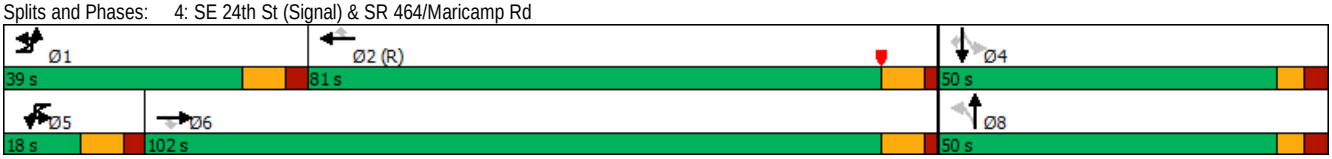
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	297	-	-	-
HCM Lane V/C Ratio	0.089	-	-	-
HCM Control Delay (s)	18.3	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	284	1248	111	112	899	113	63	44	133	212	35	190
Future Volume (vph)	284	1248	111	112	899	113	63	44	133	212	35	190
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	293	1287	114	115	927	116	65	45	137	219	36	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	293	1287	114	115	927	116	65	182	0	0	255	196
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	14.4	25.5	25.5	14.1	25.5	25.5	24.7	24.7		24.7	24.7	24.7
Total Split (s)	39.0	102.0	102.0	18.0	81.0	81.0	50.0	50.0		50.0	50.0	50.0
Total Split (%)	22.9%	60.0%	60.0%	10.6%	47.6%	47.6%	29.4%	29.4%		29.4%	29.4%	29.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.4	3.4		3.4	3.4	3.4
All-Red Time (s)	2.9	2.0	2.0	2.6	2.0	2.0	3.3	3.3		3.3	3.3	3.3
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)	8.4	7.5	7.5	8.1	7.5	7.5	6.7	6.7			6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
v/c Ratio	0.89	0.80	0.15	0.69	0.73	0.18	0.24	0.31			0.76	0.31
Control Delay	88.3	54.9	17.4	92.8	51.6	4.3	45.1	23.5			67.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	88.3	54.9	17.4	92.8	51.6	4.3	45.1	23.5			67.0	6.2
Queue Length 50th (ft)	345	737	41	124	495	0	53	76			254	0
Queue Length 95th (ft)	m#518	621	m71	#287	540	35	100	150			#402	62
Internal Link Dist (ft)		350			742			366			1145	
Turn Bay Length (ft)	480		290	520		190	115					
Base Capacity (vph)	336	1967	924	167	1530	758	276	585			337	642
Starvation Cap Reductn	0	0	0	0	0	0	0	0			0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0			0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0			0	0
Reduced v/c Ratio	0.87	0.65	0.12	0.69	0.61	0.15	0.24	0.31			0.76	0.31

Intersection Summary

Cycle Length: 170
Actuated Cycle Length: 170
Offset: 132 (78%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: SE 24th St (Signal) & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	1248	111	112	899	113	63	44	133	212	35	190
Future Volume (veh/h)	284	1248	111	112	899	113	63	44	133	212	35	190
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	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	293	1287	84	115	927	60	65	45	97	219	36	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	311	1975	881	104	1555	694	42	133	287	247	34	404
Arrive On Green	0.17	0.56	0.56	0.06	0.44	0.44	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1289	524	1129	814	134	1585
Grp Volume(v), veh/h	293	1287	84	115	927	60	65	0	142	255	0	60
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1289	0	1652	948	0	1585
Q Serve(g_s), s	27.6	42.9	4.2	9.9	33.7	3.8	0.0	0.0	11.9	31.4	0.0	5.0
Cycle Q Clear(g_c), s	27.6	42.9	4.2	9.9	33.7	3.8	43.3	0.0	11.9	43.3	0.0	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	0.86		1.00
Lane Grp Cap(c), veh/h	311	1975	881	104	1555	694	42	0	421	281	0	404
V/C Ratio(X)	0.94	0.65	0.10	1.11	0.60	0.09	1.53	0.00	0.34	0.91	0.00	0.15
Avail Cap(c_a), veh/h	321	1975	881	104	1555	694	42	0	421	281	0	404
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	69.3	26.3	17.7	80.1	36.4	27.9	85.0	0.0	51.7	70.1	0.0	49.1
Incr Delay (d2), s/veh	34.7	0.8	0.0	120.6	1.7	0.2	329.7	0.0	0.5	30.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	17.3	1.5	7.9	14.5	1.5	5.8	0.0	5.1	13.7	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.9	27.1	17.8	200.7	38.1	28.2	414.7	0.0	52.1	101.1	0.0	49.2
LnGrp LOS	F	C	B	F	D	C	F	A	D	F	A	D
Approach Vol, veh/h		1664			1102			207			315	
Approach Delay, s/veh		40.1			54.5			166.0			91.2	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	38.1	81.9		50.0	18.0	102.0		50.0				
Change Period (Y+Rc), s	* 8.4	7.5		* 6.7	* 8.1	7.5		* 6.7				
Max Green Setting (Gmax), s	* 31	73.5		* 43	* 9.9	94.5		* 43				
Max Q Clear Time (g_c+I1), s	29.6	35.7		45.3	11.9	44.9		45.3				
Green Ext Time (p_c), s	0.1	6.7		0.0	0.0	11.4		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		57.8
HCM 6th LOS		E

Notes

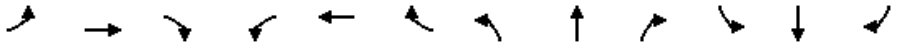
User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	536	54	47	1517	77	64	15	53	44	42	292
Future Volume (vph)	103	536	54	47	1517	77	64	15	53	44	42	292
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	111	576	58	51	1631	83	69	16	57	47	45	314
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	576	58	51	1631	83	69	73	0	0	92	314
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	14.4	25.5	25.5	14.1	25.5	25.5	24.7	24.7		24.7	24.7	24.7
Total Split (s)	27.0	112.0	112.0	18.0	103.0	103.0	30.0	30.0		30.0	30.0	30.0
Total Split (%)	16.9%	70.0%	70.0%	11.3%	64.4%	64.4%	18.8%	18.8%		18.8%	18.8%	18.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.4	3.4		3.4	3.4	3.4
All-Red Time (s)	2.9	2.0	2.0	2.6	2.0	2.0	3.3	3.3		3.3	3.3	3.3
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)	8.4	7.5	7.5	8.1	7.5	7.5	6.7	6.7			6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
v/c Ratio	0.68	0.24	0.05	0.52	0.74	0.08	0.38	0.25			0.42	0.89
Control Delay	90.5	11.4	0.9	92.1	25.3	0.2	66.9	21.4			67.6	62.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	90.5	11.4	0.9	92.1	25.3	0.2	66.9	21.4			67.6	62.0
Queue Length 50th (ft)	114	133	0	53	650	0	64	14			87	181
Queue Length 95th (ft)	182	154	9	102	741	0	121	65			151	#366
Internal Link Dist (ft)		350			742			366			1145	
Turn Bay Length (ft)	480		290	520		190	115					
Base Capacity (vph)	203	2415	1105	109	2217	1043	198	307			235	370
Starvation Cap Reductn	0	0	0	0	0	0	0	0			0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0			0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0			0	0
Reduced v/c Ratio	0.55	0.24	0.05	0.47	0.74	0.08	0.35	0.24			0.39	0.85

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 76 (48%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: SE 24th St (Signal) & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	536	54	47	1517	77	64	15	53	44	42	292
Future Volume (veh/h)	103	536	54	47	1517	77	64	15	53	44	42	292
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	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	576	46	51	1631	56	69	16	28	47	45	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	2446	1091	65	2324	1037	130	79	139	120	104	206
Arrive On Green	0.07	0.69	0.69	0.04	0.65	0.65	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1274	610	1068	658	802	1585
Grp Volume(v), veh/h	111	576	46	51	1631	56	69	0	44	92	0	73
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1274	0	1678	1461	0	1585
Q Serve(g_s), s	9.9	9.6	1.5	4.5	47.0	2.0	8.6	0.0	3.7	6.5	0.0	6.7
Cycle Q Clear(g_c), s	9.9	9.6	1.5	4.5	47.0	2.0	18.8	0.0	3.7	10.2	0.0	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.64	0.51		1.00
Lane Grp Cap(c), veh/h	132	2446	1091	65	2324	1037	130	0	218	224	0	206
V/C Ratio(X)	0.84	0.24	0.04	0.78	0.70	0.05	0.53	0.00	0.20	0.41	0.00	0.35
Avail Cap(c_a), veh/h	205	2446	1091	110	2324	1037	149	0	244	248	0	231
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	73.1	9.0	7.7	76.4	17.7	9.9	73.7	0.0	62.2	65.3	0.0	63.5
Incr Delay (d2), s/veh	16.4	0.0	0.0	17.8	1.8	0.1	3.4	0.0	0.4	1.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	3.3	0.5	2.4	17.7	0.7	2.9	0.0	1.6	3.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.5	9.0	7.7	94.2	19.5	10.0	77.1	0.0	62.6	66.5	0.0	64.5
LnGrp LOS	F	A	A	F	B	B	E	A	E	E	A	E
Approach Vol, veh/h		733			1738			113			165	
Approach Delay, s/veh		21.1			21.4			71.5			65.6	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.4	112.1		27.5	14.0	118.5		27.5				
Change Period (Y+Rc), s	* 8.4	7.5		* 6.7	* 8.1	7.5		* 6.7				
Max Green Setting (Gmax), s	* 19	95.5		* 23	* 9.9	104.5		* 23				
Max Q Clear Time (g_c+I1), s	11.9	49.0		12.2	6.5	11.6		20.8				
Green Ext Time (p_c), s	0.1	16.6		0.5	0.0	3.8		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

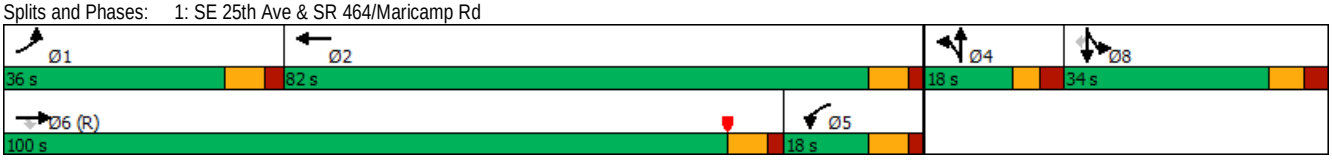
G2: Peak Hour 2025 Future Year Background Traffic Conditions

