

Attachment C

November 26, 2024

KIMLEY-HORN & ASSOCIATES, INC.  
JOSEPH C. LONDON, P.E.  
101 E SILVER SPGS BLVD, ST 400  
OCALA, FL 34470

**SUBJECT: TRAFFIC STUDY APPROVAL LETTER**  
PROJECT NAME: LAKE LOUISE PLANNED UNIT DEVELOPMENT AND TRAFFIC STUDY  
PROJECT #2022090011      APPLICATION: #31583      PARCEL #3060-002-004

Dear Joseph,

The Traffic Study dated November 2024 for the above referenced project was approved by Marion County on November 26, 2024.

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

Sincerely,

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



TRAFFIC STUDY

# LAKE LOUISE APARTMENTS

MARION COUNTY, FLORIDA

NOVEMBER 2024

Prepared for:

**Lake Louise, LLC**

Prepared by:

**Kimley-Horn and Associates, Inc..**

**Kimley»»Horn**

TRAFFIC STUDY

# LAKE LOUISE APARTMENTS

MARION COUNTY, FLORIDA

Prepared for:

**Lake Louise, LLC**

Prepared by:

**Kimley-Horn and Associates, Inc.**

242009001

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Ocala, FL 34471

352 438 3000



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## INTRODUCTION

Kimley-Horn has performed a Traffic Study for a proposed multifamily residential development located northeast of the SW 32<sup>nd</sup> Street at SW 7<sup>th</sup> Avenue intersection in Marion County, Florida. A PUD rezoning is being submitted to allow up to 16 dwelling units per acre, totaling a maximum of 198 multifamily residential dwelling units. The conceptual PUD Plan is provided in **Appendix A**.

On June 13<sup>th</sup>, 2023, Marion County approved the Lake Louise Planned Development (PD) Traffic Study (TIA 30071), which is a total of 1,146 dwelling units (326 dwelling units for Phase 1 of the development and 820 dwelling units for City of Ocala Phase 2). This traffic study is prepared for the Marion County Phase 2 portion of the development. Phase 2 proposes a total of 1,018 dwelling units (820 City dwelling units and 198 County dwelling units). Both Phase 1 and Phase 2 of Lake Louise located within the City limits (TIA 30071) have been included as background traffic within this study.

Access to the site is proposed via full access connections to SW 7<sup>th</sup> Avenue and SW 29<sup>th</sup> Street Road. Cross-access will be provided with Phase 1 of the development; however, it is not expected for the Marion County PUD/Phase 2 traffic to use the driveway serving Phase 1.

This analysis has been performed in accordance with the City of Ocala/Marion County *Traffic Impact Analysis (TIA) Guidelines* and the methodology, which was approved by Marion County. The approved methodology and correspondence are provided in **Appendix A**.

The Traffic Study evaluates traffic operating conditions and identifies transportation improvement needs within the study area under existing, future background (without project), and future buildout (with project) traffic conditions. This traffic analysis is based on traffic data collected in the field and supplemented by information obtained from the City of Ocala, Marion County, and Florida Department of Transportation (FDOT) sources. The study observed the established procedures found in Institute of Transportation Engineers (ITE) sources, FDOT sources, and the *Highway Capacity Manual 6* (HCM 6). A buildout year of 2027 was utilized for the study.

**PROJECT TRIP GENERATION**

Trip generation for the development was determined using data found in the ITE *Trip Generation Manual, 11<sup>th</sup> Edition*. ITE land use code 220 Multifamily Housing (Low-Rise) was applied in the trip generation calculations. No internal capture or pass-by reductions were applied.

The trip generation potential for the development is anticipated to be 1,269 daily net new external trips, 61 AM peak hour net new external trips (15 in/ 46 out), and 85 PM peak hour net new external trips (54 in/ 31 out) upon buildout.

**Table 1** summarizes the trip generation calculations for the site, which were approved during the methodology process.

**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
<b>Proposed Development<sup>1</sup></b>								
Multi-Family Apartment	1,018 DU	6,601	338	81	257	458	289	169
Vested Trips (City of Ocala PD)	820 DU	5,332	277	66	211	373	235	138
<b>New Trips for PUD</b>	<b>198 DU</b>	<b>1,269</b>	<b>61</b>	<b>15</b>	<b>46</b>	<b>85</b>	<b>54</b>	<b>31</b>
Notes:								
1. Trip generation potential was derived using the following equations from ITE Trip Generation Manual, 11th Edition.								
2. Vested trips obtained from the previously approved Lake Louise Planned Development (approved by Marion County on 6/13/2023)								
<b>Multifamily Housing (Low-Rise) [ITE 220]</b>								
Daily	T = 6.41*(X) + 75.31; X is the Number of Dwelling Units							
AM Peak Hour of Adjacent Street	T = 0.31*(X) + 22.85; X is the Number of Dwelling Units (24% in / 76% out)							
PM Peak Hour of Adjacent Street	T = 0.43*(X) + 20.55; X is the Number of Dwelling Units (63% in / 37% out)							

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## TRIP DISTRIBUTION, ASSIGNMENT, AND STUDY AREA

The project's trip distribution was developed based on the previously approved Lake Louise Planned Development Traffic Study (TIA 30071). The trip distribution at the project driveways was assigned based on the access scenario for the Marion County PUD portion of the development. Access will be primarily provided by a new driveway connection to SW 7<sup>th</sup> Avenue, with some portion of the development accessing SW 29<sup>th</sup> Street Road. Cross-access will be provided with Phase 1 of the development, but it is not expected for the Marion County PUD/Phase 2 traffic to use the driveways serving Phase 1. **Figure 1** illustrates the external trip distribution and distribution of project traffic at the project driveways to SW 7<sup>th</sup> Avenue and SW 29<sup>th</sup> Street Road.

Project traffic was assigned within the study area by applying the external trip distribution to the peak hour trip generation potential. The study area was determined based on the City of Ocala/Marion County TIA Guidelines, which states that roadway segments with a 3% or greater impact to their peak hour directional service volume, plus one segment beyond, are to be included in the study area. The study area roadway segments and intersections were approved during the methodology process. No roadway segments are shown to be significantly impacted by the project.

The following roadway segments are included within the study area and were evaluated based on 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:

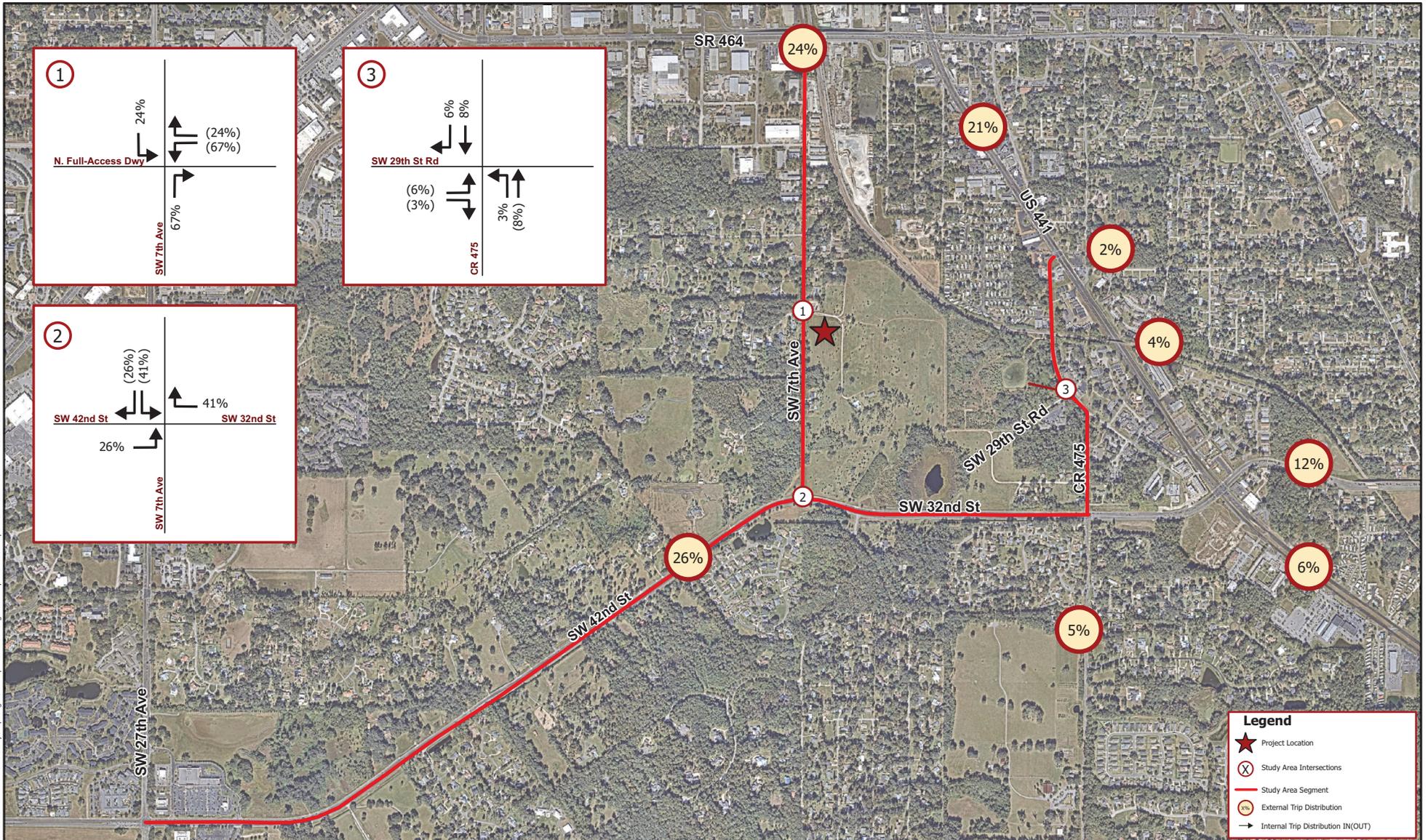
- SW 42<sup>nd</sup> Street from SW 27<sup>th</sup> Avenue to SW 7<sup>th</sup> Avenue
- SW 32<sup>nd</sup> Street from SW 7<sup>th</sup> Avenue to CR 475
- CR 475 (SE 3<sup>rd</sup> Avenue) from SW 32<sup>nd</sup> Street to north of SW 29<sup>th</sup> Street Road
- CR 475 (SE 3<sup>rd</sup> Avenue) from north of SW 29<sup>th</sup> Street Road to US 441

In addition to the above noted roadway segments, the following intersections were evaluated during the AM peak hour and PM peak hour:

- SW 7th Avenue & Northern Full Access Driveway (unsignalized) – project access location
- SW 32nd Street & SW 7th Avenue (future signalized)
- SW 29th Street Road & CR 475 (unsignalized) – project access location

These intersections were evaluated for existing, future background (without project), and future buildout (with project) during the AM peak hour and PM peak hour.

Intersection operational analyses and turn lane analyses were performed for the study area intersections. **Figure 1** illustrates the site location, trip distribution, and study area for the traffic analysis.



C:\OC\GIS\242009001-Lake Louise FUD Aerial Traffic Study Maps\Figure 1 - Trip Distribution\Figure 1 - Trip Distribution.aprx - 5/7/2024 3:33 PM - mackenzie.marranino

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**Kimley»Horn**

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**FIGURE 1 - PROJECT LOCATION, TRIP DISTRIBUTION, AND STUDY AREA**  
**LAKE LOUISE APARTMENTS**  
**MARION COUNTY, FLORIDA**

Not To Scale

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## PM PEAK HOUR ROADWAY SEGMENT ANALYSIS

The study area roadway segments were evaluated for level of service (LOS) and volume-to-maximum service volume (V/MSV) ratios based on existing, future background (without project), and future buildout (with project) traffic conditions during the PM peak hour.

PM peak hour directional traffic volumes on the study area roadway segments were compared to the adopted LOS standards derived from the Ocala Marion CMP and roadway service volumes from the 2020 FDOT Quality/Level of Service (Q/LOS) Handbook. The Ocala Marion CMP uses the 2023 FDOT Q/LOS Tables for state roadways and 2020 FDOT Q/LOS Tables for non-state roadways; no state roadways are located within the study area. The service volumes were approved during the methodology review process.

## EXISTING TRAFFIC CONDITIONS ANALYSIS (2024)

Turning movement counts were performed on Tuesday, March 26, 2024, during the AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM) at the following intersections:

- SW 7th Avenue & Northern Full Access Driveway
- SW 32nd Street & SW 7th Avenue
- SW 29th Street Road & CR 475

The 2023 peak season factors published by FDOT were utilized to adjust the observed traffic volumes to peak season volumes. The peak season factor for the date of the data collection is 0.99, so a 1.0 factor was applied. The FDOT peak season report is included in **Appendix B**.

The approach and departure volumes from the intersection turning movement counts were used to determine the PM peak hour, peak direction traffic volumes on the study area roadway segments. **Table 2** summarizes the existing (2024) traffic volumes and LOS analysis during the PM peak hour traffic conditions. The study area roadway segments are shown to operate within the adopted service volume.

## BACKGROUND TRAFFIC CONDITIONS ANALYSIS (2027)

The 2027 future background (without project) traffic volumes were developed by summing existing peak season traffic volumes, an annual background growth rate applied through year 2027, and the addition of vested traffic. Both Phase 1 (326 dwelling units) and Phase 2 (820 dwelling units) of Lake Louise located within the City limits (TIA 30071) were included as background (vested) traffic. Consistent with the approved methodology, a background growth rate of 3.34% per year was applied to generate the year 2027 background volumes. **Table 2** summarizes the 2027 future background (without project) traffic volumes and LOS analysis during PM peak hour traffic conditions. The study area roadway segments are shown to operate within the adopted service volume.

## BUILDOUT TRAFFIC CONDITIONS ANALYSIS (2027)

The 2027 buildout (with project) traffic volumes were developed by summing background traffic volumes and project traffic. **Table 2** summarizes 2027 future buildout (with project) traffic volumes and LOS analysis during PM peak hour traffic conditions. The study area roadway segments are shown to operate within the adopted service volume with the projected PM peak hour buildout traffic volumes.

Table 2: PM Peak Hour Roadway Segment Analysis

Roadway From To	ROADWAY ATTRIBUTES <sup>1</sup>						EXISTING TRAFFIC CONDITIONS (2024)						Applied Growth Rate <sup>5</sup>	FUTURE NON-PROJECT BACKGROUND TRAFFIC CONDITIONS (2027)										% Project Traffic Assign. <sup>7</sup>	PM PEAK HOUR PROJECT TRAFFIC			Project % Impact	FUTURE BUILDOUT TRAFFIC CONDITIONS (2027)						
	TPO CMP Station	FDOT Class. <sup>2</sup>	Area Type	Adopted LOS	# of Lanes	Pk Hr. Dir. Service Volume	Volumes <sup>3</sup>		V/MSV Ratios		LOS <sup>4</sup>			Background Growth		Vested Volumes		Total Volumes <sup>6</sup>		V/MSV Ratios		LOS <sup>4</sup>			Volumes				Volumes <sup>8</sup>		V/MSV Ratios		LOS <sup>4</sup>		
							NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB		NB / EB	SB / WB	NB / EB		SB / WB	NB / EB	SB / WB	NB / EB	SB / WB		
CR 475	SE 31 ST	N OF SW 29TH ST RD	1910.5	NS-UA-C2	Urban	E	2	1,449	247	336	0.17	0.23	B	B	3.34%	272	370	24	95	296	465	0.20	0.32	B	B	11.0%	6	3	0.41%	302	468	0.21	0.32	B	B
	N OF SW 28TH ST RD	US 441	1910.6	NS-SA-C2	Urban	E	2	576	267	333	0.46	0.58	D	D	3.34%	294	366	44	72	338	438	0.59	0.76	D	D	14.0%	4	8	1.39%	342	446	0.59	0.77	D	D
SW 32 ST	SW 7 AV	CR 475	4200.1	NS-SA-C1	Urban	E	4	1,800	1,532	1,178	0.85	0.65	C	C	3.34%	1,685	1,296	58	33	1,743	1,329	0.97	0.74	D	C	41.0%	13	22	1.22%	1,756	1,351	0.98	0.75	D	C
SW 42 ST	SW 27 AV	SW 7 AV	6060	NS-SA-C1	Urban	E	4	1,800	1,511	1,198	0.84	0.67	C	C	3.34%	1,662	1,318	82	50	1,744	1,368	0.97	0.76	D	C	26.0%	14	8	0.78%	1,758	1,376	0.98	0.76	D	C
SW 7 AV	SW 32 ST	SR 464	6230.1	NS-UA-C2	Urban	E	2	1,449	185	232	0.13	0.16	B	B	3.34%	204	255	67	69	271	324	0.19	0.22	B	B	67.0%	36	21	2.48%	307	345	0.21	0.24	B	B

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Notes:

- The roadway attributed were obtained from the Ocala Marion TPO CMP Database, 2020 FDOT Quality/Level of Service Tables (non-state roads), Ocala Marion TPO 2023 Traffic Counts Report, and City of Ocala Comprehensive Plan.
- NS-UA-C2 = non-state, unsignalized arterial class 1; NS-SA-C1 = non-state, signalized arterial, class 1; NS-SA-C2 = non-state, signalized arterial, class 2;
- Traffic volumes were derived from observed counts.
- LOS was derived from the 2020 FDOT Quality/Level of Service Handbook.
- A 3.34% growth rate was applied per the approved methodology.
- Background volumes were derived by applying the growth rate and adding vested traffic.
- Project traffic assignment was calculated as the maximum across the segment based on the trip distribution and assignment.
- Buildout volume is the sum of background volumes and project volumes.

## INTERSECTION OPERATIONAL ANALYSIS

Intersection operational analyses were performed for the study area intersections. The following intersections were evaluated for existing, future background (without project), and future buildout (with project) traffic conditions during the AM and PM peak hours:

- SW 7<sup>th</sup> Avenue & North Full Access Driveway
- SW 32<sup>nd</sup> Street/SW 42<sup>nd</sup> Street and SW 7<sup>th</sup> Avenue
- CR 475 & SW 29<sup>th</sup> Street Road

The future conditions evaluation for the intersection of SW 32<sup>nd</sup> Street/SW 42<sup>nd</sup> Street and SW 7<sup>th</sup> Avenue includes the vested improvements at the intersection.

The observed heavy vehicle percentages (2% minimum), right turn on red percentages, and peak hour factors were utilized for all analysis scenarios. The turning movement count data utilized for the study area intersections are included in **Appendix B**.

Intersection volume development sheets detailing the traffic volume development for the study area intersections are provided in **Appendix C**. The buildout AM peak hour traffic volumes and PM peak hour traffic volumes are illustrated in **Figures 2 and 3**, respectively.

The signal timings utilized in the improvement conditions were from the signalization plans for the intersection, which are provided in **Appendix F**. Synchro software, which is based on the methodology of the HCM 6, was utilized to perform the intersection analyses. The Synchro output reports are provided in **Appendix D**.

## EXISTING TRAFFIC CONDITIONS ANALYSIS (2024)

AM peak hour and PM peak hour turning movement count data was collected at the intersections of SW 7<sup>th</sup> Avenue & N Full Access Driveway, SW 32<sup>nd</sup> Street & SW 7<sup>th</sup> Avenue, and SW 29<sup>th</sup> Street Road & CR 475 on Tuesday, March 26<sup>th</sup>, 2024.

Existing intersection geometry was utilized for the analysis. **Table 3** details the results of the intersection analysis for the existing AM peak hour and PM peak hour traffic conditions. The intersection of SW 32<sup>nd</sup> Street & SW 7<sup>th</sup> Avenue is shown to operate with LOS F during the AM and PM peak hours, and a v/c ratio exceeding 1.0 during the PM peak hour. The remaining intersections are all expected to operate with a LOS of C or better and v/c ratio of less than 1.0 under existing AM peak hour and PM peak hour conditions.

**Table 3: Existing Intersection Analysis Summary (2024)**

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	Max Movement V/C	LOS	Delay (s)	Max Movement V/C
<b>Unsignalized<sup>1</sup></b>						
SW 7th Ave & N Full Access Dwy	B/B	12.6/10.9	0.02	B/B	11.7/12.4	0.01
SW 32nd Street & SW 7th Avenue	F	98.9	0.84	F	133.6	1.09
SW 29th Street Road & CR 475	C/C	16.6/15.2	0.02	C/B	15.0/13.5	0.12

Notes:  
1. Intersection LOS and delay at unsignalized intersections are reported for the stop-controlled approaches only.