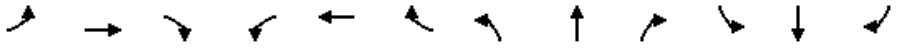
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	1594	42	30	1033	303	22	20	34	415	24	288
Future Volume (vph)	295	1594	42	30	1033	303	22	20	34	415	24	288
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	307	1660	44	31	1076	316	23	21	35	432	25	300
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	307	1660	44	31	1392	0	23	56	0	229	228	300
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases			6									8
Detector Phase	1	6	6	5	2		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	8.0	15.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	12.6	22.1	22.1	15.2	22.1		14.6	14.6		15.8	15.8	15.8
Total Split (s)	36.0	100.0	100.0	18.0	82.0		18.0	18.0		34.0	34.0	34.0
Total Split (%)	21.2%	58.8%	58.8%	10.6%	48.2%		10.6%	10.6%		20.0%	20.0%	20.0%
Yellow Time (s)	5.0	5.1	5.1	5.1	5.1		3.5	3.5		4.5	4.5	4.5
All-Red Time (s)	2.6	2.0	2.0	2.1	2.0		3.1	3.1		3.3	3.3	3.3
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)	7.6	7.1	7.1	7.2	7.1		6.6	6.6		7.8	7.8	7.8
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	Min		None	None		None	None	None
v/c Ratio	0.96	0.80	0.04	0.27	0.90		0.25	0.47		0.87	0.86	0.60
Control Delay	108.5	33.7	0.1	56.2	26.5		83.5	47.8		98.2	96.8	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	108.5	33.7	0.1	56.2	26.5		83.5	47.8		98.2	96.8	11.4
Queue Length 50th (ft)	~367	820	0	33	220		25	23		261	260	0
Queue Length 95th (ft)	#572	922	0	m58	348		58	74		#444	#436	96
Internal Link Dist (ft)		1306			2465			699			1696	
Turn Bay Length (ft)	200		430	190			275			300		
Base Capacity (vph)	320	2095	986	120	1549		117	144		270	272	505
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.96	0.79	0.04	0.26	0.90		0.20	0.39		0.85	0.84	0.59

Intersection Summary

Cycle Length: 170
Actuated Cycle Length: 170
Offset: 151 (89%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SE 25th Ave & SR 464/Maricamp Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	295	1594	42	30	1033	303	22	20	34	415	24	288
Future Volume (veh/h)	295	1594	42	30	1033	303	22	20	34	415	24	288
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	1870	1870	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	307	1660	38	31	1076	294	23	21	8	450	0	134
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	4	4	4
Cap, veh/h	298	1806	805	147	1154	313	76	55	21	498	0	222
Arrive On Green	0.17	0.51	0.51	0.08	0.42	0.42	0.04	0.04	0.04	0.14	0.00	0.14
Sat Flow, veh/h	1781	3554	1585	1767	2741	743	1767	1280	488	3506	0	1560
Grp Volume(v), veh/h	307	1660	38	31	689	681	23	0	29	450	0	134
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1767	1763	1722	1767	0	1768	1753	0	1560
Q Serve(g_s), s	28.4	73.3	2.1	2.8	63.1	64.4	2.1	0.0	2.7	21.5	0.0	13.7
Cycle Q Clear(g_c), s	28.4	73.3	2.1	2.8	63.1	64.4	2.1	0.0	2.7	21.5	0.0	13.7
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	298	1806	805	147	742	725	76	0	76	498	0	222
V/C Ratio(X)	1.03	0.92	0.05	0.21	0.93	0.94	0.30	0.00	0.38	0.90	0.00	0.60
Avail Cap(c_a), veh/h	298	1942	866	147	777	759	119	0	119	540	0	240
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	70.8	38.6	21.1	72.8	46.8	47.1	78.9	0.0	79.1	71.8	0.0	68.5
Incr Delay (d2), s/veh	60.6	9.1	0.1	0.7	16.9	19.0	2.2	0.0	3.1	17.8	0.0	3.7
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(50%),veh/ln	17.8	32.9	0.8	1.3	30.4	30.6	1.0	0.0	1.3	10.9	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.4	47.7	21.2	73.5	63.7	66.1	81.1	0.0	82.3	89.6	0.0	72.2
LnGrp LOS	F	D	C	E	E	E	F	A	F	F	A	E
Approach Vol, veh/h		2005			1401			52			584	
Approach Delay, s/veh		60.0			65.1			81.7			85.6	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	36.0	78.8		13.9	21.3	93.5		31.9				
Change Period (Y+Rc), s	7.6	* 7.2		6.6	7.2	7.1		7.8				
Max Green Setting (Gmax), s	28.4	* 75		11.4	10.8	92.9		26.2				
Max Q Clear Time (g_c+I1), s	30.4	66.4		4.7	4.8	75.3		23.5				
Green Ext Time (p_c), s	0.0	5.2		0.1	0.0	11.1		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		65.7	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	164	1888	87	34	49	1121	63	91	12	2	19	9	139
Future Volume (vph)	164	1888	87	34	49	1121	63	91	12	2	19	9	139
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	171	1967	91	35	51	1168	66	95	13	2	20	9	145
Shared Lane Traffic (%)													
Lane Group Flow (vph)	171	1967	91	0	86	1168	66	95	15	0	0	29	145
Sign Control		Free				Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	1

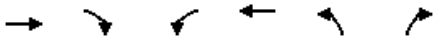
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	164	1888	87	34	49	1121	63	91	12	2	19	9	139
Future Vol, veh/h	164	1888	87	34	49	1121	63	91	12	2	19	9	139
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	Yield
Storage Length	435	-	114	-	440	-	440	114	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	1967	91	35	51	1168	66	95	13	2	20	9	145

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	1234	0	0	1967	2058	0	0	3070	3715	984	2672	3740	584
Stage 1	-	-	-	-	-	-	-	2309	2309	-	1340	1340	-
Stage 2	-	-	-	-	-	-	-	761	1406	-	1332	2400	-
Critical Hdwy	4.16	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.23	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	555	-	-	*378	*429	-	-	~ 1	0	*287	*~ 12	0	455
Stage 1	-	-	-	-	-	-	-	161	161	-	*161	220	-
Stage 2	-	-	-	-	-	-	-	364	204	-	*270	112	-
Platoon blocked, %		-	-	1	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	555	-	-	*405	*405	-	-	~ 1	0	*287	*~ 8	0	455
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 12	~ -10	-	*46	~ -8	-
Stage 1	-	-	-	-	-	-	-	111	111	-	*111	173	-
Stage 2	-	-	-	-	-	-	-	185	161	-	*165	78	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.1		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	12	+	555	-	-	* 405	-	-	+	455
HCM Lane V/C Ratio	7.899	-	0.308	-	-	0.213	-	-	-	0.318
HCM Control Delay (s)	$ 3721.8	-	14.3	-	-	16.3	-	-	-	16.6
HCM Lane LOS	F	-	B	-	-	C	-	-	-	C
HCM 95th %tile Q(veh)	13.1	-	1.3	-	-	0.8	-	-	-	1.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1708	35	0	1279	0	78
Future Volume (vph)	1708	35	0	1279	0	78
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	1798	37	0	1346	0	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1798	37	0	1346	0	82
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑		↱
Traffic Vol, veh/h	1708	35	0	1279	0	78
Future Vol, veh/h	1708	35	0	1279	0	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	114	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	1798	37	0	1346	0	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	899
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	282
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	282
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22.9
HCM LOS			C

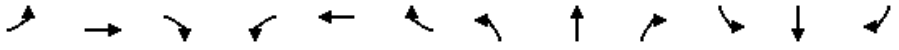
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	282	-	-	-
HCM Lane V/C Ratio	0.291	-	-	-
HCM Control Delay (s)	22.9	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	304	1338	118	119	968	120	67	47	141	225	37	203
Future Volume (vph)	304	1338	118	119	968	120	67	47	141	225	37	203
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	313	1379	122	123	998	124	69	48	145	232	38	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	1379	122	123	998	124	69	193	0	0	270	209
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	14.4	25.5	25.5	14.1	25.5	25.5	24.7	24.7		24.7	24.7	24.7
Total Split (s)	39.0	102.0	102.0	18.0	81.0	81.0	50.0	50.0		50.0	50.0	50.0
Total Split (%)	22.9%	60.0%	60.0%	10.6%	47.6%	47.6%	29.4%	29.4%		29.4%	29.4%	29.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.4	3.4		3.4	3.4	3.4
All-Red Time (s)	2.9	2.0	2.0	2.6	2.0	2.0	3.3	3.3		3.3	3.3	3.3
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)	8.4	7.5	7.5	8.1	7.5	7.5	6.7	6.7			6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
v/c Ratio	0.98	0.84	0.15	1.19	0.82	0.20	0.24	0.31			0.76	0.31
Control Delay	103.6	53.3	16.0	212.6	56.9	4.9	45.6	25.3			65.2	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	103.6	53.3	16.0	212.6	56.9	4.9	45.6	25.3			65.2	6.4
Queue Length 50th (ft)	369	751	41	~165	540	0	55	84			266	0
Queue Length 95th (ft)	m#552	624	m62	#310	560	39	112	172			#486	66
Internal Link Dist (ft)		350			742			366			1145	
Turn Bay Length (ft)	480		290	520		190	115					
Base Capacity (vph)	318	1967	924	103	1530	758	292	619			357	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0			0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0			0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0			0	0
Reduced v/c Ratio	0.98	0.70	0.13	1.19	0.65	0.16	0.24	0.31			0.76	0.31

Intersection Summary

Cycle Length: 170
Actuated Cycle Length: 170
Offset: 132 (78%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: SE 24th St (Signal) & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	304	1338	118	119	968	120	67	47	141	225	37	203
Future Volume (veh/h)	304	1338	118	119	968	120	67	47	141	225	37	203
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	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	313	1379	90	123	998	64	69	48	102	232	38	65
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	321	1975	881	104	1536	685	42	135	286	241	33	404
Arrive On Green	0.18	0.56	0.56	0.06	0.43	0.43	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1281	529	1124	790	129	1585
Grp Volume(v), veh/h	313	1379	90	123	998	64	69	0	150	270	0	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1281	0	1653	920	0	1585
Q Serve(g_s), s	29.7	47.9	4.5	9.9	37.7	4.1	0.0	0.0	12.6	30.7	0.0	5.4
Cycle Q Clear(g_c), s	29.7	47.9	4.5	9.9	37.7	4.1	43.3	0.0	12.6	43.3	0.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	0.86		1.00
Lane Grp Cap(c), veh/h	321	1975	881	104	1536	685	42	0	421	274	0	404
V/C Ratio(X)	0.98	0.70	0.10	1.19	0.65	0.09	1.63	0.00	0.36	0.99	0.00	0.16
Avail Cap(c_a), veh/h	321	1975	881	104	1536	685	42	0	421	274	0	404
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	69.3	27.4	17.8	80.1	38.1	28.5	85.0	0.0	51.9	71.7	0.0	49.2
Incr Delay (d2), s/veh	43.7	1.1	0.1	146.7	2.1	0.3	367.8	0.0	0.5	50.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.1	19.4	1.6	8.7	16.3	1.6	6.2	0.0	5.4	15.8	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.0	28.5	17.8	226.7	40.2	28.8	452.8	0.0	52.4	122.2	0.0	49.4
LnGrp LOS	F	C	B	F	D	C	F	A	D	F	A	D
Approach Vol, veh/h		1782			1185			219			335	
Approach Delay, s/veh		42.8			59.0			178.6			108.1	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	39.0	81.0		50.0	18.0	102.0		50.0
Change Period (Y+Rc), s	* 8.4	7.5		* 6.7	* 8.1	7.5		* 6.7
Max Green Setting (Gmax), s	* 31	73.5		* 43	* 9.9	94.5		* 43
Max Q Clear Time (g_c+I1), s	31.7	39.7		45.3	11.9	49.9		45.3
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	12.6		0.0

Intersection Summary		
HCM 6th Ctrl Delay		62.9
HCM 6th LOS		E

Notes

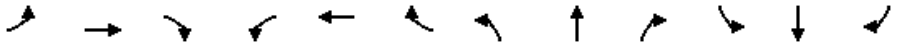
User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	580	57	49	1627	82	68	16	56	47	45	313
Future Volume (vph)	111	580	57	49	1627	82	68	16	56	47	45	313
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	119	624	61	53	1749	88	73	17	60	51	48	337
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	624	61	53	1749	88	73	77	0	0	99	337
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	14.4	25.5	25.5	14.1	25.5	25.5	24.7	24.7		24.7	24.7	24.7
Total Split (s)	27.0	112.0	112.0	18.0	103.0	103.0	30.0	30.0		30.0	30.0	30.0
Total Split (%)	16.9%	70.0%	70.0%	11.3%	64.4%	64.4%	18.8%	18.8%		18.8%	18.8%	18.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.4	3.4		3.4	3.4	3.4
All-Red Time (s)	2.9	2.0	2.0	2.6	2.0	2.0	3.3	3.3		3.3	3.3	3.3
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)	8.4	7.5	7.5	8.1	7.5	7.5	6.7	6.7			6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
v/c Ratio	0.71	0.27	0.06	0.54	0.82	0.09	0.38	0.25			0.42	0.92
Control Delay	91.7	11.9	1.0	93.3	29.3	0.4	67.0	21.4			67.3	66.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	91.7	11.9	1.0	93.3	29.3	0.4	67.0	21.4			67.3	66.6
Queue Length 50th (ft)	122	156	0	55	797	0	67	15			91	204
Queue Length 95th (ft)	193	168	11	105	846	3	127	67			162	#421
Internal Link Dist (ft)		350			742			366			1145	
Turn Bay Length (ft)	480		290	520		190	115					
Base Capacity (vph)	203	2379	1089	109	2163	1021	197	313			238	373
Starvation Cap Reductn	0	0	0	0	0	0	0	0			0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0			0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0			0	0
Reduced v/c Ratio	0.59	0.26	0.06	0.49	0.81	0.09	0.37	0.25			0.42	0.90

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 76 (48%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: SE 24th St (Signal) & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	580	57	49	1627	82	68	16	56	47	45	313
Future Volume (veh/h)	111	580	57	49	1627	82	68	16	56	47	45	313
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	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	624	49	53	1749	59	73	17	30	51	48	81
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	2409	1074	68	2275	1015	133	85	149	126	109	221
Arrive On Green	0.08	0.68	0.68	0.04	0.64	0.64	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1261	607	1071	663	782	1585
Grp Volume(v), veh/h	119	624	49	53	1749	59	73	0	47	99	0	81
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1261	0	1678	1445	0	1585
Q Serve(g_s), s	10.6	10.9	1.6	4.7	55.8	2.2	9.1	0.0	4.0	7.2	0.0	7.4
Cycle Q Clear(g_c), s	10.6	10.9	1.6	4.7	55.8	2.2	20.3	0.0	4.0	11.1	0.0	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.64	0.52		1.00
Lane Grp Cap(c), veh/h	140	2409	1074	68	2275	1015	133	0	234	235	0	221
V/C Ratio(X)	0.85	0.26	0.05	0.78	0.77	0.06	0.55	0.00	0.20	0.42	0.00	0.37
Avail Cap(c_a), veh/h	205	2409	1074	110	2275	1015	141	0	244	245	0	231
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	72.7	9.8	8.3	76.3	20.4	10.8	73.5	0.0	61.0	64.4	0.0	62.5
Incr Delay (d2), s/veh	19.2	0.1	0.0	17.3	2.6	0.1	3.9	0.0	0.4	1.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	3.8	0.5	2.4	21.5	0.8	3.1	0.0	1.7	3.9	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	9.8	8.3	93.6	23.0	10.9	77.4	0.0	61.4	65.6	0.0	63.5
LnGrp LOS	F	A	A	F	C	B	E	A	E	E	A	E
Approach Vol, veh/h		792			1861			120			180	
Approach Delay, s/veh		22.1			24.6			71.1			64.7	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.1	109.9		29.0	14.2	116.8		29.0
Change Period (Y+Rc), s	* 8.4	7.5		* 6.7	* 8.1	7.5		* 6.7
Max Green Setting (Gmax), s	* 19	95.5		* 23	* 9.9	104.5		* 23
Max Q Clear Time (g_c+I1), s	12.6	57.8		13.1	6.7	12.9		22.3
Green Ext Time (p_c), s	0.1	17.4		0.5	0.0	4.2		0.0

Intersection Summary		
HCM 6th Ctrl Delay		28.2
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

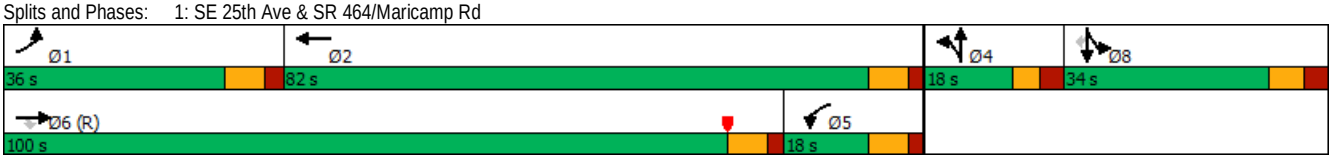
G3: Peak Hour 2025 Future Year Buildout Traffic Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	1646	42	30	1071	325	22	20	34	444	24	288
Future Volume (vph)	295	1646	42	30	1071	325	22	20	34	444	24	288
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	307	1715	44	31	1116	339	23	21	35	463	25	300
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	307	1715	44	31	1455	0	23	56	0	245	243	300
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases			6									8
Detector Phase	1	6	6	5	2		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	8.0	15.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	12.6	22.1	22.1	15.2	22.1		14.6	14.6		15.8	15.8	15.8
Total Split (s)	36.0	100.0	100.0	18.0	82.0		18.0	18.0		34.0	34.0	34.0
Total Split (%)	21.2%	58.8%	58.8%	10.6%	48.2%		10.6%	10.6%		20.0%	20.0%	20.0%
Yellow Time (s)	5.0	5.1	5.1	5.1	5.1		3.5	3.5		4.5	4.5	4.5
All-Red Time (s)	2.6	2.0	2.0	2.1	2.0		3.1	3.1		3.3	3.3	3.3
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)	7.6	7.1	7.1	7.2	7.1		6.6	6.6		7.8	7.8	7.8
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	C-Min	C-Min	None	Min		None	None		None	None	None
v/c Ratio	0.97	0.83	0.05	0.29	0.95		0.25	0.47		0.89	0.88	0.59
Control Delay	110.4	35.1	0.1	58.1	32.8		83.5	47.8		101.4	99.2	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	110.4	35.1	0.1	58.1	32.8		83.5	47.8		101.4	99.2	11.2
Queue Length 50th (ft)	~367	864	0	33	254		25	23		283	280	0
Queue Length 95th (ft)	#572	979	0	m55	#977		58	74		#485	#477	96
Internal Link Dist (ft)		1306			2465			699			1696	
Turn Bay Length (ft)	200		430	190			275			300		
Base Capacity (vph)	317	2077	979	114	1530		117	144		274	275	508
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.97	0.83	0.04	0.27	0.95		0.20	0.39		0.89	0.88	0.59

Intersection Summary

Cycle Length: 170
Actuated Cycle Length: 170
Offset: 151 (89%), Referenced to phase 6:EBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: SE 25th Ave & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	295	1646	42	30	1071	325	22	20	34	444	24	288
Future Volume (veh/h)	295	1646	42	30	1071	325	22	20	34	444	24	288
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	1870	1870	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	307	1715	38	31	1116	315	23	21	8	480	0	134
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	4	4	4
Cap, veh/h	298	1845	823	147	1177	329	76	55	21	522	0	232
Arrive On Green	0.17	0.52	0.52	0.08	0.43	0.43	0.04	0.04	0.04	0.15	0.00	0.15
Sat Flow, veh/h	1781	3554	1585	1767	2721	760	1767	1280	488	3506	0	1560
Grp Volume(v), veh/h	307	1715	38	31	719	712	23	0	29	480	0	134
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1767	1763	1719	1767	0	1768	1753	0	1560
Q Serve(g_s), s	28.4	76.2	2.0	2.8	66.4	68.3	2.1	0.0	2.7	23.0	0.0	13.6
Cycle Q Clear(g_c), s	28.4	76.2	2.0	2.8	66.4	68.3	2.1	0.0	2.7	23.0	0.0	13.6
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	298	1845	823	147	763	744	76	0	76	522	0	232
V/C Ratio(X)	1.03	0.93	0.05	0.21	0.94	0.96	0.30	0.00	0.38	0.92	0.00	0.58
Avail Cap(c_a), veh/h	298	1942	866	147	777	757	119	0	119	540	0	240
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	70.8	38.0	20.1	72.7	46.2	46.7	78.9	0.0	79.1	71.3	0.0	67.4
Incr Delay (d2), s/veh	60.6	9.8	0.1	0.7	19.5	22.7	2.2	0.0	3.1	20.7	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	34.2	0.8	1.3	32.3	33.0	1.0	0.0	1.3	11.9	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.4	47.8	20.2	73.4	65.7	69.5	81.1	0.0	82.3	92.1	0.0	70.5
LnGrp LOS	F	D	C	E	E	E	F	A	F	F	A	E
Approach Vol, veh/h		2060			1462			52			614	
Approach Delay, s/veh		59.7			67.7			81.7			87.4	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	36.0	80.7		13.9	21.4	95.4		33.1				
Change Period (Y+Rc), s	7.6	* 7.2		6.6	7.2	7.1		7.8				
Max Green Setting (Gmax), s	28.4	* 75		11.4	10.8	92.9		26.2				
Max Q Clear Time (g_c+I1), s	30.4	70.3		4.7	4.8	78.2		25.0				
Green Ext Time (p_c), s	0.0	3.3		0.1	0.0	10.0		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		66.8
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