**BACKGROUND TRAFFIC CONDITIONS ANALYSIS (2027)**

The study intersections were evaluated for future (2027) background (without project) traffic conditions. An annual background growth rate of 3.34% was applied to the existing peak season volumes, along with the addition of the vested traffic, to generate the future background volumes. Information about the vested traffic is included in **Appendix C**.

The Lake Louise Planned Development Traffic Study (30071) included improvement recommendations for the intersection of SW 32<sup>nd</sup> Street and SW 7<sup>th</sup> Avenue. The improvement recommendations were included in the future background (2027) conditions. The following planned improvements were utilized for the analysis of SW 32<sup>nd</sup> Street at SW 7<sup>th</sup> Avenue (excerpt from the approved intersection plan provided in **Appendix F**):

- Signalization
- Addition of a westbound left/U-turn-turn lane
- Constructing two southbound approach lanes with +/- 370 feet of storage for the southbound left turn lane
- Extending the eastbound left turn lane to +/- 355 feet

**Table 4** details the results of the intersection analysis for the background with vested improvements AM peak hour and PM peak hour traffic conditions. All study area intersections are expected to operate with a LOS of C or better and v/c ratio of less than 1.0 under background with vested improvement conditions during the AM and PM peak hours.

**Table 4: Background Intersection Analysis Summary (2027)**

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	Max Movement V/C	LOS	Delay (s)	Max Movement V/C
<b>Unsignalized<sup>1</sup></b>						
SW 7th Ave & N Full Access Dwy	C/C	15.7/15.6	0.23	B/B	14.7/13.3	0.13
SW 29th Street Road & CR 475	C/C	19.6/17.9	0.28	C/C	20.4/16.0	0.24
<b>Signalized<sup>2</sup></b>						
SW 32nd Street & SW 7th Avenue	B	19.7	0.91	B	12.6	0.65

Notes:  
 1. Intersection LOS and delay at unsignalized intersections are reported for the stop-controlled approaches only.  
 2. For signalized intersections, LOS and delay are reported for the entire intersection. SW 32nd Street & SW 7th Avenue is signalized with vested improvements.

**BUILDOUT TRAFFIC CONDITIONS ANALYSIS (2027)**

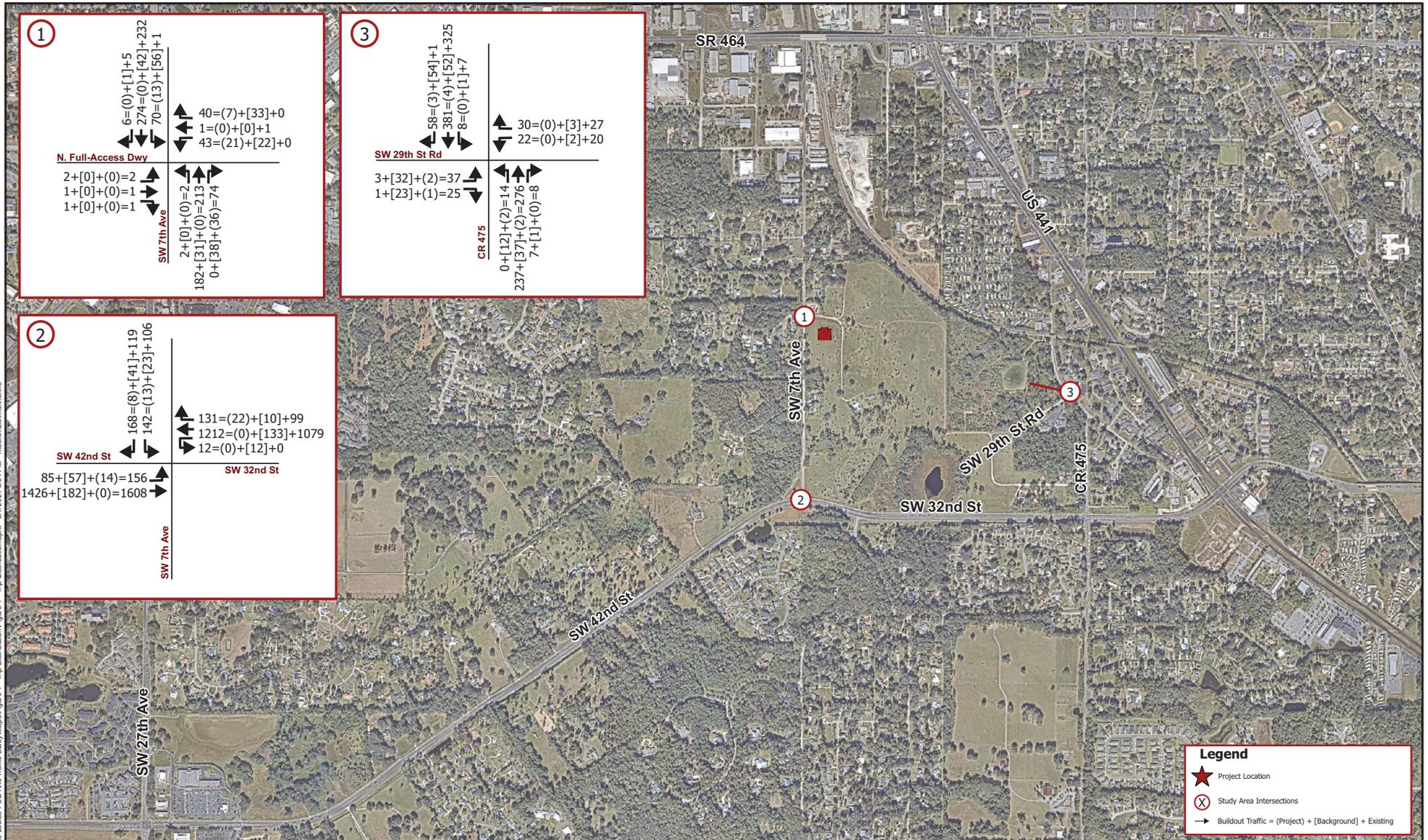
The study area intersections were evaluated for future buildout traffic conditions. Project traffic from the proposed development was added to the future background traffic volumes to generate future buildout traffic volumes. Improvements identified to be needed under future background conditions were used for the future (2027) buildout intersection analyses.

**Table 5** details the results of the intersection analysis for the future (2027) buildout (with project) traffic conditions. All study area intersections are anticipated to operate acceptably with the addition of project traffic.

**Table 5: Buildout Traffic Intersection Analysis Summary (2027)**

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	Max Movement V/C	LOS	Delay (s)	Max Movement V/C
<b>Unsignalized<sup>1</sup></b>						
SW 7th Ave & N Full Access Dwy	C/C	16.2/18.9	0.37	C/C	15.4/16.0	0.22
SW 29th Street Road & CR 475	C/C	20.1/18	0.30	C/C	21.2/16.3	0.26
<b>Signalized<sup>2</sup></b>						
SW 32nd Street & SW 7th Avenue	C	21.7	0.93	B	13.1	0.69
Notes:						
1. Intersection LOS and delay at unsignalized intersections are reported for the stop-controlled approaches only.						
2. For signalized intersections, LOS and delay are reported for the entire intersection.						





**1**

6=(0)+[1]+5  
 274=(0)+[42]+232  
 70=(13)+[56]+1

40=(7)+[33]+0  
 1=(0)+[0]+1  
 43=(21)+[22]+0

**N. Full-Access Dwy**

2+[0]+(0)=2  
 1+[0]+(0)=1  
 1+[0]+(0)=1

SW 7th Ave

2+[0]+(0)=2  
 182+[31]+(0)=213  
 0+[38]+(36)=74

**3**

58=(3)+[54]+1  
 381=(4)+[52]+325  
 8=(0)+[1]+7

30=(0)+[3]+27  
 22=(0)+[2]+20

SW 29th St Rd

3+[32]+(2)=37  
 1+[23]+(1)=25

CR 475

0+[12]+(2)=14  
 237+[37]+(2)=276  
 7+[1]+(0)=8

**2**

168=(8)+[41]+119  
 142=(13)+[23]+106

131=(22)+[10]+99  
 1212=(0)+[133]+1079  
 12=(0)+[12]+0

SW 42nd St

85+[57]+(14)=156  
 1426+[182]+(0)=1608

SW 7th Ave

SW 32nd St

**FIGURE 3 - PM PEAK HOUR BUILDOUT VOLUMES**  
**LAKE LOUISE APARTMENTS**  
**MARION COUNTY, FLORIDA**

Not To Scale

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May 2024

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## SITE ACCESS ANALYSIS

Site access is proposed via two full access connections, one on SW 7<sup>th</sup> Avenue and the other on SW 29<sup>th</sup> Street Road. The need for new ingress turn lanes were evaluated for each of the access locations. The intersection of SW 32<sup>nd</sup> Street at SW 7<sup>th</sup> Avenue was evaluated to assess the need for lengthening existing ingress turn lanes.

### SW 7<sup>TH</sup> AVENUE AND NORTH FULL ACCESS DRIVEWAY

The need for a southbound left turn lane on SW 7<sup>th</sup> Avenue and North Full Access Driveway was evaluated based on the methodologies of the National Cooperative Highway Research Programs (NCHRP) Report 457. Based on the number of left turning vehicles, opposing traffic, and roadway speed, a southbound left turn lane is not warranted. Per the request of Marion County, an ingress southbound left turn lane will be constructed on SW 7<sup>th</sup> Avenue at the North Full Access Driveway.

The need for a northbound right-turn lane was evaluated based on the methodologies of the National Cooperative Highway Research Programs (NCHRP) Report 457. Based on the projected ingress right-turn volumes during the AM peak hour and during the PM peak hour, an exclusive northbound right-turn lane is not warranted at the driveway. The NCHRP output is provided in **Appendix E**.

### SW 29<sup>TH</sup> STREET ROAD AND CR 475

There is an existing 115-foot northbound left turn lane on CR 475 at SW 29<sup>th</sup> Street Road. The northbound left-turn lane was reviewed to determine if the existing length is sufficient for the traffic at project buildout. The reported 95<sup>th</sup> percentile queue length is less than 1 vehicle. Based on the anticipated queue length, low speed of the roadway, and adjacent intersections, the northbound left turn lane has sufficient storage for the addition of project traffic.

The need for a southbound right-turn lane on SW 29<sup>th</sup> Street Road and CR 475 was evaluated based on the methodologies of the National Cooperative Highway Research Programs (NCHRP) Report 457. Based on the projected ingress right-turn volumes during the AM peak hour and during the PM peak hour, an exclusive southbound right-turn lane is not warranted at the driveway. The NCHRP output is provided in **Appendix E**.

### SW 32<sup>ND</sup> STREET AND SW 7<sup>TH</sup> AVENUE

There is an existing eastbound left turn lane on SW 32<sup>nd</sup> Street/SW 42<sup>nd</sup> Street at SW 7<sup>th</sup> Avenue. The intersection and signalization plans prepared as part of the approval Lake Louise Phase 1 show the eastbound left turn-lane being lengthened to have a 355-foot turn lane length. As shown in **Table 6**, the planned eastbound left turn lane has sufficient length to accommodate buildout traffic.

The existing north leg on the intersection has a single shared right/left-turn lane on SW 7<sup>th</sup> Avenue at SW 32<sup>nd</sup> Street. The intersection and signalization plans prepared as part of the approval Lake Louise Phase 1 show the southbound approach being re-constructed to have two southbound approach lanes, with approximately 370 feet of storage for the southbound left-turn lane. As shown in **Table 6**, the southbound approach lanes will have sufficient length to accommodate buildout traffic.

**Table 6** shows the turn lane length calculations and is included in **Appendix E**.

## MULTIMODAL CONNECTIVITY

A multimodal analysis was conducted to evaluate transit, pedestrian, and bicycle facilities within the study area and their connectivity to the development.

There are existing sidewalks along SW 32<sup>nd</sup> Street/SW 42<sup>nd</sup> Street adjacent to the proposed development. A sidewalk extension is planned on SW 7<sup>th</sup> Avenue to the Phase 1 entrance. Sidewalk extensions are not planned on SW 7<sup>th</sup> Avenue north of Phase 2. Any sidewalks internal to the development will connect to Phase 1, which will provide access to SW 7<sup>th</sup> Avenue and SW 32<sup>nd</sup> Street.

There are no existing or planned sidewalks on SW 29<sup>th</sup> Street Road.

There are existing bicycle lanes on SW 32<sup>nd</sup> Street/SW 42<sup>nd</sup> Street, east and west of SW 7<sup>th</sup> Avenue, adjacent to the proposed development. There are no existing or planned bicycle lanes on SW 7<sup>th</sup> Avenue, SW 29<sup>th</sup> Avenue Road, or CR 475 adjacent to the site.

There are no public transit routes near the development.

## CONCLUSION

This Traffic Study has been prepared to support a multifamily residential development generally located in the northeast quadrant of SW 32<sup>nd</sup> Street and SW 7<sup>th</sup> Avenue in Marion County, Florida. The proposed development will include 198 dwelling units. This Traffic Study has been prepared in accordance with the *Marion County TIA Guidelines* and the approved methodology.

An analysis was performed for existing, future background, and future buildout traffic conditions. Considering the vested improvements at the intersection of SW 7<sup>th</sup> Avenue and SW 32<sup>nd</sup> Street, all study area intersections and roadway segments are anticipated to operate acceptably with the addition of project traffic. No transportation deficiencies were identified within the study area due to the addition of project traffic.

The need for new ingress turn lanes at the project driveways were evaluated. The need for left-turn lanes and right-turn lanes were evaluated based on the methodologies of the NCHRP Report 457. Based on the anticipated site traffic, no additional turn lanes at any of the site access locations are warranted. Per the request of Marion County, an ingress southbound left turn lane will be constructed on SW 7<sup>th</sup> Avenue at the North Full Access Driveway.

The proposed Lake Louise multifamily residential development does not have a significant and adverse impact on the surrounding transportation network.

# APPENDICES

**APPENDIX A:  
Approved Methodology and  
Correspondence**



**Marion County  
Board of County Commissioners**

Office of the County Engineer

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

April 8, 2024

KIMLEY-HORN & ASSOCIATES, INC.  
JOSEPH C. LONDON, P.E.  
2441 NE 3RD STRET  
OCALA, FL 34470

**SUBJECT: TRAFFIC METHODOLOGY APPROVAL LETTER**  
PROJECT NAME: LAKE LOUISE APARTMENT DEVELOPMENT SW 7TH AVENUE  
PROJECT #2022090011 APPLICATION: #31177 PARCEL #3060-002-004

Dear Joseph,

The Traffic Methodology dated March 29, 2024 for the above referenced project was approved by Marion County on April 8, 2024. Please submit the Traffic Study in accordance with this approved Methodology.

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

Sincerely,

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



March 29<sup>th</sup>, 2024

Mr. Christopher Zeigler  
Traffic Operations Manager  
Marion County Office of the County Engineer  
412 SE 25<sup>th</sup> Avenue  
Ocala, FL 34471

**RE: *Lake Louise Apartments Traffic Study Methodology – Marion County, Florida  
Kimley-Horn Project No. 242009001***

Dear Mr. Zeigler:

Kimley-Horn and Associates, Inc. is pleased to submit this methodology for the forthcoming Traffic Study associated with the above referenced project. The site is generally located northeast of the SW 32<sup>nd</sup> Street at SW 7<sup>th</sup> Avenue intersection in Marion County, Florida.

The site is +/- 12 acres located on parcel 3060-007-004, parcel 3060-004-001, and platted roadways adjacent to those two parcels. The site has a low-density land use designation (that allows 8-16 units per acre) and R-1 zoning classification. A Planned Unit Development (PUD) rezoning is being submitted to allow up to 16 dwelling units per acre. The proposed development program is anticipated to include a maximum of 198 multifamily residential dwelling units.

On June 13<sup>th</sup>, 2023, Marion County approved the Lake Louise Planned Development (PD) Traffic Study (TIA 30071), which is a total of 1,146 dwelling units (326 approved units for the Phase 1 development 820 approved units for the City of Ocala Phase 2 portion). The proposed development within the County PUD will be part of an overall development including Phase 2 of the City of Ocala PD. The total proposed development will include up to 1,018 dwelling units for the PUD and Phase 2 of the PD (820 dwelling units from the City portion of Phase 2 and 198 dwelling units from the County portion of Phase 2). Both Phase 1 and Phase 2 of Lake Louise located within the City limits (TIA 30071) will be included as background traffic. Access to the site will be provided via full-access connections to SW 7<sup>th</sup> Avenue and SW 29<sup>th</sup> Street Road.

The analysis will evaluate existing (2024) and background (2027) traffic operations. A buildout year of 2027 will be used for the analysis. In accordance with Marion County Traffic Impact Analysis Guidelines, since the development will generate more than 100 peak hour trips, a Traffic Study is required. Below is the proposed methodology for the above referenced project.

### **TRIP GENERATION**

Trip generation for the proposed development program was determined using the Institute of Transportation Engineer's (ITE) *Trip Generation Manual*, 11<sup>th</sup> Edition. ITE land use code 220 (Multifamily Housing [Low-Rise]) was utilized for the proposed development. The PUD is anticipated to generate 1,269 daily new trips, 61 AM peak hour (15 in/46 out) new trips and 85 PM peak hour (54 in/31 out) new trips. The total number of units includes the approved Phase 2 of Lake Louise PD (City of Ocala) and the proposed PUD within Marion County. The 820 dwelling units from the previously approved City of Ocala PD will be included in the background traffic. **Table 1** illustrates the trip generation calculations for the site.

**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
<b>Proposed Development<sup>1</sup></b>								
Multi-Family Apartment	1,018 DU	6,601	338	81	257	458	289	169
Vested Trips (City of Ocala PD)	820 DU	5,332	277	66	211	373	235	138
<b>New Trips for PUD</b>	<b>198 DU</b>	<b>1,269</b>	<b>61</b>	<b>15</b>	<b>46</b>	<b>85</b>	<b>54</b>	<b>31</b>

Notes:  
 1. Trip generation potential was derived using the following equations from ITE Trip Generation Manual, 11th Edition.  
 2. Vested trips obtained from the previously approved Lake Louise Planned Development (approved by Marion County on 6/13/2023)

**Multifamily Housing (Low-Rise) [ITE 220]**  
 Daily  $T = 6.41*(X) + 75.31$ ; X is the Number of Dwelling Units  
 AM Peak Hour of Adjacent Street  $T = 0.31*(X) + 22.85$ ; X is the Number of Dwelling Units (24% in / 76% out)  
 PM Peak Hour of Adjacent Street  $T = 0.43*(X) + 20.55$ ; X is the Number of Dwelling Units (63% in / 37% out)

K:\OCA\_Civil\242009001-Lake Louise PUD and Traffic Study\Traffic\XLS\Methodology TS Lake Louise Marion County.xlsx|TG

**TRIP DISTRIBUTION**

The project’s external trip distribution is consistent with the previously approved Lake Louise Planned Development Traffic Study (TIA 30071). The trip distribution at the project driveways was assigned based on the access scenario for the Marion County PUD portion of the development. Access will be primarily provided by a new driveway connection to SW 7<sup>th</sup> Avenue, with some portion of the development accessing SW 29<sup>th</sup> Street. Cross-access will be provided with Phase 1 of the development, but it is not expected that traffic to the Marion County PUD or Phase 2 will use the driveways serving Phase 1. The attached **Figure 1** illustrates the external trip distribution and distribution of project traffic at the project driveways to SW 7<sup>th</sup> Avenue and SW 29<sup>th</sup> Street.

**STUDY AREA**

The study area (illustrated in **Figure 1**) was determined based on the Marion County Traffic Impact Analysis Guidelines, which states that roadway segments with a 3% or greater project impact to the peak hour directional service volume are considered significantly impacted. Impacted roadway segments plus one segment beyond are to be included in the study area per Marion County guidelines.

The project impact was calculated as the PM peak hour net new traffic from the PUD multiplied by the maximum trip distribution along the segment, divided by the peak hour peak direction service volume. The peak hour peak direction service volumes were obtained from the Ocala Marion Transportation Planning Organization (TPO) 2023 Congestion Management Process (CMP). The project impact calculations are provided in the attached **Table 2**. Excerpts from the Ocala Marion TPO CMP are provided as an attachment.