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

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (vph)	164	1943	87	77	49	1152	67	91	12	2	26	9	139
Future Volume (vph)	164	1943	87	77	49	1152	67	91	12	2	26	9	139
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	171	2024	91	80	51	1200	70	95	13	2	27	9	145
Shared Lane Traffic (%)													
Lane Group Flow (vph)	171	2024	91	0	131	1200	70	95	15	0	0	36	145
Sign Control		Free				Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	164	1943	87	77	49	1152	67	91	12	2	26	9	139
Future Vol, veh/h	164	1943	87	77	49	1152	67	91	12	2	26	9	139
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	Yield
Storage Length	435	-	114	-	440	-	440	114	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	2024	91	80	51	1200	70	95	13	2	27	9	145

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	1270	0	0	2024	2115	0	0	3233	3898	1012	2823	3919	600
Stage 1	-	-	-	-	-	-	-	2366	2366	-	1462	1462	-
Stage 2	-	-	-	-	-	-	-	867	1532	-	1361	2457	-
Critical Hdwy	4.16	-	-	6.44	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.23	-	-	2.52	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	537	-	-	*354	*402	-	-	~ 0	0	*268	*~ 5	0	444
Stage 1	-	-	-	-	-	-	-	140	142	-	*135	192	-
Stage 2	-	-	-	-	-	-	-	314	177	-	*253	97	-
Platoon blocked, %		-	-	1	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	537	-	-	*369	*369	-	-	0	0	*268	*~ 3	0	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ -78	~ -126	-	*~ 14	~ -125	-
Stage 1	-	-	-	-	-	-	-	95	97	-	*92	124	-
Stage 2	-	-	-	-	-	-	-	126	114	-	*149	66	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.9		173.8
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	+	+	537	-	-	* 369	-	-	20	444
HCM Lane V/C Ratio	-	-	0.318	-	-	0.356	-	-	1.823	0.326
HCM Control Delay (s)	-	-	14.8	-	-	20	-	-	$ 796.7	17
HCM Lane LOS	-	-	B	-	-	C	-	-	F	C
HCM 95th %tile Q(veh)	-	-	1.4	-	-	1.6	-	-	4.9	1.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1708	140	0	1357	0	139
Future Volume (vph)	1708	140	0	1357	0	139
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	1798	147	0	1428	0	146
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1798	147	0	1428	0	146
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑		↱
Traffic Vol, veh/h	1708	140	0	1357	0	139
Future Vol, veh/h	1708	140	0	1357	0	139
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	114	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	1798	147	0	1428	0	146

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	899
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	282
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	282
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	30.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	282	-	-	-
HCM Lane V/C Ratio	0.519	-	-	-
HCM Control Delay (s)	30.8	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	2.8	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	1371	118	119	1010	120	67	47	141	225	37	219
Future Volume (vph)	349	1371	118	119	1010	120	67	47	141	225	37	219
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	360	1413	122	123	1041	124	69	48	145	232	38	226
Shared Lane Traffic (%)												
Lane Group Flow (vph)	360	1413	122	123	1041	124	69	193	0	0	270	226
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	14.4	25.5	25.5	14.1	25.5	25.5	24.7	24.7		24.7	24.7	24.7
Total Split (s)	39.0	102.0	102.0	18.0	81.0	81.0	50.0	50.0		50.0	50.0	50.0
Total Split (%)	22.9%	60.0%	60.0%	10.6%	47.6%	47.6%	29.4%	29.4%		29.4%	29.4%	29.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.4	3.4		3.4	3.4	3.4
All-Red Time (s)	2.9	2.0	2.0	2.6	2.0	2.0	3.3	3.3		3.3	3.3	3.3
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)	8.4	7.5	7.5	8.1	7.5	7.5	6.7	6.7			6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
v/c Ratio	1.13	0.84	0.15	1.19	0.84	0.19	0.25	0.32			0.78	0.33
Control Delay	141.4	52.4	14.9	212.6	57.0	4.8	46.6	25.8			68.7	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	141.4	52.4	14.9	212.6	57.0	4.8	46.6	25.8			68.7	6.3
Queue Length 50th (ft)	~472	717	38	~165	559	0	56	86			273	0
Queue Length 95th (ft)	m#646	651	m57	#310	595	39	112	172			#487	69
Internal Link Dist (ft)		350			742			366			1145	
Turn Bay Length (ft)	480		290	520		190	115					
Base Capacity (vph)	318	1967	923	103	1530	758	281	606			345	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0			0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0			0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0			0	0
Reduced v/c Ratio	1.13	0.72	0.13	1.19	0.68	0.16	0.25	0.32			0.78	0.33

Intersection Summary

Cycle Length: 170
Actuated Cycle Length: 170
Offset: 132 (78%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: SE 24th St (Signal) & SR 464/Maricamp Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	1371	118	119	1010	120	67	47	141	225	37	219
Future Volume (veh/h)	349	1371	118	119	1010	120	67	47	141	225	37	219
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	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	360	1413	90	123	1041	64	69	48	102	232	38	69
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	321	1975	881	104	1536	685	42	135	286	241	33	404
Arrive On Green	0.18	0.56	0.56	0.06	0.43	0.43	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1277	529	1124	790	129	1585
Grp Volume(v), veh/h	360	1413	90	123	1041	64	69	0	150	270	0	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1277	0	1653	920	0	1585
Q Serve(g_s), s	30.6	49.8	4.5	9.9	40.0	4.1	0.0	0.0	12.6	30.7	0.0	5.8
Cycle Q Clear(g_c), s	30.6	49.8	4.5	9.9	40.0	4.1	43.3	0.0	12.6	43.3	0.0	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	0.86		1.00
Lane Grp Cap(c), veh/h	321	1975	881	104	1536	685	42	0	421	274	0	404
V/C Ratio(X)	1.12	0.72	0.10	1.19	0.68	0.09	1.63	0.00	0.36	0.99	0.00	0.17
Avail Cap(c_a), veh/h	321	1975	881	104	1536	685	42	0	421	274	0	404
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	69.7	27.8	17.8	80.1	38.7	28.5	85.0	0.0	51.9	71.7	0.0	49.4
Incr Delay (d2), s/veh	87.6	1.3	0.1	146.7	2.4	0.3	367.8	0.0	0.5	50.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.4	20.2	1.6	8.7	17.3	1.6	6.2	0.0	5.4	15.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.3	29.1	17.8	226.7	41.2	28.8	452.8	0.0	52.4	122.2	0.0	49.6
LnGrp LOS	F	C	B	F	D	C	F	A	D	F	A	D
Approach Vol, veh/h		1863			1228			219			339	
Approach Delay, s/veh		53.3			59.1			178.6			107.4	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	39.0	81.0		50.0	18.0	102.0		50.0
Change Period (Y+Rc), s	* 8.4	7.5		* 6.7	* 8.1	7.5		* 6.7
Max Green Setting (Gmax), s	* 31	73.5		* 43	* 9.9	94.5		* 43
Max Q Clear Time (g_c+I1), s	32.6	42.0		45.3	11.9	51.8		45.3
Green Ext Time (p_c), s	0.0	7.6		0.0	0.0	13.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	67.8
HCM 6th LOS	E

Notes

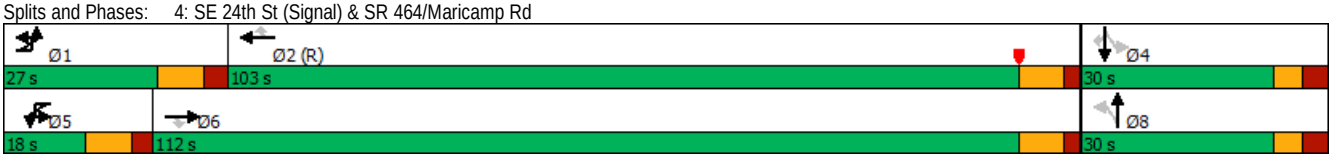
User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	611	57	49	1635	82	68	16	56	47	45	318
Future Volume (vph)	191	611	57	49	1635	82	68	16	56	47	45	318
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	205	657	61	53	1758	88	73	17	60	51	48	342
Shared Lane Traffic (%)												
Lane Group Flow (vph)	205	657	61	53	1758	88	73	77	0	0	99	342
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	14.4	25.5	25.5	14.1	25.5	25.5	24.7	24.7		24.7	24.7	24.7
Total Split (s)	27.0	112.0	112.0	18.0	103.0	103.0	30.0	30.0		30.0	30.0	30.0
Total Split (%)	16.9%	70.0%	70.0%	11.3%	64.4%	64.4%	18.8%	18.8%		18.8%	18.8%	18.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.4	3.4		3.4	3.4	3.4
All-Red Time (s)	2.9	2.0	2.0	2.6	2.0	2.0	3.3	3.3		3.3	3.3	3.3
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)	8.4	7.5	7.5	8.1	7.5	7.5	6.7	6.7			6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
v/c Ratio	0.92	0.28	0.06	0.54	0.86	0.09	0.39	0.26			0.44	0.94
Control Delay	110.3	11.7	1.0	93.3	33.4	0.4	68.3	21.8			68.6	72.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	110.3	11.7	1.0	93.3	33.4	0.4	68.3	21.8			68.6	72.9
Queue Length 50th (ft)	~220	146	0	55	749	0	70	16			96	222
Queue Length 95th (ft)	#397	178	11	105	855	3	127	67			162	#432
Internal Link Dist (ft)		350			742			366			1145	
Turn Bay Length (ft)	480		290	520		190	115					
Base Capacity (vph)	223	2370	1085	109	2112	1000	188	302			227	363
Starvation Cap Reductn	0	0	0	0	0	0	0	0			0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0			0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0			0	0
Reduced v/c Ratio	0.92	0.28	0.06	0.49	0.83	0.09	0.39	0.25			0.44	0.94

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 76 (48%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: SE 24th St (Signal) & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	191	611	57	49	1635	82	68	16	56	47	45	318
Future Volume (veh/h)	191	611	57	49	1635	82	68	16	56	47	45	318
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	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	657	49	53	1758	59	73	17	30	51	48	80
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	2409	1074	68	2144	956	133	84	149	126	109	221
Arrive On Green	0.12	0.68	0.68	0.04	0.60	0.60	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	1262	607	1071	663	782	1585
Grp Volume(v), veh/h	205	657	49	53	1758	59	73	0	47	99	0	80
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1262	0	1678	1445	0	1585
Q Serve(g_s), s	18.6	11.6	1.6	4.7	62.1	2.5	9.1	0.0	4.0	7.2	0.0	7.3
Cycle Q Clear(g_c), s	18.6	11.6	1.6	4.7	62.1	2.5	20.3	0.0	4.0	11.1	0.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.64	0.52		1.00
Lane Grp Cap(c), veh/h	205	2409	1074	68	2144	956	133	0	234	235	0	221
V/C Ratio(X)	1.00	0.27	0.05	0.78	0.82	0.06	0.55	0.00	0.20	0.42	0.00	0.36
Avail Cap(c_a), veh/h	205	2409	1074	110	2144	956	141	0	244	245	0	231
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	70.7	9.9	8.3	76.3	24.9	13.1	73.5	0.0	61.0	64.4	0.0	62.4
Incr Delay (d2), s/veh	62.1	0.1	0.0	17.3	3.7	0.1	3.9	0.0	0.4	1.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	4.1	0.5	2.4	24.8	0.9	3.1	0.0	1.7	3.9	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.8	9.9	8.3	93.6	28.6	13.2	77.4	0.0	61.4	65.6	0.0	63.4
LnGrp LOS	F	A	A	F	C	B	E	A	E	E	A	E
Approach Vol, veh/h		911			1870			120			179	
Approach Delay, s/veh		37.5			29.9			71.1			64.6	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.0	104.0		29.0	14.2	116.8		29.0
Change Period (Y+Rc), s	* 8.4	7.5		* 6.7	* 8.1	7.5		* 6.7
Max Green Setting (Gmax), s	* 19	95.5		* 23	* 9.9	104.5		* 23
Max Q Clear Time (g_c+I1), s	20.6	64.1		13.1	6.7	13.6		22.3
Green Ext Time (p_c), s	0.0	16.1		0.5	0.0	4.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

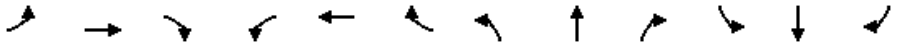
G4: PM Peak Hour 2025 Future Year Buildout Traffic Conditions w/ Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	1371	118	119	1010	120	67	47	141	225	37	219
Future Volume (vph)	349	1371	118	119	1010	120	67	47	141	225	37	219
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	360	1413	122	123	1041	124	69	48	145	232	38	226
Shared Lane Traffic (%)												
Lane Group Flow (vph)	360	1413	122	123	1041	124	69	193	0	0	270	226
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	12.0	12.0	6.0	12.0	12.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	14.4	25.5	25.5	14.1	25.5	25.5	24.7	24.7		24.7	24.7	24.7
Total Split (s)	52.0	102.0	102.0	18.0	68.0	68.0	50.0	50.0		50.0	50.0	50.0
Total Split (%)	30.6%	60.0%	60.0%	10.6%	40.0%	40.0%	29.4%	29.4%		29.4%	29.4%	29.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.4	3.4		3.4	3.4	3.4
All-Red Time (s)	2.9	2.0	2.0	2.6	2.0	2.0	3.3	3.3		3.3	3.3	3.3
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)	8.4	7.5	7.5	8.1	7.5	7.5	6.7	6.7			6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	Min	None	C-Min	C-Min	None	None		None	None	None
v/c Ratio	0.90	0.77	0.14	1.19	0.85	0.20	0.31	0.36			0.94	0.36
Control Delay	87.7	40.7	12.2	212.6	58.7	5.5	54.1	29.3			96.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	87.7	40.7	12.2	212.6	58.7	5.5	54.1	29.3			96.6	7.2
Queue Length 50th (ft)	419	604	33	~165	563	0	61	94			300	0
Queue Length 95th (ft)	m513	603	m54	#310	650	43	118	178			#528	72
Internal Link Dist (ft)		350			742			366			1145	
Turn Bay Length (ft)	480		290	520		190	115					
Base Capacity (vph)	453	1967	923	103	1259	647	226	538			288	622
Starvation Cap Reductn	0	0	0	0	0	0	0	0			0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0			0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0			0	0
Reduced v/c Ratio	0.79	0.72	0.13	1.19	0.83	0.19	0.31	0.36			0.94	0.36

Intersection Summary

Cycle Length: 170
Actuated Cycle Length: 170
Offset: 132 (78%), Referenced to phase 2:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: SE 24th St (Signal) & SR 464/Maricamp Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	1371	118	119	1010	120	67	47	141	225	37	219
Future Volume (veh/h)	349	1371	118	119	1010	120	67	47	141	225	37	219
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	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	360	1413	90	123	1041	64	69	48	102	232	38	69
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	382	1975	881	104	1414	630	42	135	286	241	33	404
Arrive On Green	0.21	0.56	0.56	0.06	0.40	0.40	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1277	529	1124	790	129	1585
Grp Volume(v), veh/h	360	1413	90	123	1041	64	69	0	150	270	0	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1277	0	1653	920	0	1585
Q Serve(g_s), s	33.8	49.8	4.5	9.9	42.4	4.3	0.0	0.0	12.6	30.7	0.0	5.8
Cycle Q Clear(g_c), s	33.8	49.8	4.5	9.9	42.4	4.3	43.3	0.0	12.6	43.3	0.0	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	0.86		1.00
Lane Grp Cap(c), veh/h	382	1975	881	104	1414	630	42	0	421	274	0	404
V/C Ratio(X)	0.94	0.72	0.10	1.19	0.74	0.10	1.63	0.00	0.36	0.99	0.00	0.17
Avail Cap(c_a), veh/h	457	1975	881	104	1414	630	42	0	421	274	0	404
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	65.7	27.8	17.8	80.1	43.6	32.1	85.0	0.0	51.9	71.7	0.0	49.4
Incr Delay (d2), s/veh	25.7	1.3	0.1	146.7	3.5	0.3	367.8	0.0	0.5	50.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	20.2	1.6	8.7	18.7	1.7	6.2	0.0	5.4	15.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.4	29.1	17.8	226.7	47.1	32.4	452.8	0.0	52.4	122.2	0.0	49.6
LnGrp LOS	F	C	B	F	D	C	F	A	D	F	A	D
Approach Vol, veh/h		1863			1228			219			339	
Approach Delay, s/veh		40.6			64.3			178.6			107.4	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	44.9	75.1		50.0	18.0	102.0		50.0				
Change Period (Y+Rc), s	* 8.4	7.5		* 6.7	* 8.1	7.5		* 6.7				
Max Green Setting (Gmax), s	* 44	60.5		* 43	* 9.9	94.5		* 43				
Max Q Clear Time (g_c+I1), s	35.8	44.4		45.3	11.9	51.8		45.3				
Green Ext Time (p_c), s	0.7	6.0		0.0	0.0	13.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			63.1									
HCM 6th LOS			E									

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX H: APPROVED TRAFFIC ANALYSIS METHODOLOGY CORRESPONDENCE

METHODOLOGY ACCEPTANCE

Project: Albright Property

Project #: TIA21-44338

Applicant: Kimley-Horn and Associates Inc 438-3000
E-Mail: Amber.Gartner@kimley-horn.com

Meeting date: N/A

Approved:

City Planning	x	County Traffic	x
TPO	x	County Planning	x
City Traffic	x		
Other			

Special Conditions:

On July 12, 2021, the methodology for assessing the impact of subject project was approved by City staff.

Approved: _____

Noel Cooper, PE, Transportation Engineer
City Engineer's Office Department

Kimley»Horn

July 9, 2021

Ms. Karen Cupp
City of Ocala Growth Management Department
201 SE 3rd Street, 2nd Floor
Ocala, Florida 34471

RE: ***Albright Property TIA Methodology – City of Ocala, Florida***
Kimley-Horn Project No. 142000001

Dear Ms. Cupp:

Kimley-Horn and Associates, Inc. is pleased to submit this methodology for the forthcoming traffic impact analysis (TIA) for proposed development on a +/- 24-acre parcel owned by Clay Albright. The site is located on SE 24th Street, southwest of SR 464/Maricamp Road. Since the project is projected to generate more than 100 peak hour trips a "Traffic Impact Analysis" is required per the Marion County/Ocala Traffic Impact Analysis Guidelines.

A comprehensive plan amendment and rezoning application for the property are under review by the City of Ocala. The proposed zoning is R-3, and will allow up to 320 multi-family residential dwelling units. Access to the site will be provided via SE 24th Street, which connects to SR 464/Maricamp Road at an existing right-in/right-out intersection. The estimated buildout year for the project is 2025.

Below is our proposed methodology for review and approval.

TRIP GENERATION

Trip generation for the proposed development program was determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition using Land Use Code 220 (Multi-Family Residential (Low-Rise)). The site is anticipated to generate 2,378 Daily, 144 AM peak hour (33 in/111 out) and 166 PM peak hour (105 in/61 out) net new external trips. **Table 1** summarizes the trip generation calculations for the site.

Table 1 - Buildout Trip Generation

Table 1: Buildout Trip Generation

Land Use	Intensity	Daily Trips	AM Peak Hour of Adjacent Street			PM Peak Hour of Adjacent Street		
			Total	In	Out	Total	In	Out
Proposed Development Buildout								
Multi-Family Residential (Low-Rise)	320 DU	2,378	144	33	111	166	105	61

Trip Generation was calculated using the data from ITE's Trip Generation Manual, 10th Edition.

Multi-Family Residential (Low-Rise) [ITE 220]

Daily	T = 7.56(X) - 40.86; (X is number of dwelling units)
AM Peak Hour of Adjacent Street	Ln(T) = 0.95Ln(X) - 0.51; (X is number of dwelling units); (23% in, 77% out)
PM Peak Hour of Adjacent Street	Ln(T) = 0.89Ln(X) - 0.02; (X is number of dwelling units); (63% in, 37% out)

K:\OCA_Civil\142000002-Albright Property TIA\calcs\xls\[AP, calcs, PM w vested.xlsx]TripGen *6/15/21*

PROJECT TRIP DISTRIBUTION

The project's trip distribution was determined based on the Central Florida Regional Planning Model (CFRPM) version 6.1, which is based on the Florida Standard Urban Transportation Planning Model (FSUTMS). **Figure 1** illustrates the proposed trip distribution. The CFRPM output is also provided as an attachment.