The following roadway segments will be included within the study area as shown in **Table 2**, provided as an attachment:

- SW 42<sup>nd</sup> Street from SW 27<sup>th</sup> Avenue to SW 7<sup>th</sup> Avenue
- SW 32<sup>nd</sup> Street from SW 7<sup>th</sup> Avenue to CR 475
- CR 475 (SE 3<sup>rd</sup> Avenue) from SW 32<sup>nd</sup> Street to north of SW 29<sup>th</sup> Street Road
- CR 475 (SE 3<sup>rd</sup> Avenue) from north of SW 29<sup>th</sup> Street Road to US 441

The following intersections will be studied within the traffic study for the AM peak hour and PM peak hour:

- SW 7<sup>th</sup> Avenue & Northern Full Access Driveway (unsignalized)
- SW 32<sup>nd</sup> Street & SW 7<sup>th</sup> Avenue (future signalized)
- SW 29<sup>th</sup> Street Road & CR 475 (unsignalized)

**Figure 1** illustrates the project location and proposed trip distribution and study area.

The proposed access connections will be evaluated under AM peak hour and PM peak hour overall development buildout traffic conditions to determine the appropriate traffic control and determine the need for ingress and egress turn lanes.

### VOLUME DEVELOPMENT

AM peak period (7 AM – 9 AM) and PM peak period (4 PM – 6 PM) turning movement counts will be collected at the study area intersections while schools are in session. 2022 peak season factors as published by FDOT will be applied to the peak hour turning movement counts. A minimum peak season correction factor of 1.0 will be applied.

The PM peak hour peak season intersection approach and departure volumes will be utilized to estimate the PM peak hour traffic volumes for the roadway segment analysis. Future background traffic volumes will be derived by applying the background growth rate to the existing peak season peak hour traffic volumes over the buildout timeframe. The City of Ocala portion of the Lake Louise Planned Development will be included in the background traffic volumes (326 dwelling units from Phase 1 and 820 dwelling units from Phase 2). Other vested developments provided by Marion County will be added to the future (2027) background traffic volumes.

### COMMITTED IMPROVEMENTS

The Ocala Marion TPO 2045 Long Range Transportation Plan (LRTP), the Ocala Marion TPO Transportation Improvement Program (TIP), the Marion County TIP, and the FDOT Five-Year Work Program were reviewed to identify planned or programmed capacity improvements within the project study area.

A traffic signal will be constructed at the intersection of SW 32<sup>nd</sup> Street and SW 7<sup>th</sup> Avenue as part of the off-site improvements associated with the Lake Louise Planned Development. Construction of a westbound U-turn lane and a southbound left turn lane will be included in this intersection improvement. The intersection and signalization plans were approved by the City of Ocala in April 2023 (SUB22-44950). The SW 7<sup>th</sup> Avenue improvement plans were approved by Marion County in October 2023 (AR#29113).

### OPERATIONAL ANALYSIS

The study area intersections will be evaluated during the AM peak hour and PM peak hour under existing conditions, future background (without project) conditions, and future buildout conditions (with project). *Synchro* software, which utilizes the *Highway Capacity Manual (HCM)* methodologies, will be used for the analysis. Turn lanes utilized by project traffic will be evaluated to determine if there's sufficient turn lane length to accommodate background and project traffic.

The existing traffic conditions analysis will be evaluated assuming the existing intersection geometries and traffic controls. Committed improvements and vested developments' recommended geometry will be utilized for the background scenario. Improvements necessary to accommodate future background (without project) traffic conditions will be identified and the operational analysis results including the improvements will be reported. The buildout traffic conditions will be evaluated assuming that improvements needed to accommodate future background (without project) traffic conditions are in place. If further mitigation is

needed to accommodate project traffic, the operational analyses including the improvements will be reported.

**SITE ACCESS**

Access to the site is proposed via full-access connections to SW 7<sup>th</sup> Avenue and at the intersection of SW 29<sup>th</sup> Street Road at CR 475. The access connections will be for the entire development, including Phase 2 of the Lake Louise PD. The access connections will be evaluated for buildout of the entire development (1,018 du). The proposed access connections will be evaluated for the need for the appropriate traffic control and the need for ingress turn lanes according to the National Cooperative Highway Research Project (NCHRP) Report 457, Marion County Land Development Code and the FDOT Multimodal Access Management Guidebook. A sight distance evaluation of the proposed northern full access driveway on SW 7<sup>th</sup> Avenue will be included in the Traffic Study.

**MULTIMODAL CONNECTIVITY**

The Traffic Study will include a discussion of available pedestrian and bicyclist facilities and the proposed connectivity of the Lake Louise Apartments to the surrounding pedestrian and bicycle network.

**HISTORICAL GROWTH RATE**

Historical growth rates were calculated based on traffic data within the Ocala Marion TPO Congestion Management Process (CMP, 2023) and FDOT’s Florida Traffic Online (FTO) for the adjacent segments. An annual background growth rate of 3.34% is proposed. The attached **Table 3** details the growth rate calculations.

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, P.E.

- Attachments: Conceptual Site Layout
- ITE Trip Generation Manual Excerpts
- Figure 1 – Project Location, Trip Distribution, and Study Area
- Table 2 – Study Area Determination
- Historical Growth Rate Calculations
- Ocala Marion TPO CMP Database Excerpts
- Approved PD excerpts
- Committed Improvements Excerpts

Cc: File

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**ATTACHMENTS**

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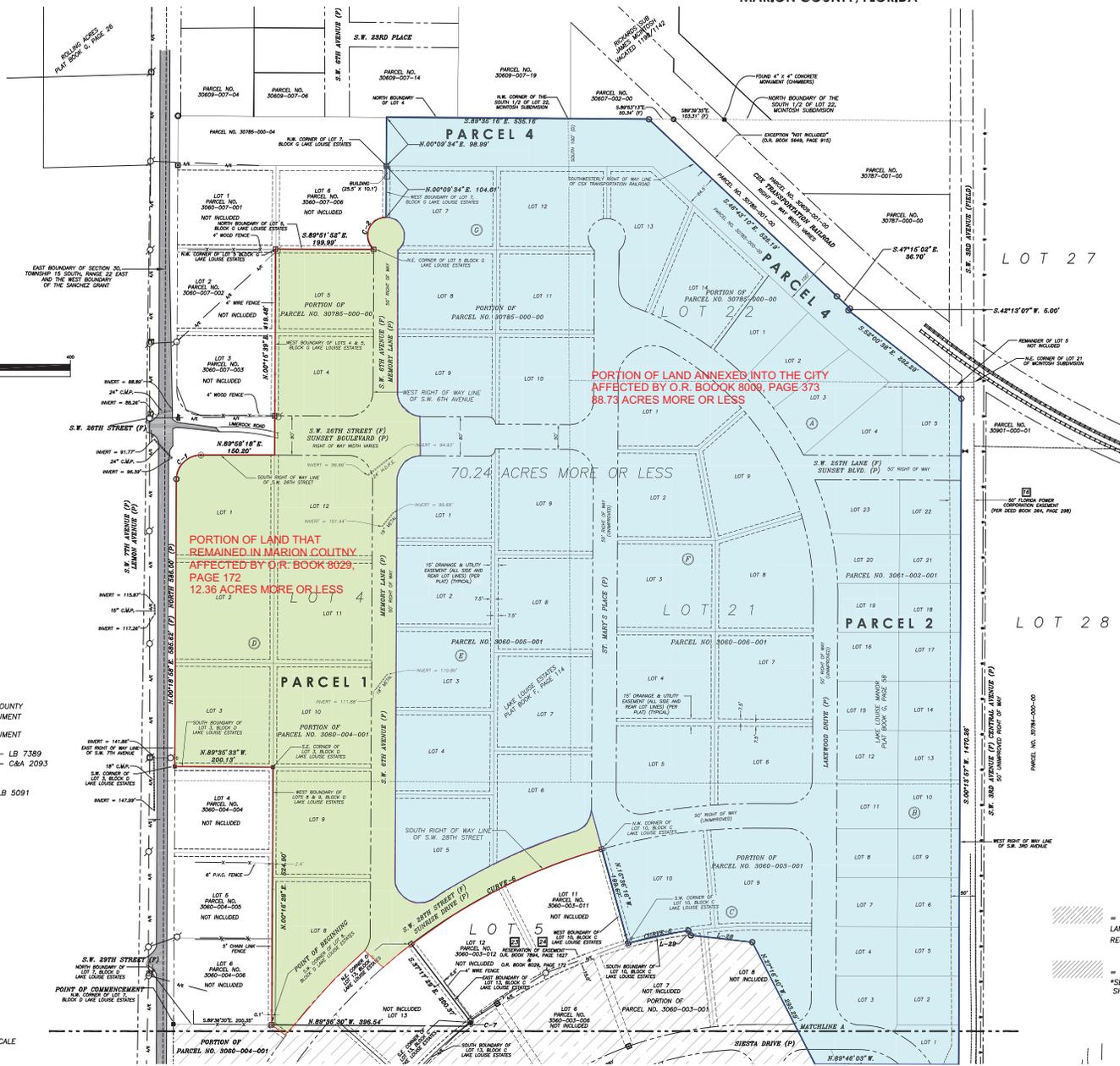
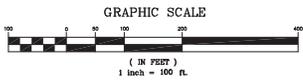
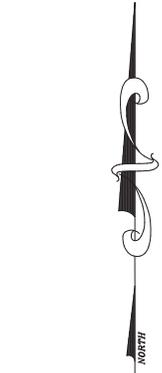
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**CONCEPTUAL SITE LAYOUT**

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SANCHEZ GRANT, TOWNSHIP 15 SOUTH, RANGE 22 EAST  
MARION COUNTY, FLORIDA



C-1: DELTA = 88°25'35"  
RADIUS = 50.00'  
ARC = 77.50'  
CHORD = 70.00'  
C.B. = N45°47'12"E

C-2: DELTA = 138°25'11"  
RADIUS = 37.50'  
ARC = 80.60'  
CHORD = 70.12'  
C.B. = N42°29'23"E

C-3: DELTA = 102°37'52"  
RADIUS = 95.00'  
ARC = 89.56'  
CHORD = 78.04'  
C.B. = S38°25'43"E

CURVE-4: DELTA = 77°08'13"  
RADIUS = 292.00'  
ARC = 383.12'  
CHORD = 364.12'  
C.B. = S52°00'31"W

CURVE-5: DELTA = 07°32'11"  
RADIUS = 95.00'  
ARC = 125.79'  
CHORD = 125.70'  
C.B. = S77°59'31"W

CURVE-6: DELTA = 21°44'49"  
RADIUS = 1150.00'  
ARC = 438.69'  
CHORD = 433.87'  
C.B. = S62°03'00"W

C-7: DELTA = 07°48'50"  
RADIUS = 950.00'  
ARC = 12.43'  
CHORD = 12.43'  
C.B. = S52°03'53"W

LINE	BEARING & DISTANCE
L-28	N8°48'34"W 128.00'
L-29	S8°12'18"E 111.12'

- LEGEND UNLESS OTHERWISE NOTED**
- ⊖ = CENTERLINE OF RIGHT OF WAY
  - C.B. = CHORD BEARING
  - O.R. = OFFICIAL RECORDS OF MARION COUNTY
  - ⊕ = FOUND 4" x 4" CONCRETE MONUMENT (MOONHEAD ENGINEERING)
  - ⊕ = FOUND 5/8" IRON ROD & CAP - LB 7389
  - ⊕ = FOUND 5/8" IRON ROD & CAP - C&A 2093
  - ⊕ = FOUND 1" IRON PIPE
  - ⊕ = FOUND NAIL
  - ⊕ = SET 5/8" IRON ROD & CAP - LB 5091
  - ⊕ = BLOCK NUMBER
  - (F) = FIELD MEASUREMENT
  - (D) = DEED DIMENSION
  - (P) = PLAT DIMENSION
  - (C) = CALCULATED DIMENSION
  - (S) = SANITARY CLEANOUT
  - (M) = SANITARY MANHOLE
  - (D) = DRAINAGE MANHOLE
  - (G) = STORM DRAINAGE GRATE
  - (C) = CABLE BOX
  - (T) = TELEPHONE BOX
  - (E) = ELECTRIC BOX
  - (M) = METAL LIGHT POLE
  - (W) = WOOD POWER POLE
  - (A) = GUY ANCHOR
  - (W) = WATER METER
  - (V) = WATER VALVE
  - (H) = FIRE HYDRANT
  - (M) = MAILBOX
  - P.V.C. = POLYVINYL CHLORIDE
  - R.C.P. = REINFORCED CONCRETE PIPE
  - C.M.P. = CORRUGATED METAL PIPE
  - A.E. = AERIAL ELECTRIC
  - U.W.M. = UNDERGROUND WATER MAIN
  - = BROKEN LINE, NOT DRAWN TO SCALE
  - ⊕ = DENOTES CONCRETE
  - = DENOTES ASPHALT

NO.	REVISIONS	BY	DATE

SCALE:	1" = 100'
DRAWN:	K.L.L.
REVISED:	
CHECKED:	
APPROVED:	
I.P.B.	

**R.M. BARRINEAU AND ASSOCIATES**  
REGISTERED PROFESSIONAL SURVEYORS  
10000 W. UNIVERSITY BLVD., SUITE 100, DAVENPORT, FLORIDA 33824  
TEL: 888-888-8888 FAX: 888-888-8888  
WWW.RMBARRINEAU.COM

**ALTA/NSPS SURVEY FOR:  
NEOLOGY DEVELOPMENT  
GROUP LLC**

REFERENCES:  
F.S. 605, FDS. 29-34  
FILE: LAKE LOUISE ESTATES

J.O.# 17024  
DWG#17024ALTA REMOVAL  
SHT 2 OF 3

Attachment C



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## ITE Trip Generation Manual Excerpts

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## Land Use: 220

### Multifamily Housing (Low-Rise)

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#### Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.
- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.
- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.
- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

#### Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

#### Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

***It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).***

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

### Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

# Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

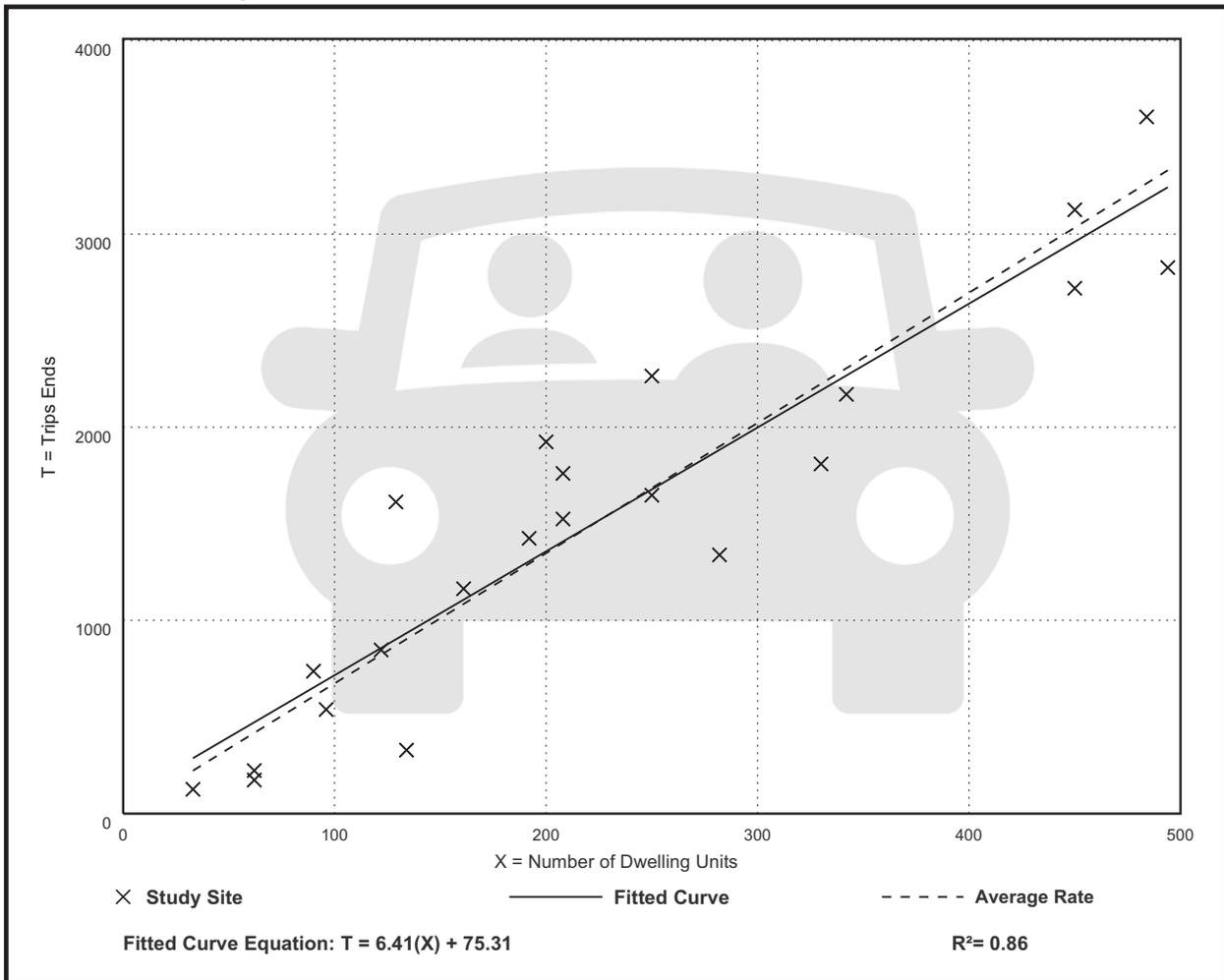
Avg. Num. of Dwelling Units: 229

Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

## Data Plot and Equation



# Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

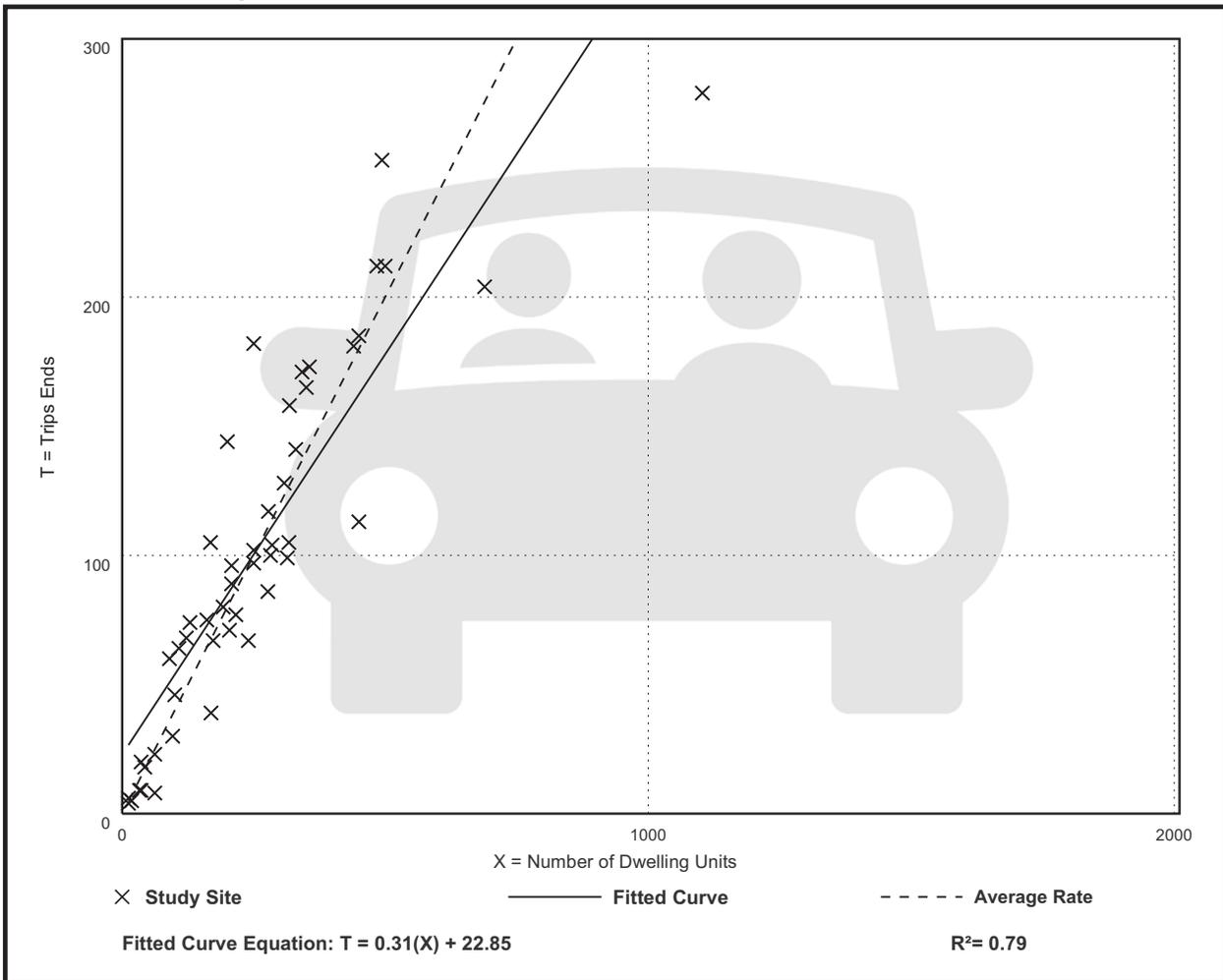
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