STUDY AREA

The proposed study area was determined based on the City of Ocala TIA Guidelines, which state that road segments experiencing greater than a 3% impact to their peak hour directional service volume are significantly impacted by the project. Impacted roadway segments plus one segment beyond are to be included in the study area per City guidelines. The trip generation multiplied by the maximum trip distribution along the roadway segments was utilized for the impact calculations.

Only the adjacent roadway segment of SR 464/Maricamp Road is significantly impacted by project traffic. Due to the right-in/right-out access on SE 24th Street, 100% of the project traffic will travel along SR 464/Maricamp Road between SE 30th Avenue and SE 24th Street.

The following roadway segments will be included within the study area as shown in the attached **Table 2**:

- SR 464/Maricamp Road from SE 11th Avenue to SE 25th Avenue (one link beyond, not significant)
- SR 464/Maricamp Road from SE 25th Avenue to SE 24th Street (significantly impacted)
- SR 464/Maricamp Road from SE 24th Street to SE 36th Avenue (one link beyond, not significant)

The following intersections within the significantly impacted roadway segment will be studied within the traffic impact analysis for the PM peak hour:

- SR 464/Maricamp Road and SE 25th Avenue (signalized)
- SR 464/Maricamp Road and SE 30th Avenue (unsignalized)
- SR 464/Maricamp Road and SE 24th Street (signalized)
- SR 464/Maricamp Road and SE 24th Street (right-in/right-out)

The analysis will be performed for PM peak hour existing traffic conditions, PM peak hour future background (without project) traffic conditions, and PM peak hour future buildout (with project) traffic conditions.

Additionally, SR 464/Maricamp Road at SE 24th Street (signalized) will be evaluated for the AM Peak Hour existing, future background (without project), and future buildout (with project) traffic conditions.

The intersection of SR 464/Maricamp Road at SE 24th Street will be evaluated to assess the eastbound/southbound u-turn volume development, review of conflicts between u-turn and right turn movements, and the existing eastbound left turn lane storage length. The intersection of SR 464/Maricamp Road at SE 30th Avenue will be evaluated to assess if the existing westbound left-turn lane has adequate storage length for the anticipated u-turns from the development.

A multimodal analysis will be performed to evaluate transit, pedestrian, and bicycle facilities within the study area and their connectivity to the development.

The study area is illustrated in the attached **Figure 1.**

SITE ACCESS

Access to the site will be provided via SE 24th Street, which connects to SR 464/Maricamp Road at an existing right-in/right-out intersection. An evaluation will be performed to identify improvements necessary at the intersection to allow for acceptable traffic operations during the PM peak hour.

FUTURE TRAFFIC VOLUME DEVELOPMENT

The future background traffic volumes for the analysis will be calculated by applying a background growth rate to existing observed traffic volumes and adding in traffic from the ARC Maricamp Commercial project as background traffic.

Background growth rates within the study area were obtained from the Ocala Marion Transportation Planning Organization (TPO) 2020 Traffic Counts Manual and the 2021 Traffic Counts Manual, and are summarized in **Table 2**.The historic growth rates published in the 2021 Traffic Counts Manual are negative for all roadway segments within the study area.

A 1.5% annual background growth rate is proposed for the analysis based on the historic growth rates in the area. Excerpts from the Ocala Marion TPO 2020 and 2021 Traffic Counts Manual are attached to this letter.

Please review the enclosed information and provide feedback and/or approval. Should you have any questions, please do not hesitate to contact me directly.

Sincerely,

KIMLEY-HORN

Amber L. Gartner, PE

Attachments: Figure 1 – Site Location, Study Area, and Trip Distribution
Figure 2 – Project Trip Distribution, AM and PM Peak Hour Project Volumes
Table 2 – Study Area Determination
CFRPM Model Output
Historical Growth Rate Information

Cc: Chris Roper

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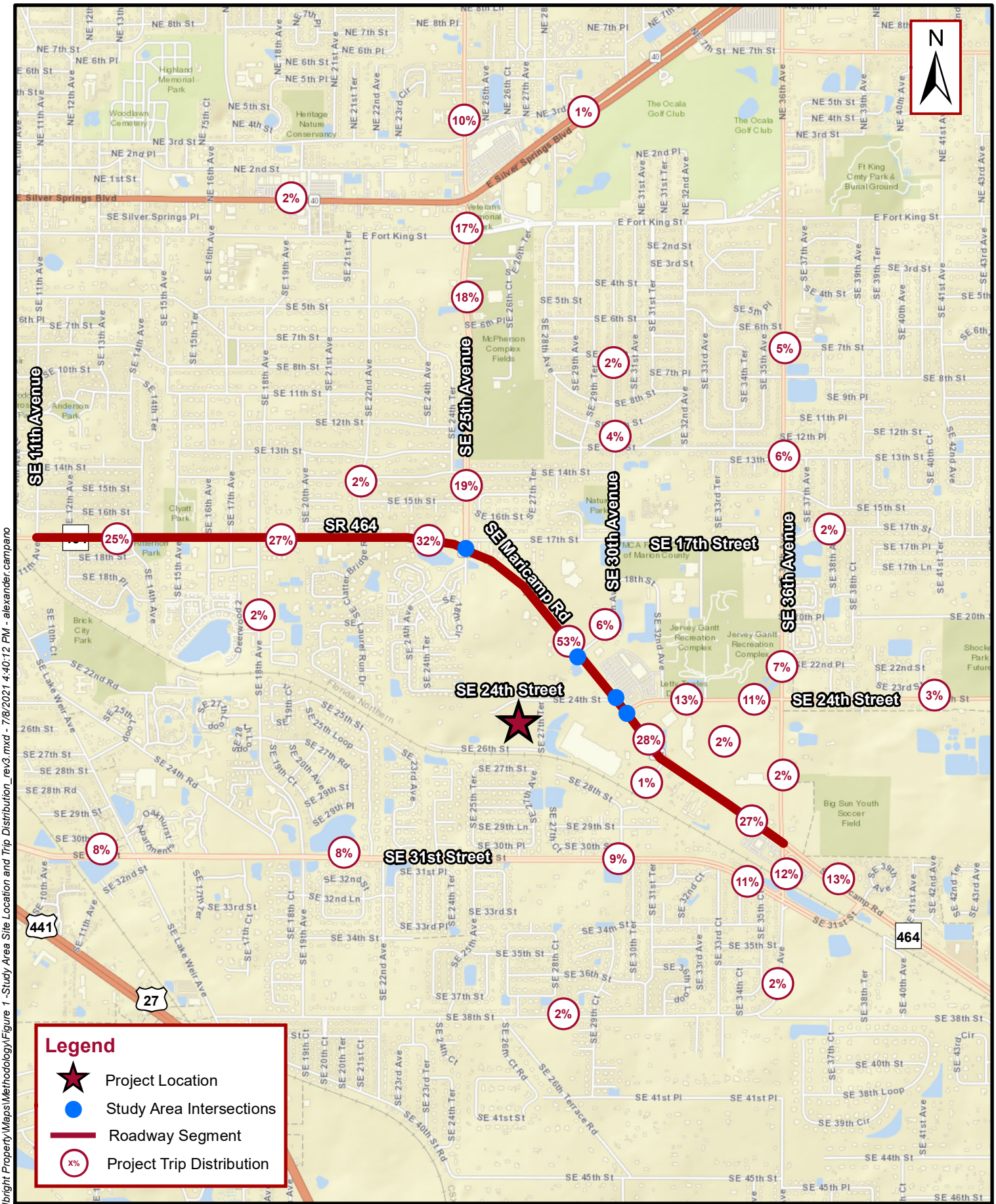
ATTACHMENTS

FIGURE 1 – SITE LOCATION, STUDY AREA, AND TRIP DISTRIBUTION



Kimley»Horn

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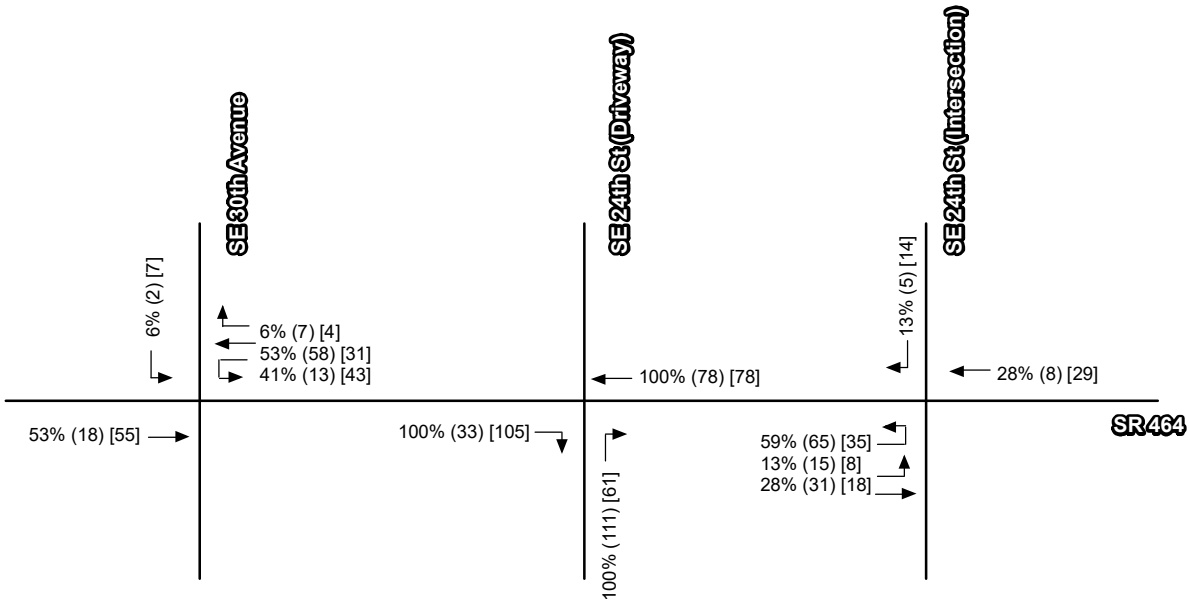
STUDY AREA, SITE LOCATION, AND TRIP DISTRIBUTION

ALBRIGHT PROPERTY
CITY OF OCALA, FLORIDA

Not To Scale	Project No.: 142000001	July 2021	Figure 1

K:\OCA_GIS\142000002-Albright Property\Maps\Methodology\Figure 1 -Study Area Site Location and Trip Distribution_rev3.mxd - 7/8/2021 4:40:12 PM - alexander.campano

FIGURE 2 – PROJECT TRIP DISTRIBUTION, AM AND PM PEAK HOUR PROJECT VOLUMES



Legend

← XX% (AM) [PM]

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PROJECT TRIP DISTRIBUTION, AM AND PM PEAK HOUR PROJECT TRIPS

ALBRIGHT PROPERTY
CITY OF OCALA, FLORIDA

Not To Scale	Project No.: 142000002	July 2021	Figure 2

K:\OCA_GIS\142000002-Albright Property\Maps\Methodology\Figure 2 -% Dist, AM Proj Vol, PM Proj Vol_rev1.mxd - 7/8/2021 4:37:50 PM - alexander.campano

TABLE 2 – STUDY AREA DETERMINATION

Kimley»Horn

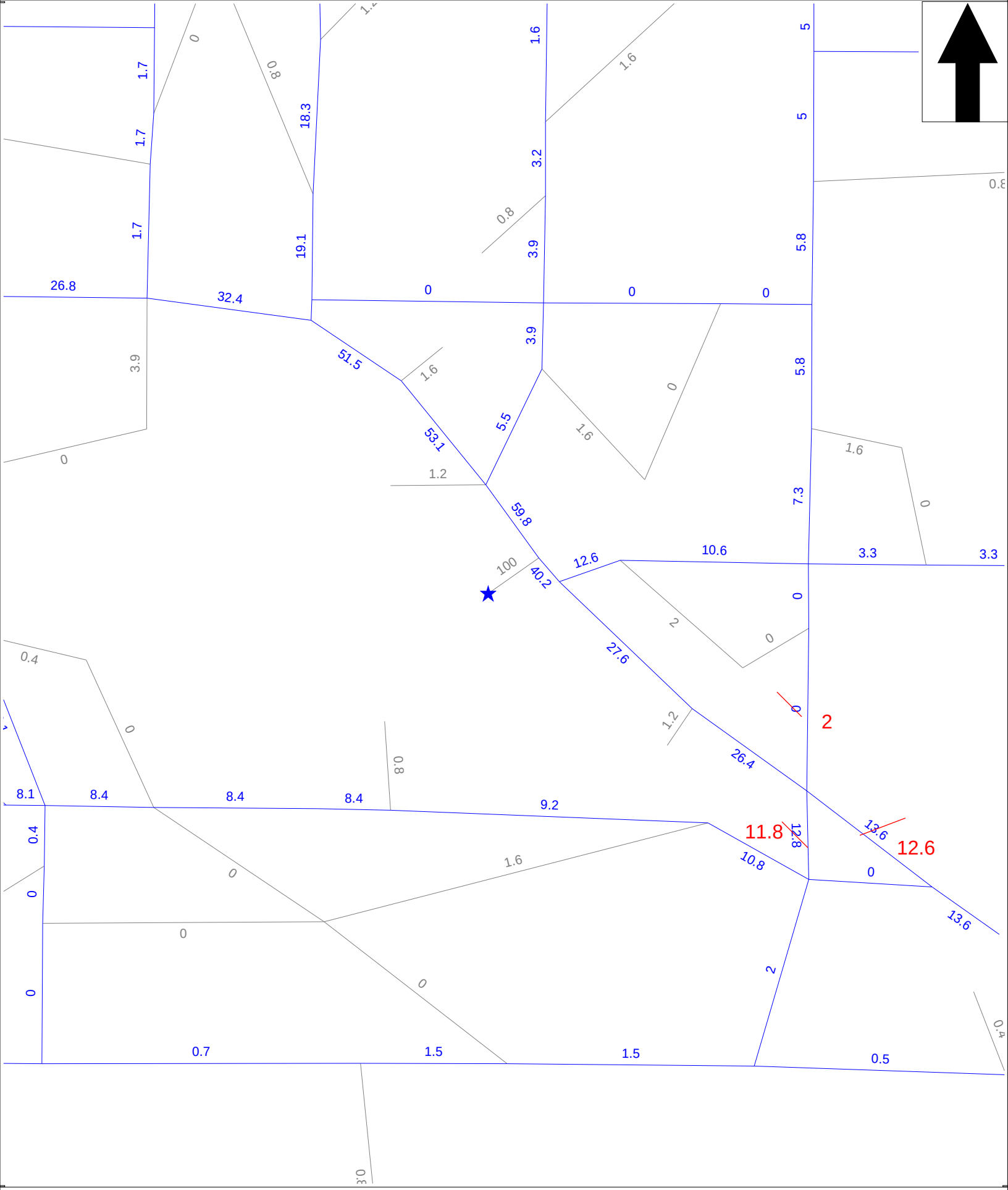
Table 2: Study Area Determination

Roadway From	To	Roadway Attributes [1]				Existing Daily Traffic Conditions			Ocala/Marion TPO Growth Rates (2020)	Ocala/Marion TPO Growth Rates (2021)	Peak Hour Directional Service Capacity [2]	PM Peak Hour Project Traffic				Significant Impact? [5]	Include In Study Area? [6]
		FDOT Classification	Area Type	Adopted LOS	Number of Lanes	Service Capacity [2]	2019 AADT	2019 V/C				% Assign [3]	NB / EB	SB / WB	Max % Impact [4]		
SR 464																	
SE 11th Avenue	SE 25th Avenue	Minor Arterial	U	E	4D	41,790	29,500	0.71	-3.3%	-2.5%	2,100	32%	34	20	1.62%	No	Yes
SE 25th Avenue	SE 24th Street	Minor Arterial	U	E	4D	41,790	35,500	0.85	1.5%	-1.4%	2,100	100%	105	61	5.00%	Yes	Yes
SE 24th Street	SE 36th Avenue	Minor Arterial	U	E	4D	41,790	35,500	0.85	1.5%	-1.4%	2,100	28%	17	29	1.38%	No	Yes
SE 36th Avenue	SE 31st Street	Minor Arterial	U	E	4D	41,790	31,110	0.74	0.7%	-1.6%	2,100	13%	8	14	0.67%	No	No
SE 25th Avenue																	
Fort King Street	SR 464	Minor Arterial	U	E	4D	37,810	18,400	0.49	4.9%	-3.6%	1,900	19%	12	20	1.05%	No	No
SE 30th Avenue																	
Ft King Street	SR 464	Local	U	E	2U	14,820	4,200	0.28	--	--	760	6%	3	6	0.79%	No	No
SE 24th Street																	
SR 464	SE 36th Avenue	Minor Collector	U	E	2U	14,820	9,600	0.65	12.3%	--	760	13%	8	13	1.71%	No	No
SE 36th Avenue																	
Fort King Street	SE 17th St	Minor Arterial	U	E	4D	37,810	16,600	0.44	-1.9%	-3.2%	1,900	6%	4	6	0.32%	No	No
SE 17th St	SR 464	Minor Arterial	U	E	4D	37,810	15,500	0.41	-3.9%	-3.3%	1,900	7%	4	8	0.42%	No	No

Notes:

1. The roadway attributes were obtained from the latest FDOT Urban Area Boundary & Federal Functional Classification Map for Marion County, City of Ocala Comprehensive Plan Transportation Element, and supplemented with the 2020 FDOT Quality/LOS Handbook.
2. Roadway Service Capacities were based on the 2020 FDOT Quality/LOS Handbook.
3. Percent project traffic was calculated as the maximum across the segment using CFRPM v6.1.
4. Percent impact was calculated as the average PM peak hour project traffic across the segment divided by the directional service volume.
5. In accordance with City of Ocala TIA guidelines, the minimum threshold for significance is at least 3% impact.
6. In accordance with City of Ocala TIA guidelines, impacted road segments plus one segment beyond are to be included in the study area.

CFRPM MODEL OUTPUT



ALBRIGHT PROPERTY
320 MF DWELLING UNITS
CFRPM V 6.1
MAY 2021

HISTORICAL GROWTH RATE INFORMATION

F

Map #	Location	Source	Count Type	2015	2016	2017	2018	2019	Annual Growth Rate (%)
SR 464									
F-01	US 441 to SE 11th Ave	FDOT	3	32,000	35,900	32,000	30,500	31,000	-0.8
F-02	SE 11th Ave to SE 25th Ave	FDOT	2	34,000	32,300	32,500	33,500	29,500	-3.3
F-03	SE 25th Ave to SE 36th Ave	FDOT	3	33,500	37,100	36,500	35,000	35,500	1.5
F-04	140 Ft E Of SE 47th Ave	FDOT	1	30,200	30,800	30,800	30,400	31,100	0.7
US 441									
F-05	SE 23rd Pl to SE 31st St	OCA	1	23,000	23,000	22,800	22,400	24,200	1.3
CR 464A									
F-06	SW 10th Street to SR 464	OCA	1	9,000	8,700	6,900	7,100	8,800	-0.6
F-07	SR 464 to SE 31st Street	OCA	2	NC	9,900	NC	NC	NC	0.0
F-08	N of SE 38th Street	MC	2	5,900	6,300	6,900	6,600	6,900	4.2
SW 1st Ave									
F-09	SW 5th St to SW 8th St	OCA	1	NC	NC	5,900	7,500	8,000	17.8
SE 3rd Ave									
F-10	SE 8th St to CR 464A	OCA	2	5,500	NC	5,600	8,000	NC	15.2
F-11	CR 464A to SR 464	OCA	3	4,900	NC	4,900	NC	5,700	4.1
F-12	SR 464 to SE 23rd Pl	OCA	3	NC	NC	3,600	NC	3,600	0.0
SE 8th St									
F-13	SE 1st Ave to SE 3rd Ave	OCA	3	7,400	7,400	NC	3,000	2,800	-15.5
F-14	SE 3rd Ave to SE 11th Ave	OCA	3	NC	NC	2,800	NC	1,400	-25.0
F-15	SE 36th Ave to SE 45th Ter	OCA	3	NC	NC	2,100	NC	2,000	-2.4
SE 11th Ave									
F-16	SR 40 to SE Ft King St	OCA	1	2,700	2,700	3,200	2,700	2,900	1.9
F-17	SE Ft King St to SR 464	OCA	3	2,500	NC	3,200	NC	3,700	12.0
F-18	SR 464 to CR 464A	OCA	3	NC	NC	2,200	NC	2,400	4.5