## Data Plot and Equation



## Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

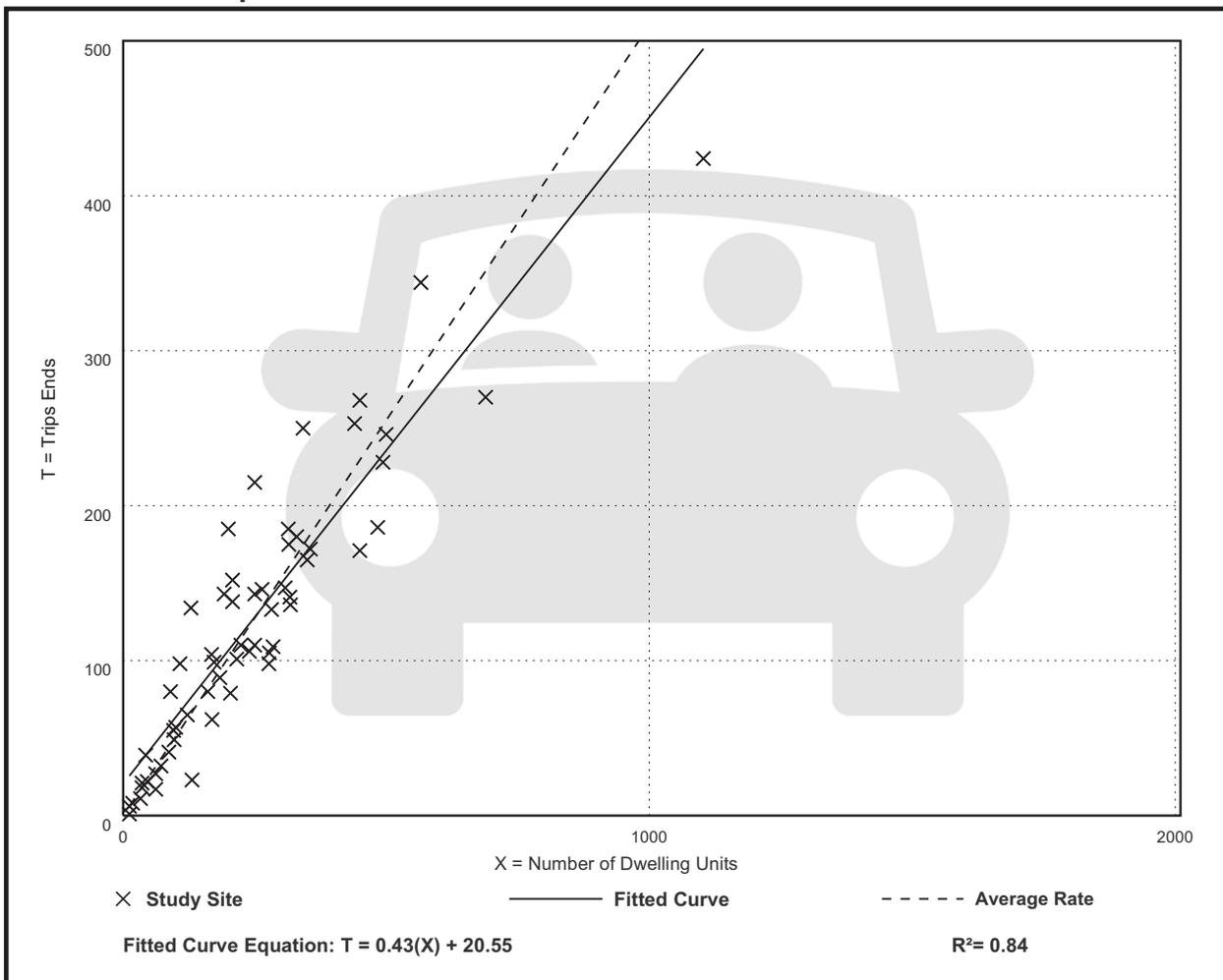
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

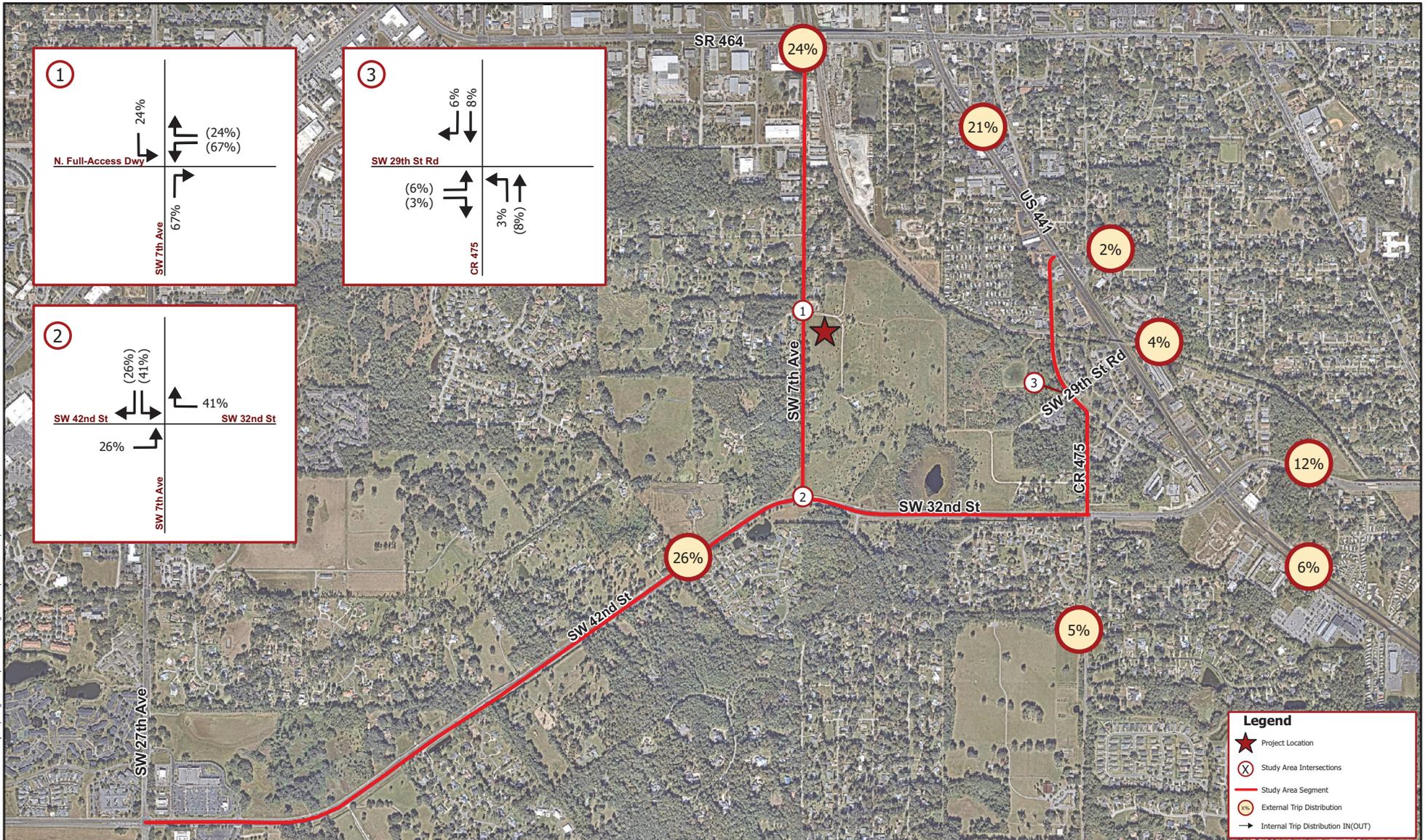
### Data Plot and Equation



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

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C-37

**Kimley»Horn**

© 2024 Kimley-Horn and Associates, Inc.  
1700 SE 17th Street, Suite 200, Ocala FL 34471  
Phone: (352) 438-3000  
www.kimley-horn.com Registry No. 35106

**FIGURE 1 - PROJECT LOCATION, TRIP DISTRIBUTION, AND STUDY AREA**  
**LAKE LOUISE APARTMENTS**  
**MARION COUNTY, FLORIDA**

Not To Scale

Project No.: 242009001

February 2024

Figure 1

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**TABLE 2 – STUDY AREA DETERMINATION**

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**Table 2: Study Area Determination Table**

Roadway	ROADWAY ATTRIBUTES <sup>1</sup>										EXISTING DAILY TRAFFIC CONDITIONS (2023)			Percent Project Traffic Assignment <sup>3</sup>	PM PEAK HOUR NEW PUD SIGNIFICANCE CALCULATIONS			Significant Impact? <sup>5</sup>	Include in Study Area? <sup>6</sup>
	From	To	TPO CMP Station	FDOT Classification <sup>2</sup>	Area Type	Adopted LOS	Number of Lanes	Daily Service Volume	Pk. Hr. Dir. Service Volume	TPO CMP Growth Rate	AADT <sup>1</sup>	V/C	LOS		Project Traffic		Project % Impact <sup>4</sup>		
															NB/EB	SB/WB			
SW 42 ST	SR 200	SW 27 AV	6050	NS-SA-C1	Urban	E	4	35,820	1,800	2.04%	20,200	0.56	C	11%	6	3	0.33%	No	No
	SW 27 AV	SW 7 AV	6060	NS-SA-C1	Urban	E	4	35,820	1,800	4.18%	27,000	0.75	C	26%	14	8	0.78%	No	Yes
SW 32 ST	SW 7 AV	CR 475	4200.1	NS-SA-C1	Urban	E	4	35,820	1,800	4.18%	27,000	0.75	C	41%	22	13	1.22%	No	Yes
	CR 475	US 441	4200.2	NS-SA-C1	Urban	E	4	35,820	1,800	4.18%	27,000	0.75	C	31%	17	10	0.94%	No	No
SE 31 ST	US 441	CR 464A	4210	ST-SA-C1	Urban	E	4	35,820	1,800	1.00%	18,100	0.51	C	12%	4	6	0.33%	No	No
SR 464	SW 19 AV RD	SW 7 AV	5670.1	C3C	Urban	D	4	38,430	1,901	1.00%	32,300	0.84	D	12%	4	6	0.32%	No	No
	SW 7 AV	US 441	5680.1	C3C	Urban	D	4	39,800	1,973	1.00%	32,300	0.81	D	4%	1	2	0.10%	No	No
US 441	CR 475	SR 464	6920	C4	Urban	D	6	59,640	2,951	2.51%	30,800	0.52	C	21%	7	11	0.37%	No	No
	SR 464	SW 10 ST	6930	C4	Urban	D	6	59,640	2,951	1.64%	32,500	0.54	C	17%	5	9	0.30%	No	No
SW 7 AV	SW 32 ST	SR 464	6230.1	NS-UA-C2	Urban	E	2	29,340	1,449	1.00%	3,900	0.13	C	67%	21	36	2.48%	No	Yes
CR 475	SE 35 ST	SE 31 ST	1910.3	NS-UA-C2	Urban	C	2	16,200	801	3.90%	9,600	0.59	B	5%	3	2	0.37%	No	No
	SE 31 ST	N OF SW 29TH ST RD	1910.5	NS-UA-C2	Urban	E	2	29,340	1,449	1.00%	5,800	0.20	C	11%	3	6	0.41%	No	Yes
	N OF SW 29TH ST RD	US 441	1910.6	NS-SA-C2	Urban	E	2	11,232	576	1.00%	5,800	0.52	C	14%	4	8	1.39%	No	Yes

Notes:  
 1. The roadway attributes and AADT were obtained from the Ocala Marion TPO CMP Database, 2020 FDOT Quality/Level of Service Tables (non-state roads), 2023 FDOT Quality/Level of Service Tables (state roads), and FDOT Traffic Online.  
 2. NS-SC-1 = non-state, signalized collector, class 1; NS-SA-C1 = non-state, signalized arterial, class 1; ST-SA-C1 = state, signalized arterial, class 1; NS-UC = non-state, unsignalized collector; NS-SC-C2 = non-state, signalized collector, class 2. C1 = natural; C2 = rural; C2T = rural town; C3R = suburban residential; C3C = suburban commercial; C4 = urban general; C5 = urban center; C6 = urban core  
 3. Project traffic assignment was calculated as the maximum across the segment based on the trip distribution and assignment. Trip distribution was derived from Lake Louise Planned Development (PD) (approved by City of Ocala - TIA 30071) and adjusted based on engineering judgment.  
 4. Project impact is calculated as the peak hour peak direction project traffic on a roadway segment divided by the peak hour peak direction service volume.  
 5. A segment is considered significantly impacted if the project impact is 3% or greater per the Marion County TIA Guidelines.  
 6. The adjacent roadway segments of SW 42 ST from SW 27th Ave to SW 7th Ave, SW 32 ST from SW 7th Ave to CR 475, SW 7th Ave from SW 32nd ST to SR 464, CR 475 from SE 31st ST to US 441 will be included in the study area.



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## HISTORICAL GROWTH RATE CALCULATIONS

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## Attachment C

**Table 3. Growth Rate Calculations**

Segment	From	To	AADT	CMP Growth Rate
SW 42 ST	SR 200	SW 27 AV	27,000	4.18%
SW 7 AV	SW 32 ST	SR 464	3,900	1.00%
CR 475	N OF SW 29TH ST RD	US 441	5,800	1.00%
<b>Weighted Average Growth Rate :</b>				<b>3.34%</b>
Notes:				
1. The AADT and growth rates were derived from the Ocala Marion CMP and Traffic Counts Report.				
2. The average CMP growth rates were weighted by AADT.				



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**OCALA MARION TPO CMP DATABASE EXCERPT**

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Ocala Marion TPO CMP Database - August 2023

SEGMENT ID	ROAD NAME	FROM	TO	LANES (2021)	FUNCTIONAL CLASSIFICATION	FLOW	FOOT CLASS	DAILY SERVICE VOLUME (2021)	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2021)	LANES (2021)	DAILY SERVICE VOLUME (2026)	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2026)	URBAN/ RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	NHS	ADOPTED LOS (2021)	2021 ADIT	2021 DAILY VOLUME	2021 DAILY LOS	GROWTH RATE	2028 ADIT	2028 DAILY VOLUME	2028 DAILY LOS
1030	NE 21 ST BLACK LOOP	US 441	US 441	4	ARTERIAL	UNINTERRUPTED	10,770	3,157	4	10,770	3,157	Urban	U	COUNTY	Other CMP Network Roadway	E	11,420	2,18	1.00%	11,200	0.18	0	0	0
1030	CR 315	COUNTY LINE	CR 315	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	Not Counted	N/A	N/A	1.00%	Not Counted	N/A	N/A	N/A
1030.1	CR 325	US 27	CR 325	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	E	1,500	0.16	0	5.27%	1,000	0.20	0	0
1030.2	CR 325	SE 155 RD	CR 325	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	E	1,500	0.16	0	5.27%	1,000	0.20	0	0
1040.1	CR 325	SE 155 RD	CR 325	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	E	1,500	0.16	0	5.27%	1,000	0.20	0	0
1050	CR 325A	US 27	CR 325	2	COLLECTOR	UNINTERRUPTED	10,224	511	2	10,224	511	Rural	U	COUNTY	Other CMP Network Roadway	D	1,100	0.09	0	1.00%	7,400	0.17	0	0
1060	CR 325A	CR 325	CR 325	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	E	1,100	0.09	0	1.00%	7,400	0.17	0	0
1070	CR 42	COUNTY LINE	CR 42	2	COLLECTOR	UNINTERRUPTED	12,144	624	2	12,144	624	Urban	U	COUNTY	Other CMP Network Roadway	E	11,200	0.89	0	1.00%	11,200	0.94	0	0
1080.1	CR 25	CR 42	SE 128 RD	2	COLLECTOR	UNINTERRUPTED	29,340	1,449	2	29,340	1,449	Urban	U	COUNTY	Other CMP Network Roadway	E	7,800	0.27	0	1.00%	8,200	0.28	0	0
1080.2	CR 25	SE 155 RD	SE 155 RD	2	COLLECTOR	UNINTERRUPTED	29,340	1,449	2	29,340	1,449	Urban	U	COUNTY	Other CMP Network Roadway	E	7,800	0.27	0	1.00%	8,200	0.28	0	0
1090.1	CR 25	CR 464	SE 108 TER RD	2	COLLECTOR	UNINTERRUPTED	29,340	1,449	2	29,340	1,449	Urban	U	COUNTY	Other CMP Network Roadway	E	6,100	0.21	0	1.00%	6,400	0.22	0	0
1100.4	CR 25	SE 107E LOOP	SE 107E LOOP	2	COLLECTOR	UNINTERRUPTED	29,340	1,449	2	29,340	1,449	Urban	U	COUNTY	Other CMP Network Roadway	E	7,000	0.24	0	6.27%	5,100	0.20	0	0
1110.4	CR 25	SE 107E LOOP	SE 107E LOOP	2	COLLECTOR	UNINTERRUPTED	29,340	1,449	2	29,340	1,449	Urban	U	COUNTY	Other CMP Network Roadway	E	9,000	0.34	0	1.00%	25,400	0.35	0	0
1120	CR 462	NE 28 ST	CR 25A (S)	4	ARTERIAL	UNINTERRUPTED	48,192	1,096	4	48,192	1,096	Urban	D	STATE	NHS - Non-Interstate Roadway	D	18,300	0.45	0	1.00%	19,200	0.48	0	0
1130	CR 25A	US 441	US 441	2	COLLECTOR	UNINTERRUPTED	10,770	486	2	10,770	486	Rural	U	COUNTY	Other CMP Network Roadway	E	6,400	0.42	0	1.00%	5,800	0.46	0	0
1140.1	CR 25A	US 155	URBAN AREA BOUNDARY	2	COLLECTOR	UNINTERRUPTED	29,340	1,449	2	29,340	1,449	Urban	U	COUNTY	Other CMP Network Roadway	E	8,200	0.28	0	1.00%	8,600	0.29	0	0
1150.2	CR 25A	CR 329	URBAN AREA BOUNDARY	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	8,200	0.43	0	1.00%	8,600	0.45	0	0
1160.3	CR 25A	CR 329	URBAN AREA BOUNDARY	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	8,200	0.43	0	1.00%	8,600	0.45	0	0
1170	CR 25A	US 441	CR 25	2	COLLECTOR	UNINTERRUPTED	29,340	1,449	2	29,340	1,449	Urban	U	COUNTY	Other CMP Network Roadway	E	Not Counted	N/A	N/A	1.00%	Not Counted	N/A	N/A	
1180	CR 314	NE 15 ST	NE 15 ST	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	3,100	0.11	0	1.00%	3,100	0.11	0	0
1190.1	CR 314	NE 40 ST	NE 40 ST	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	2,000	0.1	0	3.50%	2,800	0.11	0	0
1200	CR 314	SR 40 ST	CR 314A	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	1,500	0.16	0	1.00%	3,100	0.17	0	0
1210.2	CR 314	SR 39	CR 314A	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	8,600	0.68	0	1.00%	8,600	0.68	0	0
1220	CR 314A	CR 464C	SE 180 AV	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	5,700	0.13	0	13.07%	11,000	0.17	0	0
1230.1	CR 314A	SE 180 AV	SR 40	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	4,700	0.25	0	1.00%	5,000	0.26	0	0
1240	CR 314A	CR 314	CR 314	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	1,800	0.07	0	7.00%	1,800	0.07	0	0
1250.2	CR 315	CR 315	CR 315	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	Not Counted	N/A	N/A	1.00%	Not Counted	N/A	N/A	
1260.3	CR 315	SR 40	NE 90 ST	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	3,800	0.2	0	1.00%	4,100	0.21	0	0
1270.4	CR 315	CR 315	CR 315	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	4,800	0.23	0	1.00%	4,800	0.23	0	0
1280.3	CR 315	CR 315	CR 315	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	4,700	0.25	0	6.58%	6,400	0.31	0	0
1290.1	CR 315	CR 315	CR 315	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	4,700	0.25	0	6.58%	6,400	0.31	0	0
1290.2	CR 315	E OF CR 225	E OF CR 225	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	Not Counted	N/A	N/A	1.00%	Not Counted	N/A	N/A	
1290.3	CR 315	CR 329	E OF CR 225	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	700	0.08	0	1.00%	700	0.08	0	0
1290.4	CR 315	CR 324	E OF CR 225	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	Not Counted	N/A	N/A	1.00%	Not Counted	N/A	N/A	
1300.1	CR 315	CR 21A	NAV 37TH AVE	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	1,300	0.14	0	1.00%	1,400	0.15	0	0
1300.2	CR 315	US 441	NAV 37TH AVE	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	1,300	0.14	0	1.00%	1,400	0.15	0	0
1300.3	CR 315	US 441	NAV 37TH AVE	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	1,300	0.14	0	1.00%	1,400	0.15	0	0
1300.4	CR 315	US 441	JACKSONVILLE RD	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	Not Counted	N/A	N/A	1.00%	Not Counted	N/A	N/A	
1300.5	CR 315	NE 107TH AV RD	NE 107TH AV RD	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	3,800	0.21	0	1.00%	2,400	0.13	0	0
1300.6	CR 315	CR 315	NE 107TH AV RD	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	2,800	0.15	0	1.27%	3,000	0.15	0	0
1310.1	CR 315	NE 203 AV	NE 203 AV	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	4,000	0.24	0	7.41%	6,000	0.24	0	0
1320.1	CR 315	NE 203 AV	NE 203 AV	2	COLLECTOR	UNINTERRUPTED	19,170	999	2	19,170	999	Rural	U	COUNTY	Other CMP Network Roadway	D	4,800	0.30	0	1.00%	1,800	0.10	0	0
1330	CR 318	COUNTY LINE	COUNTY LINE	2	COLLECTOR	UNINTERRUPTED	17,770	888	2	17,770	888	Rural	U	COUNTY	Other CMP Network Roadway	B	4,500	0.48	0	20.11%	11,000	1.45	0	0
1340.1	CR 318	NAV 40 AV	NAV 40 AV	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	D	6,200	0.52	0	7.28%	8,800	0.66	0	0
1340.2	CR 318	NAV 40 AV	NAV 40 AV	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	D	6,200	0.51	0	7.18%	8,800	0.66	0	0
1350.1	CR 318	US 441	NE 30 AV	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	3,800	0.41	0	1.00%	4,000	0.41	0	0
1350.2	CR 318	US 441	NE 30 AV	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	3,800	0.41	0	1.00%	4,000	0.41	0	0
1360.1	CR 318	CR 315	NE 30 AV	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	D	1,800	0.2	0	1.00%	4,000	0.41	0	0
1360.2	CR 318	CR 329	CR 329	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	500	0.05	0	1.00%	600	0.05	0	0
1370.1	CR 318	US 441	COUNTY LINE	2	COLLECTOR	UNINTERRUPTED	9,270	486	2	9,270	486	Rural	U	COUNTY	Other CMP Network Roadway	B	Not Counted	N/A	N/A	1.00%	Not Counted	N/A	N/A	
1400	CR 328	US 41	SW 140 AV	2	COLLECTOR	UNINTERRUPTED	9,288	482	2	9,288	482	Rural	U	COUNTY										





Ocala Marion TPO CMP Database - August 2023

SEGMENT ID	ROAD NAME	FROM	TO	LANES (2021)	FUNCTIONAL CLASSIFICATION	FLOW	FOOT CLASS	DAILY SERVICE VOLUME (2021)	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2021)	LANES (2021)	DAILY SERVICE VOLUME (2021)	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2021)	URBAN/RURAL	DIVIDED/PROTECTED	MAINTAINING AGENCY	NHS	ADOPTED LOS (2021)	2021 ADIT	2023 DAILY VOL	2023 DAILY LOS	GROWTH RATE	2028 ADIT	2028 DAILY VOL	2028 DAILY LOS
4390	SW 80 RD	SW 35 ST RD	SR 200	4	COLLECTOR	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	2.0%	21,200	0.61	C
4391	SW 80 RD	SW 35 ST RD	SR 200	4	ARTERIAL	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4392	SW 80 RD	SW 20 ST	SW 20 ST	4	ARTERIAL	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	CITY OF OCALA	Other CMP Network Roadway	E	17,200	0.48	C	4.1%	21,000	0.59	C
4393	SW 80 RD	SW 15 ST	SW 15 ST	4	ARTERIAL	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4394	SW 80 RD	SW 10 ST	SW 10 ST	4	ARTERIAL	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4395	SW 80 RD	SW 5 ST	SW 5 ST	4	ARTERIAL	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4396	SW 66 ST	SW 27 AV	SW 27 AV	2	COLLECTOR	INTERMITTENT	1	12,096	598	2	12,096	598	Urban	0	COUNTY	Other CMP Network Roadway	E	14,400	1.11	F	8.4%	20,200	1.67	F
4397	SW 66 ST	SW 22 AV	SW 22 AV	2	COLLECTOR	INTERMITTENT	1	12,096	598	2	12,096	598	Urban	0	COUNTY	Other CMP Network Roadway	E	14,400	1.11	F	8.4%	20,200	1.67	F
4398	SW 66 ST	SW 17 AV	SW 17 AV	2	COLLECTOR	INTERMITTENT	1	12,096	598	2	12,096	598	Urban	0	COUNTY	Other CMP Network Roadway	E	14,400	1.11	F	8.4%	20,200	1.67	F
4399	SW 66 ST	SW 12 AV	SW 12 AV	2	COLLECTOR	INTERMITTENT	1	12,096	598	2	12,096	598	Urban	0	COUNTY	Other CMP Network Roadway	E	14,400	1.11	F	8.4%	20,200	1.67	F
4400	SW 66 ST	SW 7 AV	SW 7 AV	2	LOCAL	UNINTERMITTED	1	29,340	1,449	2	29,340	1,449	Urban	0	COUNTY	Other CMP Network Roadway	E	Not Counted	N/A	N/A	1.0%	Not Counted	N/A	N/A
4401	SW 7 RD	SR 464	SW 10 ST	2	LOCAL	UNINTERMITTED	1	29,340	1,449	2	29,340	1,449	Urban	0	COUNTY	Other CMP Network Roadway	E	Not Counted	N/A	N/A	1.0%	Not Counted	N/A	N/A
4402	SW 7 RD	SR 200	SW 10 ST	2	LOCAL	UNINTERMITTED	1	29,340	1,449	2	29,340	1,449	Urban	0	COUNTY	Other CMP Network Roadway	E	Not Counted	N/A	N/A	1.0%	Not Counted	N/A	N/A
4403	SW 7 RD	SR 200	SW 5 ST	2	LOCAL	UNINTERMITTED	1	29,340	1,449	2	29,340	1,449	Urban	0	COUNTY	Other CMP Network Roadway	E	Not Counted	N/A	N/A	1.0%	Not Counted	N/A	N/A
4404	SW 7 RD	SR 200	SW 3 ST	2	LOCAL	UNINTERMITTED	1	29,340	1,449	2	29,340	1,449	Urban	0	COUNTY	Other CMP Network Roadway	E	Not Counted	N/A	N/A	1.0%	Not Counted	N/A	N/A
4405	SW 80 RD	SW 80 ST	SW 38 ST	2	COLLECTOR	UNINTERMITTED	2	29,340	684	4	30,420	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4406	SW 80 RD	SW 80 ST	SW 33 ST	2	COLLECTOR	UNINTERMITTED	2	29,340	684	4	30,420	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4407	SW 80 RD	SW 80 ST	SW 26 ST	2	COLLECTOR	UNINTERMITTED	2	29,340	684	4	30,420	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4408	SW 80 RD	SW 80 ST	SW 19 ST	2	COLLECTOR	UNINTERMITTED	2	29,340	684	4	30,420	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4409	SW 80 RD	SW 80 ST	SW 12 ST	2	COLLECTOR	UNINTERMITTED	2	29,340	684	4	30,420	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4410	SW 80 RD	SW 80 ST	SW 5 ST	2	COLLECTOR	UNINTERMITTED	2	29,340	684	4	30,420	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4411	SW 80 RD	SW 80 ST	SW 2 AV	2	COLLECTOR	UNINTERMITTED	2	29,340	684	4	30,420	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4412	CR 312	CR 475	CR 475	2	COLLECTOR	UNINTERMITTED	2	19,170	999	2	19,170	999	Rural	0	COUNTY	Other CMP Network Roadway	D	3,000	0.16	B	2.2%	3,300	0.17	B
4413	SW 95 ST	SW 80 RD	SW 80 RD	4	COLLECTOR	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4414	SW 95 ST	SW 60 AV	SW 60 AV	4	COLLECTOR	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4415	SW 95 ST	SW 60 AV	SW 49 AV	4	COLLECTOR	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4416	SW 95 ST	SW 49 AV	SW 49 AV	4	COLLECTOR	INTERMITTENT	1	35,820	1,800	4	35,820	1,800	Urban	0	COUNTY	Other CMP Network Roadway	E	18,900	0.54	C	4.5%	22,400	0.68	C
4417	SW 95 ST	SW 27 AV	SW 27 AV	2	COLLECTOR	UNINTERMITTED	2	29,340	1,449	2	29,340	1,449	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4418	CR 45	SW ROLLING HILLS RD	SW ROLLING HILLS RD	2	COLLECTOR	UNINTERMITTED	2	29,340	1,449	2	29,340	1,449	Urban	0	COUNTY	Other CMP Network Roadway	E	11,100	0.87	C	2.9%	12,900	0.96	C
4419	SW MARTIN L KING AVE	SR 464	SR 200	4	ARTERIAL	INTERMITTENT	2	35,430	1,500	4	35,430	1,500	Urban	0	CITY OF OCALA	Other CMP Network Roadway	E	7,500	0.25	C	1.0%	7,900	0.26	C
4420	SW MARTIN L KING AVE	SR 200	SR 464	4	ARTERIAL	INTERMITTENT	2	35,430	1,500	4	35,430	1,500	Urban	0	CITY OF OCALA	Other CMP Network Roadway	E	7,500	0.25	C	1.0%	7,900	0.26	C
4421	US 27	COUNTY LINE (SR)	CR 464B	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4422	US 27	CR 464B	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4423	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4424	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4425	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4426	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4427	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4428	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4429	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4430	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4431	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4432	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4433	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4434	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4435	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4436	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4437	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4438	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4439	US 27	CR 275A	SR 200	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800	2,300	Rural	0	STATE	NHS - Non-Interstate Roadway	C	8,500	0.19	B	1.0%	8,900	0.21	B
4440	US 27	CR 275A	SR 464	4	ARTERIAL	UNINTERMITTED	4	45,800	2,300	4	45,800													



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**APPROVED PD EXCERPTS**

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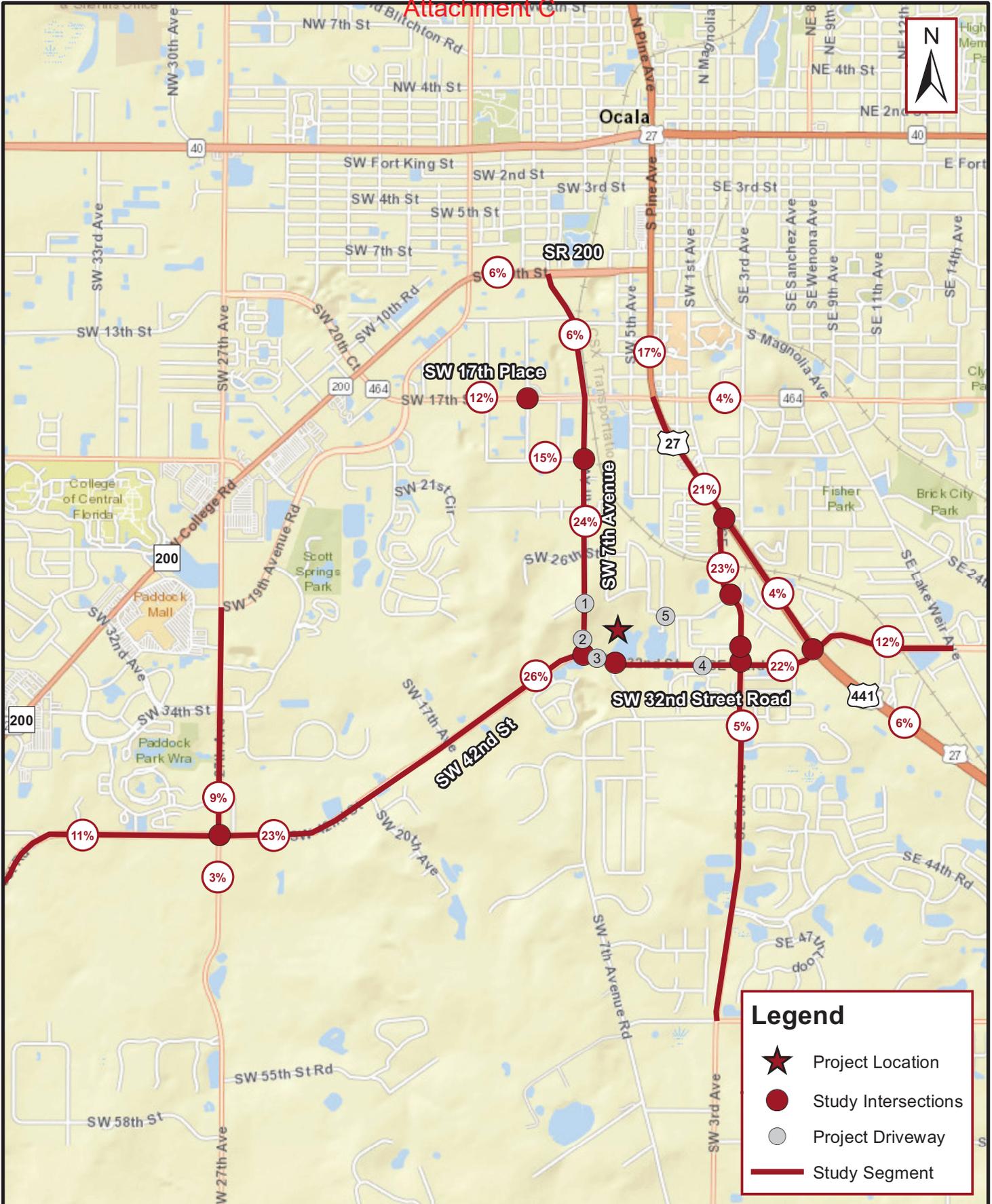
**PROJECT TRIP GENERATION**

Trip generation for the development was determined using data found in the ITE *Trip Generation Manual*, 11<sup>th</sup> Edition. ITE Land Use Code (LUC) 220 (Multifamily Housing [Low-Rise]) and LUC 221 (Multifamily Housing [Mid-Rise]) were applied in the trip generation calculations. No internal capture or pass-by reductions were applied.

The trip generation potential for the overall development is anticipated to be 6,840 net new daily trips, 409 net new AM peak hour trips (96 entering, 313 exiting), 500 net new PM peak hour trips (312 entering, 188 exiting). **Table 1** illustrates the trip generation calculations for the site, which were approved during the methodology process.

**Table 1: Trip Generation Summary**

Land Use	Intensity	Daily Trips	AM Peak Hour of Adjacent Street			PM Peak Hour of Adjacent Street			
			Total	In	Out	Total	In	Out	
<b>Proposed Development</b>									
<b>Phase 1</b>	Multifamily Housing (Mid-Rise)	326 DU	1,508	132	30	102	127	77	50
<b>Phase 2</b>	Multifamily Housing (Low-Rise)	820 DU	5,332	277	66	211	373	235	138
<b>TOTAL NET EXTERNAL TRIPS</b>			<b>6,840</b>	<b>409</b>	<b>96</b>	<b>313</b>	<b>500</b>	<b>312</b>	<b>188</b>
Trip Generation was calculated using the data from ITE's Trip Generation Manual, 11th Edition. <b>Multifamily Housing (Mid-Rise) [ITE 221]</b> Daily $T = 4.77*(X) - 46.46$ ; (X is number of dwelling units) AM Peak Hour of Adjacent Street $T = 0.44*(X) - 11.61$ ; (X is number of dwelling units); (23% in / 77% out) PM Peak Hour of Adjacent Street $T = 0.39*(X) + 0.34$ ; (X is number of dwelling units); (61% in / 39% out) <b>Multifamily Housing (Low-Rise) [ITE 220]</b> Daily $T = 6.41*(X) + 75.31$ ; (X is number of dwelling units) AM Peak Hour of Adjacent Street $T = 0.31*(X) + 22.85$ ; (X is number of dwelling units); (24% in / 76% out) PM Peak Hour of Adjacent Street $T = 0.43*(X) + 20.55$ ; (X is number of dwelling units); (63% in / 37% out)									



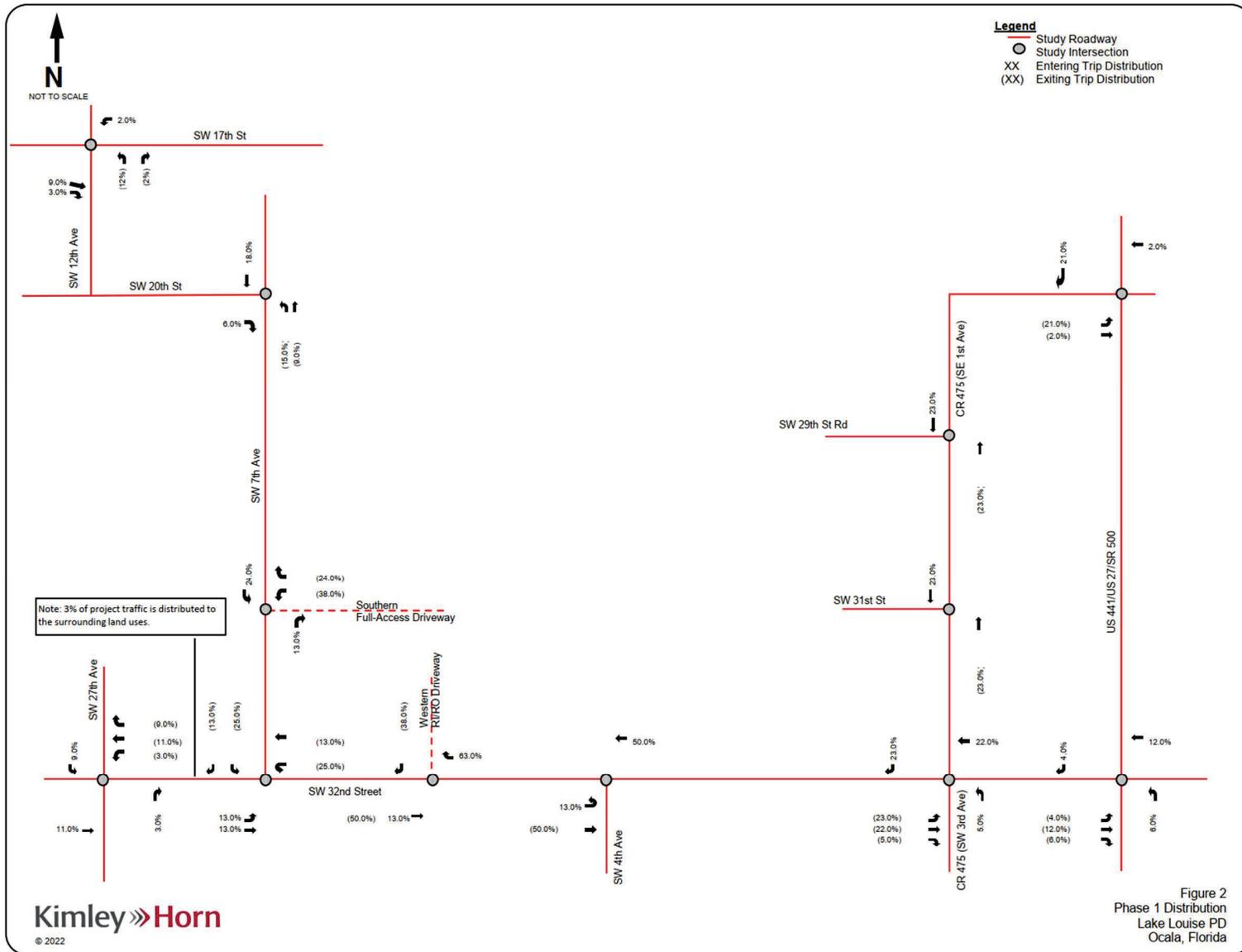
**Legend**

- ★ Project Location
- Study Intersections
- Project Driveway
- Study Segment

K:\IOCA\_GIS\142992301-Lake Louise Apt TIA\Map\Figure 1 - Project Trip Distribution and Assignment\_revised 2022-06.mxd - 6/10/2022 8:19:40 AM - Vincent Spahr