F

Map #	Location	Source	Count Type	2015	2016	2017	2018	2019	Annual Growth Rate (%)
SE 17th St									
F-19	SE 25th Ave to SE 30th Ave	OCA	3	3,800	NC	3,900	4,200	3,900	0.7
F-20	SE 30th Ave to SE 36th Ave	OCA	3	NC	NC	3,600	NC	3,400	-2.8
SE 18th Ave									
F-21	SR 464 to SE 31st St	OCA	2	7,100	NC	8,200	8,400	8,600	5.3
SE 22nd Ave									
F-22	SE Ft King St to SR 464	OCA	3	1,700	NC	1,800	NC	2,000	4.4
SE 24th St									
F-23	SR 464 to SE 36th Ave	OCA	3	NC	NC	7,700	NC	9,600	12.3
F-24	SE 36th Ave to SE 44th Ct	OCA	3	NC	NC	8,500	12,200	9,600	6.5
SE 25th Ave									
F-25	SR 40 to SE Ft King St	OCA	2	NC	NC	NC	24,100	14,500	-39.8
F-26	SE Ft King St to SR 464	OCA	2	15,400	NC	18,700	17,800	18,400	4.9
SE 30th Ave									
F-27	SE Ft King St to SE 17th St	OCA	3	NC	NC	1,400	NC	4,200	100.0
SE 31st St									
F-28	US 441 to CR 464A	OCA	2	NC	17,600	17,500	18,600	18,300	1.3
F-29	CR 464A to SE 36th Ave	OCA	1	12,400	12,400	11,200	NC	14,500	4.2
F-30	SE 36th Ave to SR 464	OCA	3	NC	NC	6,400	3,700	8,700	18.0
SE/SW 32nd St									
F-31	SW 7th Ave to US 441	MC	2	16,400	19,100	21,100	NC	21,300	7.5
SE 36th Ave									
F-32	SE Ft King St to SE 17th St	OCA	1	18,000	18,000	17,300	16,900	16,600	-1.9
F-33	SE 17th St to SR 464	OCA	2	18,400	NC	16,000	13,000	15,500	-3.9
F-34	SR 464 to SE 31st St	OCA	3	NC	NC	10,600	NC	NC	N/A
F-35	SE 31st St to SE 38th St	MC	2	6,300	6,900	7,500	7,700	7,400	4.4

Location	Source	Count Type	2016	2017	2018	2019	2020	Ave Annual Growth Rate (%)
NE 24th Street								
NE 8th Rd to NE 19th	OCA	1	3,600	3,200	4,400	6,400	5,400	14.1%
NE 25th Ave to NE 36th	OCA	3	NC	2,800	2,300	2,800	2,600	-1.1%
NE 49th Street								
E of CR 200A	MC	2	3,400	3,400	3,500	3,400	3,800	3%
NE 175th Street Road								
E of US 301	MC	2	2,000	2,100	2,300	2,300	2,400	4.7%
NE 8th Avenue Road								
NE 24th Street to NE 14th St	OCA	3	NC	6,400	6,400	6,400	6,200	-1%
NE 97th Street Road								
E of NE 21street Ave	MC	2	2,700	2,800	2,900	3,100	3,000	2.7%
NE Jacksonville Road								
N Magnolia Ave to CR 200A	OCA	3	NC	NC	1,600	1,300	1,200	-13.2%
NE Watula Avenue								
SR 40 to NE 3rd Street	OCA	3	NC	1,100	NC	300	1,000	N/A
NE/SE 25th Avenue								
SR 40 to SE Ft King Street	OCA	2	NC	NC	24,100	14,500	9,800	N/A
SE Ft King to SR 464	OCA	2	NC	18,700	17,800	18,400	16,700	-3.6%
N of NE 49th Street	MC	2	3,400	3,600	3,800	3,700	3,300	-0.5%
S of NE 49th Street	MC	2	5,600	6,600	6,600	6,700	5,200	-0.8%
NE/SE 36th Avenue								
N of NE 97th St Rd	MC	2	1,700	1,800	1,900	2,000	1,700	0.4%
S of SR 326	MC	2	3,700	3,900	4,100	4,000	3,200	-3%
N of NE 35th Street	MC	2	9,000	9,400	9,500	9,400	8,800	-0.5%
City Limits to NE 24th	OCA	3	NC	11,400	10,500	11,100	10,000	-4%
NE 24th St to NE 14th	OCA	1	11,700	12,100	11,500	10,700	10,100	-3.5%
NE 14th St to SR 40	OCA	2	NC	14,800	8,100	15,100	15,500	14.6%
SR 40 to NE Ft King St	OCA	1	19,500	19,200	18,300	17,900	17,000	-3.4%
NW 21st Avenue								
NW 27th Ave to ML K	OCA	3	NC	1,700	NC	1,700	1,900	N/A
NW 22nd Avenue								
N MLK Ave to US 441	OCA	3	NC	2,700	NC	2,700	2,900	N/A
NW 30th Avenue								
SR 40 to US 27	OCA	3	NC	5,700	NC	1,900	3,700	N/A

Location	Source	Count Type	2016	2017	2018	2019	2020	Ave Annual Growth Rate (%)
SE 11th Avenue								
SR 40 to SE Ft King Street	OCA	1	2,700	3,200	2,700	2,900	2,300	-2.6%
SE Ft King St to SR 464	OCA	3	NC	3,200	NC	3,700	2,700	N/A
SR 464 to CR 464A	OCA	3	NC	2,200	NC	2,400	1,400	N/A
SE 18th Avenue								
SR 464 to SE 31st Street	OCA	2	NC	8,200	8,400	8,600	6,500	-6.5%
SE 22nd Avenue								
SE Ft King St to SR 464	OCA	3	NC	1,800	NC	2,000	1,900	N/A
SE 30th Avenue								
SE Ft King St to SE 17th Street	OCA	3	NC	1,400	NC	4,200	2,800	N/A
SE 36th Avenue								
SE Ft King St to SE 17th Street	OCA	1	18,000	17,300	16,900	16,600	15,800	-3.2%
SE 17th St to SR 464	OCA	2	NC	16,000	13,000	15,500	13,900	-3.3%
SR 464 to SE 31st Street	OCA	3	NC	10,600	NC	NC	5,400	N/A
SE 31st St to SE 38th St	MC	2	6,900	7,500	7,700	7,400	8,300	4.9%
Watula Avenue								
SE Ft. King to 8th Street	OCA	3	NC	4,200	NC	4,300	4,600	N/A
SR 40 to NE 3rd Street	OCA	3	NC	1,100	NC	300	1,000	N/A
SE 8th Street								
SE 1st Ave to SE 3rd Ave	OCA	3	7,400	NC	3,000	2,800	2,400	N/A
SE 3rd Ave to SE 11th Ave	OCA	3	NC	2,800	NC	1,400	1,l900	N/A
SE 36th Ave to SE 45th Ter	OCA	3	NC	2,100	NC	2,000	1,800	N/A
SE 17th Street								
SE 25th Ave to SE 30th Ave	OCA	3	NC	3,900	4,200	3,900	4,000	1%
SE 30th Ave to SE 36th Ave	OCA	3	NC	3,600	NC	3,400	4,600	N/A
SE 24th Street								
SR 464 to SE 36th Ave	OCA	3	NC	7,700	NC	9,600	8,200	N/A
SE 36th Ave to SE 44th Ct	OCA	3	NC	8,500	12,200	9,600	7,300	-0.6%
SE 31st Street								
US 441 to CR 464A	OCA	2	17,600	17,500	18,600	18,300	19,200	2.3%
CR 464A to SE 36th Ave	OCA	1	12,400	11,200	NC	14,500	11,000	-16.9%
SE 36th Ave to SR 464	OCA	3	NC	6,400	3,700	8,700	7,800	27.5%

Location	Source	Count Type	2016	2017	2018	2019	2020	Ave Annual Growth Rate (%)
SR 40 (continued)								
E of CR 314A	FDOT	3	7,200	8,200	8,400	8,600	8,100	3.2%
SE 183rd to Lake County Line	FDOT	3	4,300	4,900	8,400	6,300	6,100	14.3%
SR 200								
South of CR 484	MC	3	15,100	15,700	16,400	16,900	17,900	4.3%
NE of CR 484	FDOT	3	19,900	21,500	22,000	21,000	21,000	1.5%
1 mi NE of CR 484	FDOT	3	34,100	38,000	35,000	36,000	30,000	-2.6%
S of SW 80th St	MC	3	29,200	30,400	31,800	30,700	27,600	-1.2%
S of SW 66th Street	OCA	1	NC	34,000	36,700	49,900	49,900	14.6%
2.5 mi SW of I-75 (Telemetered – W/O SW 48th Avenue)	FDOT	T	41,500	41,500	41,000	42,000	41,000	-0.3%
0.5 mi E of I-75	FDOT	2	43,500	47,500	38,000	43,500	42,500	0.3%
SW 26th St to SW 27th	FDOT	2	41,900	39,500	39,500	40,500	36,500	3.3%
SW 27th Ave to SW 17th	FDOT	2	38,300	37,500	34,500	38,500	37,500	-0.3%
SW 17th St to SW ML King Ave	FDOT	2	24,500	25,000	24,000	24,000	22,000	-2.6%
SW MLK to US 441	FDOT	2	27,700	26,500	25,500	26,500	26,000	-1.5%
SR 464								
SR 200 to SW 19th Avenue Rd	FDOT	2	24,800	25,500	25,500	25,500	25,500	0.7%
SW 19th Avenue Road to SW 7th Avenue	FDOT	2	35,900	34,000	34,500	35,500	31,000	-3.4%
US 441 to SE 11th Ave	FDOT	3	35,900	32,000	30,500	31,000	29,000	-5.1%
SE 11th Ave to SE 25th Ave	FDOT	2	32,300	32,500	33,500	29,500	29,000	-2.5%
SE 25th Ave to SE 36th Ave	FDOT	3	36,500	36,500	35,000	35,500	34,500	-1.4%
36th Ave to SR 35 (Telemetered)	FDOT	T	31,000	30,800	30,400	31,100	29,000	-1.6%
SR 492								
US 441 to N Magnolia Ave	FDOT	3	20,300	19,900	21,500	20,500	20,300	0.1%
N Magnolia Ave to NE 8th Avenue	FDOT	3	18,300	18,400	18,600	21,000	21,000	3.6%
0.5 mi W of NE 17th Ave	FDOT	3	20,000	20,500	21,000	20,500	20,300	0.4%
NE 19th Ave to NE 25th Avenue	FDOT	3	20,500	21,000	19,800	19,800	19,400	-1.3%
NE 25th Ave to NE 36th Ave	FDOT	3	16,500	17,000	17,200	16,600	16,300	-0.3%
NE 36th Ave to SR 40	FDOT	3	7,700	8,600	8,800	9,500	9,300	5%