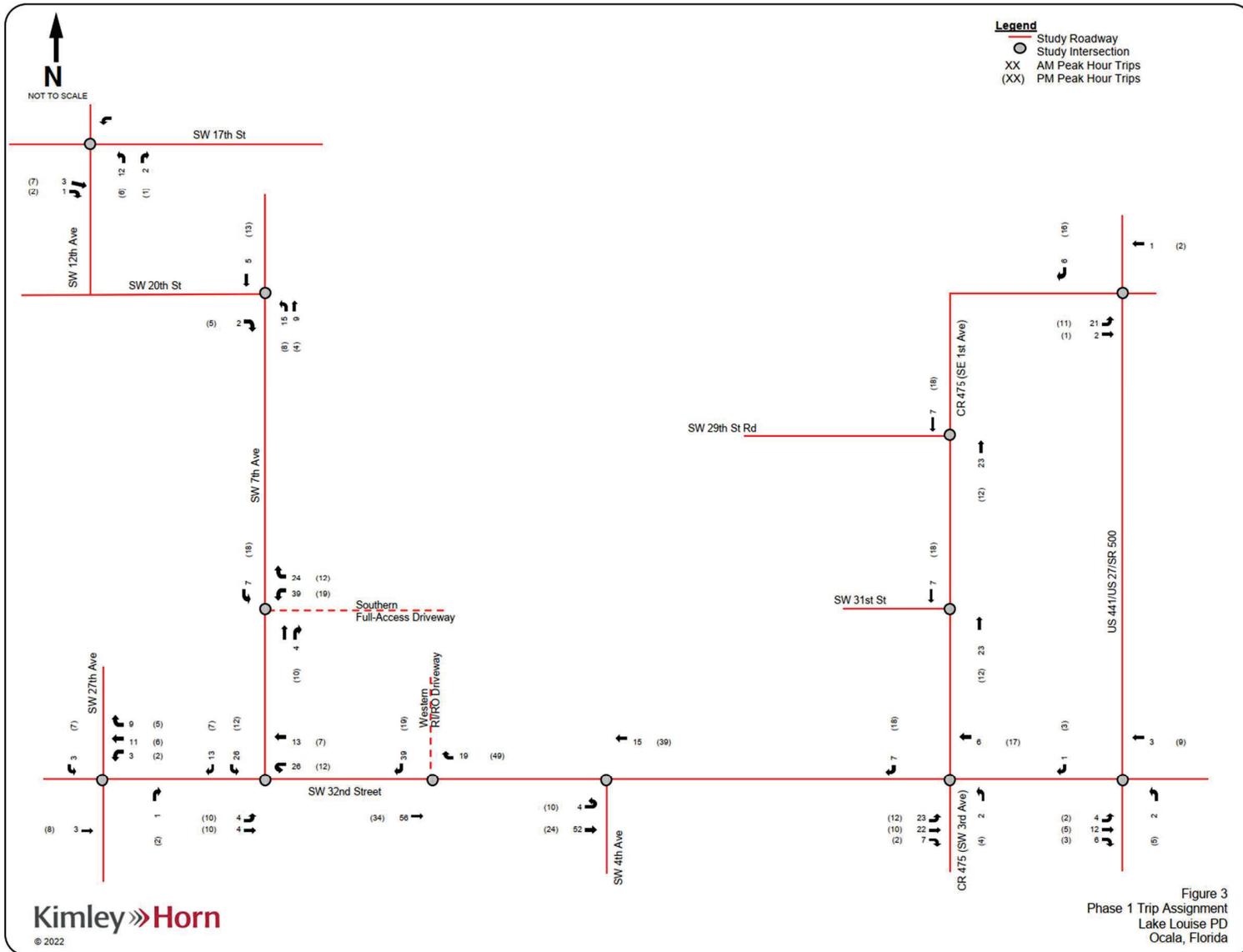
**Kimley»Horn**

© 2022 Kimley-Horn



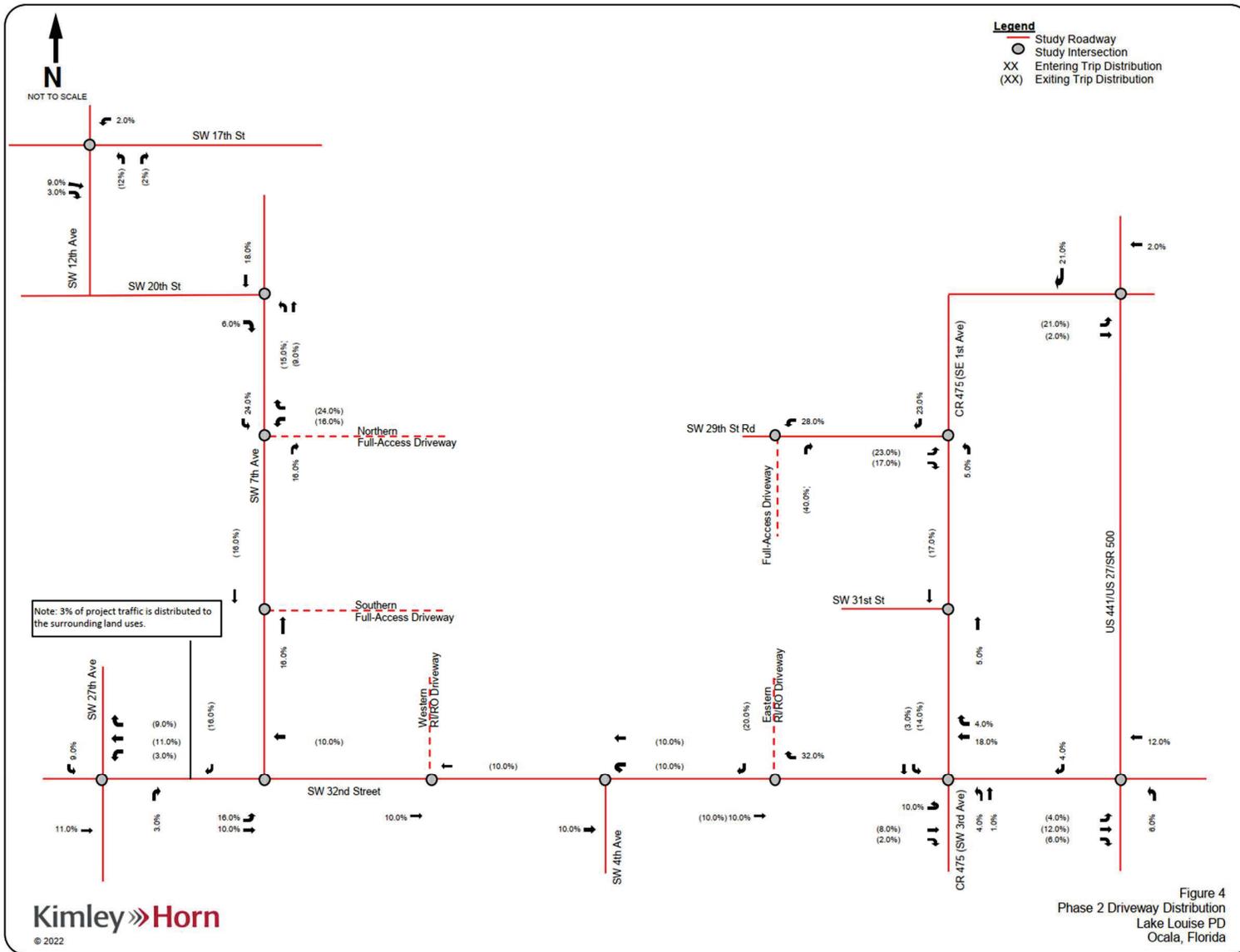
Attachment C

C-50



Attachment C

C-51



Attachment C

C-52





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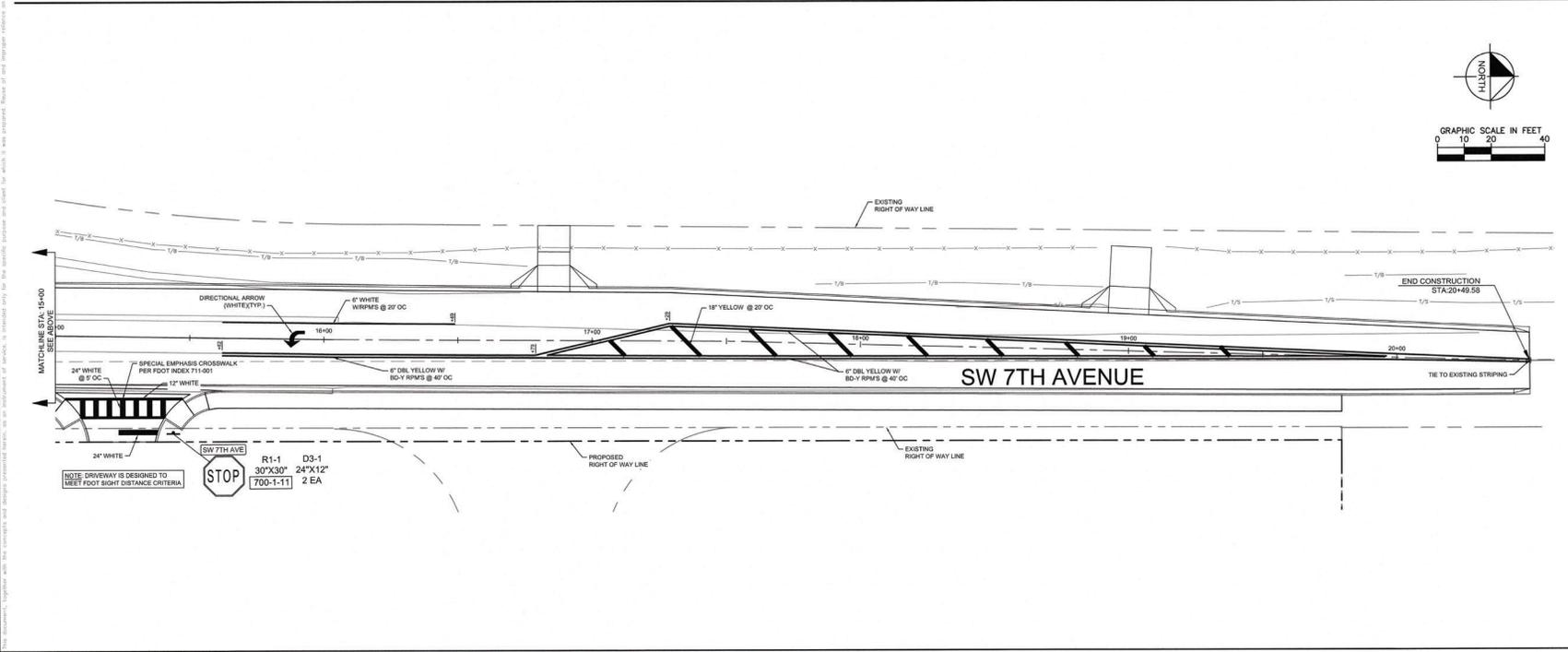
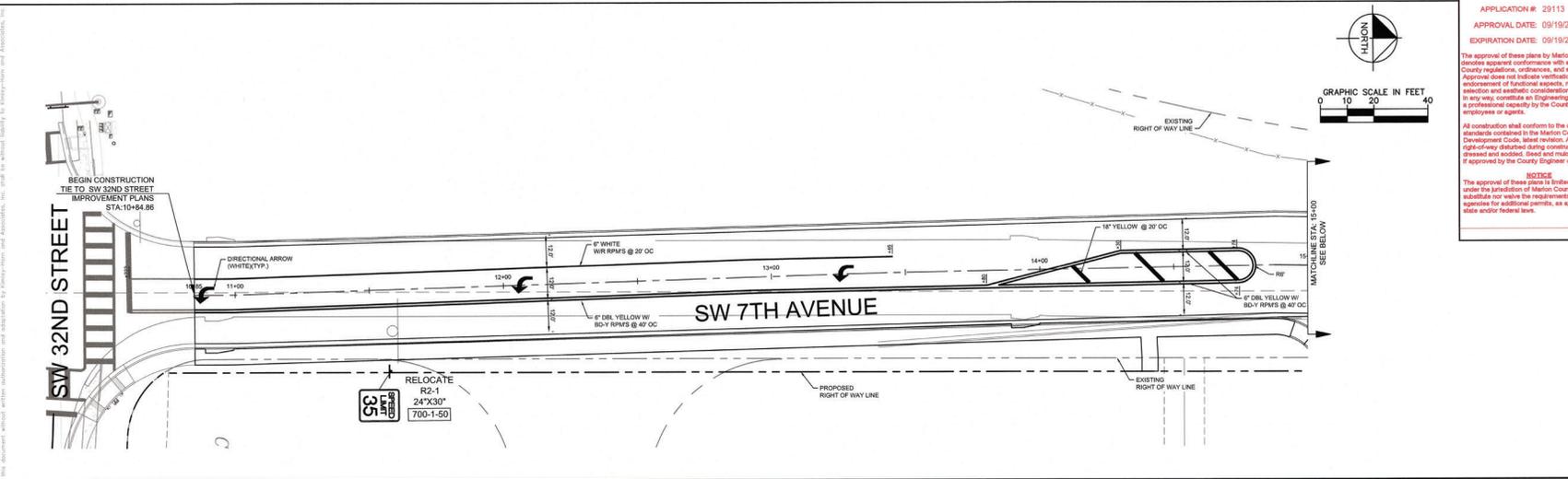
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**COMMITTED IMPROVEMENTS EXCERPTS**

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Printed By: Courtney, Darryl Sheet: Sht-Kha Layout: C008 SIGNING AND MARKING PLAN August 23, 2023 09:18:33am \\kimley-horn.com\VT\_OCA\OCA\_Civil\142922304-Lake Louise Apt. Dev\CAD\SW 7th Dr- Site Improvements\PlanSheets\C007\_SIGNING AND MARKING PLAN.dwg



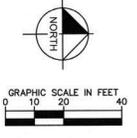
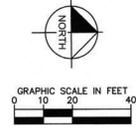
**COUNTY ENGINEER  
MARION COUNTY, FLORIDA**

APPLICATION # 29113  
 APPROVAL DATE: 09/19/2023  
 EXPIRATION DATE: 09/19/2028

The approval of these plans by Marion County denotes apparent conformance with applicable County regulations, ordinances and specifications. Approval does not indicate verification or endorsement of functional aspects, materials selection and aesthetic considerations and does not, in any way, constitute an Engineering Certification in a professional capacity by the County nor any of its employees or agents.

All construction shall conform to the construction standards contained in the Marion County Land Development Code, latest revision. Areas of the right-of-way disturbed during construction shall be dressed and seeded. Seed and mulch may be used if approved by the County Engineer or designee.

The approval of these plans is limited to construction under the jurisdiction of Marion County and does not substitute nor waive the requirements of other agencies for additional permits, as applicable, by state and/or federal laws.



NO.	REVISIONS	DATE	BY

**Kimley»Horn**

CIVIL ENGINEERS AND ARCHITECTS  
 1000 WEST 7TH STREET, SUITE 300, Ocala, FL 34701  
 PHONE: 352-489-9000  
 WWW.KIMLEY-HORN.COM REGISTRY NO. 3036

KHA PROJECT: 142922304  
 KHA SCALE: AS SHOWN  
 KHA DESIGNED BY: KHA  
 KHA DRAWN BY: DSC  
 KHA CHECKED BY: JCL

AUGUST 2023  
 AUGUST 2023  
 AUGUST 2023

LICENSED PROFESSIONAL ENGINEER  
 STATE OF FLORIDA  
 NO. 12567  
 EXPIRES 08/31/24

**SW 7TH AVENUE IMPROVEMENTS  
SIGNING AND  
MARKING PLAN**

**LAKE LOUISE  
APARTMENT DEVELOPMENT  
PREPARED FOR  
MESA CAPITAL PARTNERS, LLC**

MARION COUNTY  
FLORIDA

SHEET NUMBER  
**C008**

**APPENDIX B:  
Traffic Data**

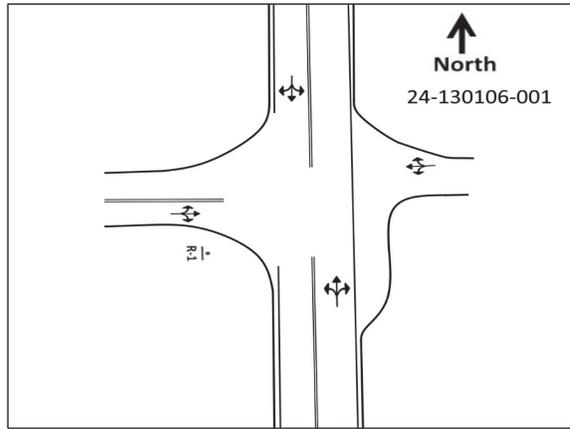
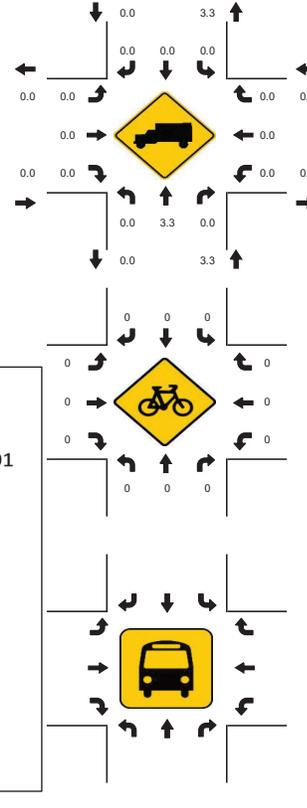
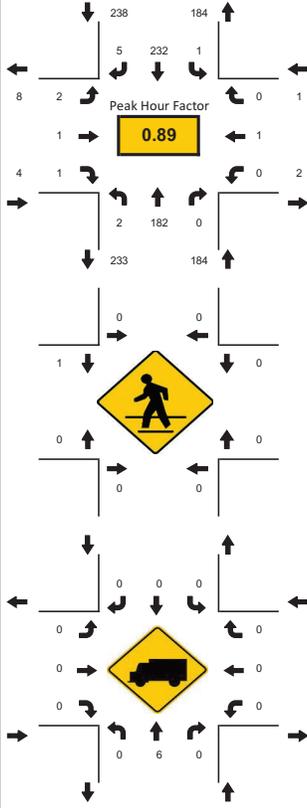


# Attachment C

LOCATION: SW 7th Ave & SW 26th St/Future Project Dwy  
 CITY/STATE: Ocala, FL

PROJECT ID: 24-130106-001  
 DATE: Tue, Mar 26, 2024

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



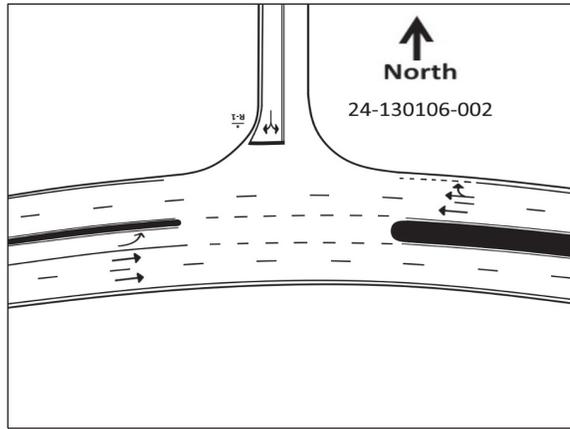
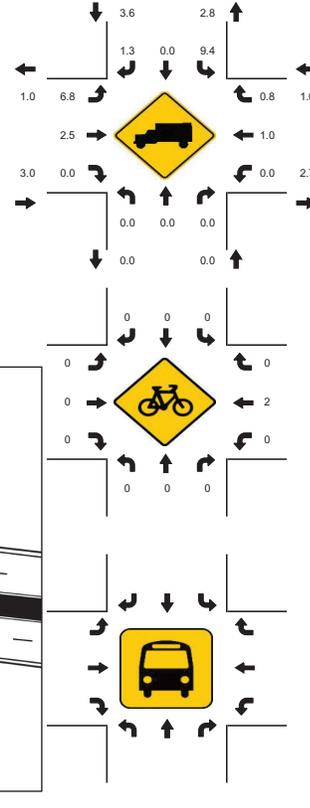
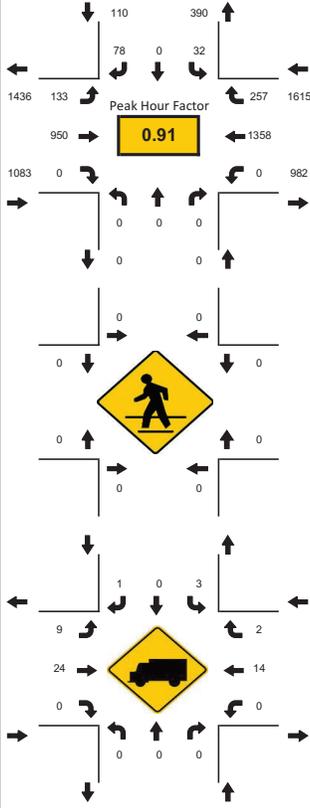
15-Min Count Period Beginning At	SW 7th Ave Northbound					SW 7th Ave Southbound					SW 26th St/Future Project Dwy Eastbound					SW 26th St/Future Project Dwy Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	1	53	0	0		0	59	1	0		0	0	0	0		0	0	0	0		114	405
4:15 PM	0	46	1	0		0	38	1	0		1	0	0	0		0	0	0	0		87	394
4:30 PM	0	37	0	0		0	67	2	0		0	0	0	0		0	0	0	0		106	427
4:45 PM	1	47	0	0		1	45	2	0		1	1	0	0		0	0	0	0		98	407
5:00 PM	1	40	0	0		0	60	0	0		1	0	0	0		0	1	0	0		103	389
5:15 PM	0	58	0	0		0	60	1	0		0	0	1	0		0	0	0	0		120	286
5:30 PM	0	41	0	0		1	43	0	0		1	0	0	0		0	0	0	0		86	166
5:45 PM	2	44	0	0		0	29	2	1		1	0	0	0		0	0	1	0		80	80
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	4	232	0	0		4	268	8	0		4	4	4	0		0	4	0	0		532	
Heavy Trucks	0	8	0	0		0	0	0	0		0	0	0	0		0	0	0	0		8	
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																						

# Attachment C

LOCATION: SW 7th Ave & SW 32nd St/SW 42nd St/CR 475C  
 CITY/STATE: Ocala, FL

PROJECT ID: 24-130106-002  
 DATE: Tue, Mar 26, 2024

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



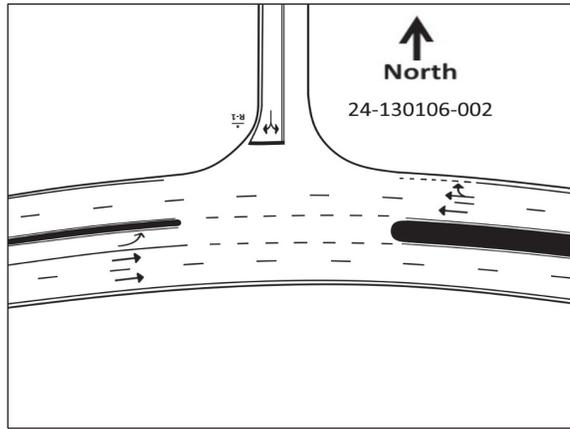
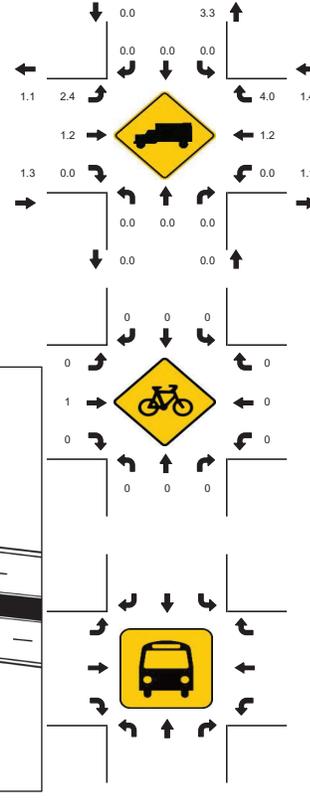
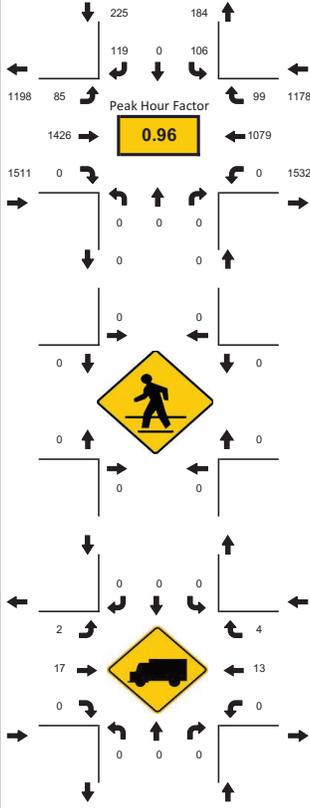
15-Min Count Period Beginning At	SW 7th Ave Northbound					SW 7th Ave Southbound					SW 32nd St/SW 42nd St/CR 475C Eastbound					SW 32nd St/SW 42nd St/CR 475C Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
7:00 AM	0	0	0	0	0	6	0	21	0	29	168	0	0	0	201	48	0	473	2595			
7:15 AM	0	0	0	0	0	5	0	11	0	29	216	0	0	0	304	59	0	624	2808			
7:30 AM	0	0	0	0	0	12	0	25	0	32	260	0	0	0	332	63	0	724	2723			
7:45 AM	0	0	0	0	0	6	0	20	0	38	257	0	0	0	379	74	0	774	2516			
8:00 AM	0	0	0	0	0	9	0	22	0	34	217	0	0	0	343	61	0	686	2275			
8:15 AM	0	0	0	0	0	9	0	12	0	33	217	0	0	0	228	40	0	539	1589			
8:30 AM	0	0	0	0	0	10	0	22	0	22	190	0	0	0	245	28	0	517	1050			
8:45 AM	0	0	0	0	0	18	0	14	0	20	182	0	0	0	267	32	0	533	533			
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	0	0	0	0	0	48	0	100	0	152	1040	0	0	0	1516	296	0	3152				
Heavy Trucks	0	0	0	0	0	8	0	4	0	28	32	0	0	0	20	4	0	96				
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8				
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

# Attachment C

LOCATION: SW 7th Ave & SW 32nd St/SW 42nd St/CR 475C  
 CITY/STATE: Ocala, FL

PROJECT ID: 24-130106-002  
 DATE: Tue, Mar 26, 2024

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



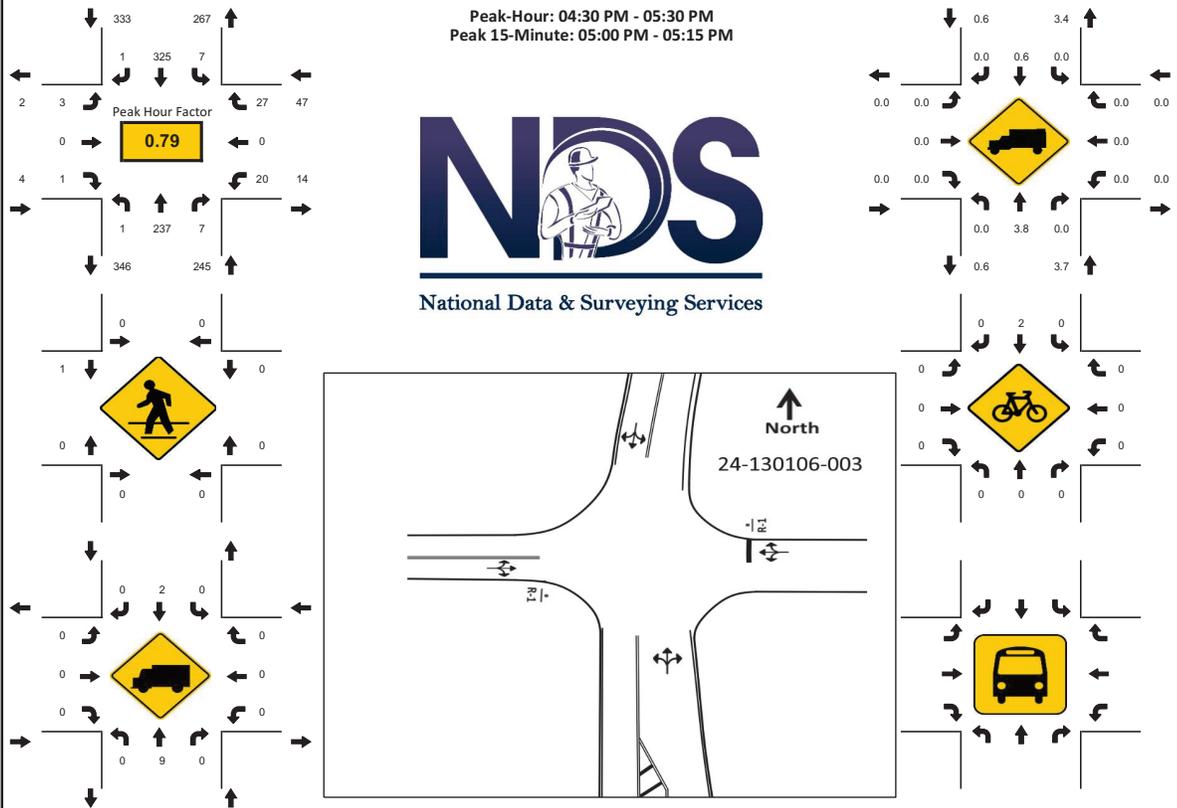
15-Min Count Period Beginning At	SW 7th Ave Northbound					SW 7th Ave Southbound					SW 32nd St/SW 42nd St/CR 475C Eastbound					SW 32nd St/SW 42nd St/CR 475C Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
4:00 PM	0	0	0	0	0	38	0	24	0	0	22	280	0	0	0	0	230	28	0	0	622	2721
4:15 PM	0	0	0	0	0	18	0	20	0	0	22	348	0	0	0	0	229	25	1	0	663	2816
4:30 PM	0	0	0	0	0	30	0	31	0	0	18	333	0	0	0	0	287	23	0	0	722	2914
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5:00 PM	0	0	0	0	0	27	0	33	0	0	19	366	0	0	0	0	245	27	0	0	717	2765
5:15 PM	0	0	0	0	0	26	0	27	0	0	26	372	0	0	0	0	285	25	0	0	761	2048
5:30 PM	0	0	0	0	0	24	0	26	0	0	20	336	0	0	0	0	265	20	0	0	691	1287
5:45 PM	0	0	0	0	0	20	0	10	0	0	23	283	0	0	0	0	237	23	0	0	596	596
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	0	0	0	0	0	120	0	132	0	0	104	1488	0	0	0	0	1148	108	0	0	3100	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	4	32	0	0	0	0	20	4	0	0	60	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



# Attachment C

LOCATION: CR 475/SE 1st Ave & SW 29th Street Rd  
 CITY/STATE: Ocala, FL

PROJECT ID: 24-130106-003  
 DATE: Tue, Mar 26, 2024



15-Min Count Period Beginning At	CR 475/SE 1st Ave Northbound					CR 475/SE 1st Ave Southbound					SW 29th Street Rd Eastbound					SW 29th Street 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*			
4:00 PM	0	47	0	0		1	66	0	0		1	0	0	0		3	0	4	0		122	547	
4:15 PM	0	37	1	0		2	83	0	0		0	0	0	0		3	0	2	0		128	624	
4:30 PM	0	52	3	0		2	86	0	0		0	0	0	0		3	0	3	0		149	629	
4:45 PM	0	58	0	0		1	74	0	0		2	0	1	0		6	0	6	0		148	610	
5:00 PM	0	76	2	0		2	96	1	0		1	0	0	0		8	0	13	0		199	566	
5:15 PM	0	51	2	1		2	69	0	0		0	0	0	0		3	0	5	0		133	367	
5:30 PM	0	53	2	0		1	69	1	0		2	0	1	0		0	0	1	0		130	234	
5:45 PM	0	52	0	0		0	49	0	0		0	0	0	0		1	0	2	0		104	104	
<b>Peak 15-Min Flowrates</b>																							
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Total		
All Vehicles	0	304	12	4		8	384	4	0		8	0	4	0		32	0	52	0		812		
Heavy Trucks	0	16	0	0		0	4	0	0		0	0	0	0		0	0	0	0		20		
Pedestrians	0							0				4					0					4	
Bicycles	0	0	0	0		0	8	0	0		0	0	0	0		0	0	0	0		8		
Buses																							
Stopped Buses																							

## Attachment C

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

MOCF: 0.96  
 PSCF

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

\* PEAK SEASON

09-MAR-2024 18:41:41

830UPD

5\_3600\_PKSEASON.TXT

**APPENDIX C:  
Intersection Volume Development  
Worksheets**

# Attachment C

## TRAFFIC VOLUMES AT STUDY INTERSECTIONS

**INTERSECTION:** SW 7th Avenue & N. Full Access Driveway  
**COUNT DATE:** March 26, 2024  
**AM PEAK HOUR FACTOR:** 0.86  
**PM PEAK HOUR FACTOR:** 0.89

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
AM Raw Turning Movements			7		2				1		2	386				108	2		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
<b>AM EXISTING CONDITIONS</b>			7		2				1		2	386				108	2		
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
PM Raw Turning Movements			2	1	1			1			2	182			1	232	5		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
<b>PM EXISTING CONDITIONS</b>			2	1	1			1			2	182			1	232	5		
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
Phase 1 Lake Louise PD												24				7			
Phase 2 Lake Louise PD							34		51				11		16				
<b>TOTAL "VESTED" TRAFFIC</b>							34		51			24	11		16	7			
Years To Phase 2 Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%		
<b>AM BACKGROUND TRAFFIC GROWTH</b>			1		0				0		0	40				11	0		
<b>AM NON-PROJECT TRAFFIC</b>			8		2		34		52		2	450	11		16	126	2		
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
Phase 1 Lake Louise PD												12				18			
Phase 2 Lake Louise PD							22		33				38		56				
<b>TOTAL "VESTED" TRAFFIC</b>							22		33			12	38		56	18			
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%		
<b>PM BACKGROUND TRAFFIC GROWTH</b>			0	0	0			0			0	19			0	24	1		
<b>PM NON-PROJECT TRAFFIC</b>			2	1	1		22	1	33		2	213	38		57	274	6		
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering														67.0%		24.0%		
	Exiting							67.0%		24.0%									
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering														67.0%		24.0%		
	Exiting							67.0%		24.0%									
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Net New							31		11					10		4		
<b>AM TOTAL PROJECT TRAFFIC</b>								31		11					10		4		
<b>AM TOTAL TRAFFIC</b>			8		2		65		63		2	450	21		20	126	2		
"PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Net New							21		7					36		13		
<b>PM TOTAL PROJECT TRAFFIC</b>								21		7					36		13		
<b>PM TOTAL TRAFFIC</b>			2	1	1		43	1	40		2	213	74		70	274	6		

**TRAFFIC VOLUMES  
AT STUDY INTERSECTIONS**

INTERSECTION: SW 32nd Street & SW 7th Avenue  
 COUNT DATE: March 26, 2024  
 AM PEAK HOUR FACTOR: 0.91  
 PM PEAK HOUR FACTOR: 0.96

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
AM Raw Turning Movements			133	950				1,358	257						32		78		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
AM EXISTING CONDITIONS			133	950				1,358	257						32		78		
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
PM Raw Turning Movements			85	1,426				1,079	99						106		119		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PM EXISTING CONDITIONS			85	1,426				1,079	99						106		119		
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
Phase 1 Lake Louise PD			4	4		26		13							26		13		
Phase 2 Lake Louise PD			11	7				21									34		
TOTAL "VESTED" TRAFFIC			15	11		26		34							26		47		
Years To Phase 2 Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%		
AM BACKGROUND TRAFFIC GROWTH			14	98				141	27						3		8		
AM NON-PROJECT TRAFFIC			162	1,059		26		1,533	284						61		133		
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
Phase 1 Lake Louise PD			10	10		12		7							12		7		
Phase 2 Lake Louise PD			38	24				14									22		
TOTAL "VESTED" TRAFFIC			48	34		12		21							12		29		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%		
PM BACKGROUND TRAFFIC GROWTH			9	148				112	10						11		12		
PM NON-PROJECT TRAFFIC			142	1,608		12		1,212	109						129		160		
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering			26.0%						41.0%							41.0%		26.0%
	Exiting																		
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering			26.0%						41.0%							41.0%		26.0%
	Exiting																		
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Net New			4						6						19		12	
AM TOTAL PROJECT TRAFFIC				4						6						19		12	
AM TOTAL TRAFFIC				166	1,059		26		1,533	290					80		145		
PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Net New			14						22						13		8	
PM TOTAL PROJECT TRAFFIC				14						22						13		8	
PM TOTAL TRAFFIC				156	1,608		12		1,212	131					142		168		

# Attachment C

## TRAFFIC VOLUMES AT STUDY INTERSECTIONS

**INTERSECTION:** SW 29th Street Road & CR 475  
**COUNT DATE:** March 26, 2024  
**AM PEAK HOUR FACTOR:** 0.91  
**PM PEAK HOUR FACTOR:** 0.79

"AM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
AM Raw Turning Movements			2				4		2		4	296	24		30	318	8		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
<b>AM EXISTING CONDITIONS</b>			2				4		2		4	296	24		30	318	8		
"PM EXISTING TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
PM Raw Turning Movements			3		1		20		27			237	7		7	325	1		
Peak Season Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
<b>PM EXISTING CONDITIONS</b>			3		1		20		27			237	7		7	325	1		
"AM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
Phase 1 Lake Louise PD												23				7			
Phase 2 Lake Louise PD			48		36						3						15		
<b>TOTAL "VESTED" TRAFFIC</b>			48		36						3	23				7	15		
Years To Phase 2 Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%		
<b>AM BACKGROUND TRAFFIC GROWTH</b>			0				0		0		0	31	2		3	33	1		
<b>AM NON-PROJECT TRAFFIC</b>			50		36		4		2		7	350	26		33	358	24		
"PM BACKGROUND TRAFFIC"		EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR		
Phase 1 Lake Louise PD												12				18			
Phase 2 Lake Louise PD			32		23						12						54		
<b>TOTAL "VESTED" TRAFFIC</b>			32		23						12	12				18	54		
Years To Buildout		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Yearly Growth Rate		3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%		
<b>PM BACKGROUND TRAFFIC GROWTH</b>			0		0		2		3			25	1		1	34	0		
<b>PM NON-PROJECT TRAFFIC</b>			35		24		22		30		12	274	8		8	377	55		
"AM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering												3.0%					8.0%	6.0%
	Exiting		6.0%		3.0%									8.0%					
"PM PROJECT DISTRIBUTION"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Net New Distribution	Entering												3.0%					8.0%	6.0%
	Exiting		6.0%		3.0%									8.0%					
"AM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Net New		3		1							0	4					1	1
<b>AM TOTAL PROJECT TRAFFIC</b>			3		1								4					1	1
<b>AM TOTAL TRAFFIC</b>			53		37		4		2		7	354	26		33	359	25		
PM PROJECT TRAFFIC"		LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project Trips	Net New		2		1							2	2					4	3
<b>PM TOTAL PROJECT TRAFFIC</b>			2		1							2	2					4	3
<b>PM TOTAL TRAFFIC</b>			37		25		22		30		14	276	8		8	381	58		

**APPENDIX D:  
Synchro Output**

## Existing Traffic Conditions (2024)

# Attachment C

## Lanes, Volumes, Timings

Existing Conditions (2024)

### 1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	2	0	0	1	2	386	0	0	108	2
Future Volume (vph)	7	0	2	0	0	1	2	386	0	0	108	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	8	0	2	0	0	1	2	449	0	0	126	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	1	0	0	451	0	0	128	0
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Control Type: Unsignalized

# Attachment C

HCM 7th TWSC  
1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Existing Conditions (2024)  
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	2	0	0	1	2	386	0	0	108	2
Future Vol, veh/h	7	0	2	0	0	1	2	386	0	0	108	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	8	0	2	0	0	1	2	449	0	0	126	2

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	580	580	127	579	581	449	128	0	0	449	0	0
Stage 1	127	127	-	453	453	-	-	-	-	-	-	-
Stage 2	453	453	-	126	128	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.236	-	-
Pot Cap-1 Maneuver	426	426	924	426	425	610	1452	-	-	1101	-	-
Stage 1	877	791	-	586	570	-	-	-	-	-	-	-
Stage 2	586	570	-	878	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	424	425	924	424	424	610	1452	-	-	1101	-	-
Mov Cap-2 Maneuver	424	425	-	424	424	-	-	-	-	-	-	-
Stage 1	877	791	-	585	568	-	-	-	-	-	-	-
Stage 2	584	568	-	876	790	-	-	-	-	-	-	-

Approach	EB		WB			NB		SB		
HCM Control Delay, s/v	12.64		10.91			0.04		0		
HCM LOS	B		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	9	-	-	482	610	1101	-	-
HCM Lane V/C Ratio	0.002	-	-	0.022	0.002	-	-	-
HCM Control Delay (s/veh)	7.5	0	-	12.6	10.9	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

## Attachment C

Lanes, Volumes, Timings  
 2: SW 42nd Street/SW 32nd Street & SW 7th Avenue

Existing Conditions (2024)  
 Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↔		↘	
Traffic Volume (vph)	133	950	1358	257	32	78
Future Volume (vph)	133	950	1358	257	32	78
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	2%	2%	4%	4%
Adj. Flow (vph)	146	1044	1492	282	35	86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	1044	1774	0	121	0
Sign Control		Free	Free		Stop	

**Intersection Summary**

Control Type: Unsignalized

## Attachment C

HCM 7th TWSC  
2: SW 42nd Street/SW 32nd Street & SW 7th Avenue

Existing Conditions (2024)  
Timing Plan: AM Peak Hour

### Intersection

Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗
Traffic Vol, veh/h	133	950	1358	257	32	78
Future Vol, veh/h	133	950	1358	257	32	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	170	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	2	2	4	4
Mvmt Flow	146	1044	1492	282	35	86

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1775	0	0 2448 887
Stage 1	-	-	- 1634 -
Stage 2	-	-	- 814 -
Critical Hdwy	4.16	-	- 6.88 6.98
Critical Hdwy Stg 1	-	-	- 5.88 -
Critical Hdwy Stg 2	-	-	- 5.88 -
Follow-up Hdwy	2.23	-	- 3.54 3.34
Pot Cap-1 Maneuver	342	-	- ~25 283
Stage 1	-	-	- 142 -
Stage 2	-	-	- 391 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	342	-	- ~14 283
Mov Cap-2 Maneuver	-	-	- 65 -
Stage 1	-	-	- 81 -
Stage 2	-	-	- 391 -

Approach	EB	WB	SB
HCM Control Delay, s/v	2.84	0	98.92
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	342	-	-	-	143
HCM Lane V/C Ratio	0.427	-	-	-	0.844
HCM Control Delay (s/veh)	23.1	-	-	-	98.9
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	2.1	-	-	-	5.5

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

## Attachment C

Lanes, Volumes, Timings  
3: CR 475 & SW 29th Street Road

Existing Conditions (2024)  
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	0	4	0	2	4	296	24	30	318	8
Future Volume (vph)	2	0	0	4	0	2	4	296	24	30	318	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	2%	2%	2%	6%	6%	6%
Adj. Flow (vph)	2	0	0	4	0	2	4	325	26	33	349	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	6	0	4	351	0	0	391	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC  
3: CR 475 & SW 29th Street Road

Existing Conditions (2024)  
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⬆			⬆		⬆	⬆			⬆	
Traffic Vol, veh/h	2	0	0	4	0	2	4	296	24	30	318	8
Future Vol, veh/h	2	0	0	4	0	2	4	296	24	30	318	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	65	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	17	17	17	2	2	2	6	6	6
Mvmt Flow	2	0	0	4	0	2	4	325	26	33	349	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	754	780	354	763	771	338	358	0	0	352	0	0
Stage 1	420	420	-	347	347	-	-	-	-	-	-	-
Stage 2	334	360	-	415	424	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.27	6.67	6.37	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.653	4.153	3.453	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	326	327	690	303	313	671	1200	-	-	1185	-	-
Stage 1	611	590	-	639	609	-	-	-	-	-	-	-
Stage 2	680	626	-	586	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	312	314	690	292	301	671	1200	-	-	1185	-	-
Mov Cap-2 Maneuver	312	314	-	292	301	-	-	-	-	-	-	-
Stage 1	590	569	-	636	607	-	-	-	-	-	-	-
Stage 2	675	624	-	565	542	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	16.62	15.2	0.1	0.68
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1200	-	-	312	360	151	-	-
HCM Lane V/C Ratio	0.004	-	-	0.007	0.018	0.028	-	-
HCM Control Delay (s/veh)	8	-	-	16.6	15.2	8.1	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-

# Attachment C

## Lanes, Volumes, Timings

Existing Conditions (2024)

### 1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	1	0	1	0	2	182	0	1	232	5
Future Volume (vph)	2	1	1	0	1	0	2	182	0	1	232	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	2	1	1	0	1	0	2	204	0	1	261	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	1	0	0	206	0	0	268	0
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Control Type: Unsignalized

# Attachment C

HCM 7th TWSC  
1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Existing Conditions (2024)  
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	1	0	1	0	2	182	0	1	232	5
Future Vol, veh/h	2	1	1	0	1	0	2	182	0	1	232	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	2	1	1	0	1	0	2	204	0	1	261	6

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	475	475	263	472	478	204	266	0	0	204	0	0
Stage 1	266	266	-	209	209	-	-	-	-	-	-	-
Stage 2	210	209	-	263	269	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	500	489	775	502	487	836	1292	-	-	1367	-	-
Stage 1	740	689	-	793	729	-	-	-	-	-	-	-
Stage 2	793	729	-	742	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	497	487	775	499	485	836	1292	-	-	1367	-	-
Mov Cap-2 Maneuver	497	487	-	499	485	-	-	-	-	-	-	-
Stage 1	739	688	-	791	728	-	-	-	-	-	-	-
Stage 2	790	728	-	739	686	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.69	12.44	0.08	0.03
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	20	-	-	543	485	8	-	-
HCM Lane V/C Ratio	0.002	-	-	0.008	0.002	0.001	-	-
HCM Control Delay (s/veh)	7.8	0	-	11.7	12.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

## Attachment C

Lanes, Volumes, Timings  
 2: SW 42nd Street/SW 32nd Street & SW 7th Avenue

Existing Conditions (2024)  
 Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↶		↷	
Traffic Volume (vph)	85	1426	1079	99	106	119
Future Volume (vph)	85	1426	1079	99	106	119
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	89	1485	1124	103	110	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	1485	1227	0	234	0
Sign Control		Free	Free		Stop	

**Intersection Summary**  
 Control Type: Unsignalized

# Attachment C

HCM 7th TWSC  
2: SW 42nd Street/SW 32nd Street & SW 7th Avenue

Existing Conditions (2024)  
Timing Plan: PM Peak Hour

**Intersection**

Int Delay, s/veh	10.7					
<b>Movement</b>	<b>EBL</b>	<b>EBT</b>	<b>WBT</b>	<b>WBR</b>	<b>SBL</b>	<b>SBR</b>
Lane Configurations	↖	↗	↖	↗	↖	↗
Traffic Vol, veh/h	85	1426	1079	99	106	119
Future Vol, veh/h	85	1426	1079	99	106	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	170	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	1485	1124	103	110	124

<b>Major/Minor</b>	<b>Major1</b>	<b>Major2</b>	<b>Minor2</b>		
Conflicting Flow All	1227	0	-	0	2095 614
Stage 1	-	-	-	-	1176 -
Stage 2	-	-	-	-	920 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	564	-	-	-	~ 45 435
Stage 1	-	-	-	-	256 -
Stage 2	-	-	-	-	349 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	564	-	-	-	~ 38 435
Mov Cap-2 Maneuver	-	-	-	-	138 -
Stage 1	-	-	-	-	215 -
Stage 2	-	-	-	-	349 -

<b>Approach</b>	<b>EB</b>	<b>WB</b>	<b>SB</b>
HCM Control Delay, s/v	0.71	0	133.62
HCM LOS			F

<b>Minor Lane/Major Mvmt</b>	<b>EBL</b>	<b>EBT</b>	<b>WBT</b>	<b>WBR</b>	<b>SBLn1</b>
Capacity (veh/h)	564	-	-	-	216
HCM Lane V/C Ratio	0.157	-	-	-	1.087
HCM Control Delay (s/veh)	12.6	-	-	-	133.6
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	10.6

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

## Attachment C

Lanes, Volumes, Timings  
3: CR 475 & SW 29th Street Road

Existing Conditions (2024)  
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	1	20	0	27	0	237	7	7	325	1
Future Volume (vph)	3	0	1	20	0	27	0	237	7	7	325	1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	4	0	1	25	0	34	0	300	9	9	411	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	59	0	0	309	0	0	421	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC  
3: CR 475 & SW 29th Street Road

Existing Conditions (2024)  
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⬆			⬆		⬆	⬆			⬆	
Traffic Vol, veh/h	3	0	1	20	0	27	0	237	7	7	325	1
Future Vol, veh/h	3	0	1	20	0	27	0	237	7	7	325	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	65	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	2	2	2
Mvmt Flow	4	0	1	25	0	34	0	300	9	9	411	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	730	739	412	734	735	304	413	0	0	309	0	0
Stage 1	430	430	-	304	304	-	-	-	-	-	-	-
Stage 2	300	309	-	429	430	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	338	345	640	336	347	735	1136	-	-	1252	-	-
Stage 1	604	584	-	705	663	-	-	-	-	-	-	-
Stage 2	709	660	-	604	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	319	342	640	332	344	735	1136	-	-	1252	-	-
Mov Cap-2 Maneuver	319	342	-	332	344	-	-	-	-	-	-	-
Stage 1	598	578	-	705	663	-	-	-	-	-	-	-
Stage 2	676	660	-	597	578	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	15	13.46	0	0.17
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1136	-	-	365	485	38	-	-
HCM Lane V/C Ratio	-	-	-	0.014	0.123	0.007	-	-
HCM Control Delay (s/veh)	0	-	-	15	13.5	7.9	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0	-	-

**Background Traffic Conditions with Vested  
Improvements (2027)**

## Attachment C

Lanes, Volumes, Timings

Background Conditions with Improvements 2027

1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	2	34	0	52	2	450	11	16	126	2
Future Volume (vph)	8	0	2	34	0	52	2	450	11	16	126	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	9	0	2	40	0	60	2	523	13	19	147	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	100	0	0	538	0	0	168	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC

Background Conditions with Improvements 2027

1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	2	34	0	52	2	450	11	16	126	2
Future Vol, veh/h	8	0	2	34	0	52	2	450	11	16	126	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	9	0	2	40	0	60	2	523	13	19	147	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	713	726	148	718	720	530	149	0	0	536	0	0
Stage 1	185	185	-	534	534	-	-	-	-	-	-	-
Stage 2	528	541	-	184	186	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.236	-	-
Pot Cap-1 Maneuver	347	351	899	344	354	549	1426	-	-	1022	-	-
Stage 1	817	747	-	530	524	-	-	-	-	-	-	-
Stage 2	534	521	-	818	746	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	302	343	899	336	346	549	1426	-	-	1022	-	-
Mov Cap-2 Maneuver	302	343	-	336	346	-	-	-	-	-	-	-
Stage 1	801	732	-	528	523	-	-	-	-	-	-	-
Stage 2	474	520	-	800	731	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	15.7	15.61	0.03	0.95
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	348	439	199	-	-
HCM Lane V/C Ratio	0.002	-	-	0.033	0.228	0.018	-	-
HCM Control Delay (s/veh)	7.5	0	-	15.7	15.6	8.6	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.9	0.1	-	-

## Attachment C

Lanes, Volumes, Timings

Background Conditions with Improvements 2027

2: SW 42nd Street/SW 32nd Street & SW 7th Ave

Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	1059	0	0	1533	284	0	0	0	61	0	133
Future Volume (vph)	162	1059	0	0	1533	284	0	0	0	61	0	133
Peak Hour Factor	0.91	0.91	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.91	0.92	0.91
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Adj. Flow (vph)	178	1164	0	0	1685	312	0	0	0	67	0	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	1164	0	0	1997	0	0	0	0	67	0	146
Turn Type	pm+pt	NA		Perm	NA					Prot		pm+ov
Protected Phases	1	6			2					8		1
Permitted Phases	6			2								8
Detector Phase	1	6		2	2					8		1
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0					10.0		7.0
Minimum Split (s)	13.4	26.4		26.4	26.4					16.4		13.4
Total Split (s)	31.4	66.4		66.4	66.4					46.4		31.4
Total Split (%)	21.8%	46.0%		46.0%	46.0%					32.2%		21.8%
Yellow Time (s)	4.4	4.4		4.4	4.4					4.0		4.4
All-Red Time (s)	2.0	2.0		2.0	2.0					2.4		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4					6.4		6.4
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Recall Mode	None	Max		Max	Max					None		None
v/c Ratio	0.64	0.40			0.93					0.35		0.35
Control Delay (s/veh)	30.6	4.0			28.7					48.8		25.7
Queue Delay	0.0	0.0			0.0					0.0		0.0
Total Delay (s/veh)	30.6	4.0			28.7					48.8		25.7
Queue Length 50th (ft)	58	106			584					41		60
Queue Length 95th (ft)	134	157			#944					88		112
Internal Link Dist (ft)		969			1616			1			716	
Turn Bay Length (ft)	305											
Base Capacity (vph)	510	3200			2142					714		624
Starvation Cap Reductn	0	0			0					0		0
Spillback Cap Reductn	0	0			0					0		0
Storage Cap Reductn	0	0			0					0		0
Reduced v/c Ratio	0.35	0.36			0.93					0.09		0.23

**Intersection Summary**

Cycle Length: 144.2

Actuated Cycle Length: 98.2

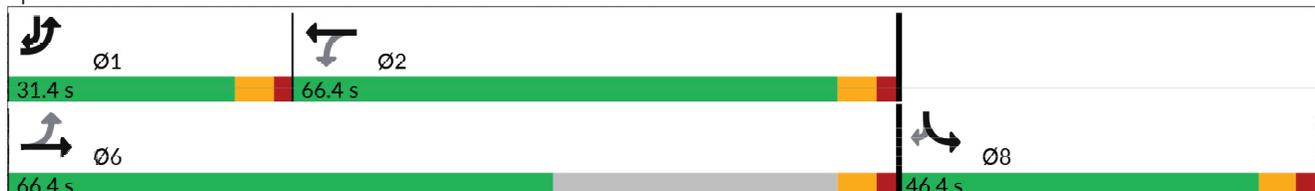
Natural Cycle: 90

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: SW 42nd Street/SW 32nd Street & SW 7th Ave



## Attachment C

### HCM 7th Signalized Intersection Summary Background Conditions with Improvements 2027 Timing Plan: AM Peak Hour

2: SW 42nd Street/SW 32nd Street & SW 7th Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1059	0	0	1533	284	0	0	0	61	0	133
Future Volume (veh/h)	162	1059	0	0	1533	284	0	0	0	61	0	133
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1856	1856	0	1870	1870	1870				1841	0	1841
Adj Flow Rate, veh/h	178	1164	0	0	1685	281				67	0	133
Peak Hour Factor	0.91	0.91	0.92	0.92	0.91	0.91				0.91	0.92	0.91
Percent Heavy Veh, %	3	3	0	2	2	2				4	0	4
Cap, veh/h	232	2691	0	75	1912	310				182	0	274
Arrive On Green	0.07	0.76	0.00	0.00	0.62	0.62				0.10	0.00	0.10
Sat Flow, veh/h	1767	3618	0	482	3061	496				1753	0	1560
Grp Volume(v), veh/h	178	1164	0	0	958	1008				67	0	133
Grp Sat Flow(s),veh/h/ln	1767	1763	0	482	1777	1781				1753	0	1560
Q Serve(g_s), s	3.7	11.2	0.0	0.0	42.2	47.1				3.4	0.0	7.4
Cycle Q Clear(g_c), s	3.7	11.2	0.0	0.0	42.2	47.1				3.4	0.0	7.4
Prop In Lane	1.00		0.00	1.00		0.28				1.00		1.00
Lane Grp Cap(c), veh/h	232	2691	0	75	1109	1112				182	0	274
V/C Ratio(X)	0.77	0.43	0.00	0.00	0.86	0.91				0.37	0.00	0.48
Avail Cap(c_a), veh/h	564	2691	0	75	1109	1112				730	0	762
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	4.0	0.0	0.0	14.7	15.6				40.1	0.0	35.7
Incr Delay (d2), s/veh	5.2	0.5	0.0	0.0	8.9	12.2				1.2	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.2	0.0	0.0	17.6	20.3				1.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.2	4.5	0.0	0.0	23.7	27.8				41.4	0.0	37.0
LnGrp LOS	C	A			C	C				D		D
Approach Vol, veh/h		1342			1966						200	
Approach Delay, s/veh		7.9			25.8						38.5	
Approach LOS		A			C						D	
Timer - Assigned Phs	1	2			6			8				
Phs Duration (G+Y+Rc), s	13.3	66.4			79.7			16.4				
Change Period (Y+Rc), s	6.4	6.4			6.4			6.4				
Max Green Setting (Gmax), s	25.0	60.0			60.0			40.0				
Max Q Clear Time (g_c+I1), s	5.7	49.1			13.2			9.4				
Green Ext Time (p_c), s	0.4	9.1			11.7			0.6				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh			19.7									
HCM 7th LOS			B									

## Attachment C

Lanes, Volumes, Timings  
3: CR 475 & SW 29th Street Road

Background Conditions with Improvements 2027  
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	0	36	4	0	2	7	350	26	33	358	24
Future Volume (vph)	50	0	36	4	0	2	7	350	26	33	358	24
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	2%	2%	2%	6%	6%	6%
Adj. Flow (vph)	55	0	40	4	0	2	8	385	29	36	393	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	6	0	8	414	0	0	455	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC  
3: CR 475 & SW 29th Street Road

Background Conditions with Improvements 2027  
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		↑	↑			+	
Traffic Vol, veh/h	50	0	36	4	0	2	7	350	26	33	358	24
Future Vol, veh/h	50	0	36	4	0	2	7	350	26	33	358	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	65	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	17	17	17	2	2	2	6	6	6
Mvmt Flow	55	0	40	4	0	2	8	385	29	36	393	26

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	879	908	407	880	907	399	420	0	0	413	0	0
Stage 1	479	479	-	414	414	-	-	-	-	-	-	-
Stage 2	400	429	-	466	492	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.27	6.67	6.37	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.653	4.153	3.453	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	268	275	644	252	261	619	1139	-	-	1124	-	-
Stage 1	568	555	-	587	568	-	-	-	-	-	-	-
Stage 2	626	584	-	549	523	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	254	262	644	225	248	619	1139	-	-	1124	-	-
Mov Cap-2 Maneuver	254	262	-	225	248	-	-	-	-	-	-	-
Stage 1	544	531	-	583	564	-	-	-	-	-	-	-
Stage 2	620	580	-	494	501	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s/v19.59			17.9			0.15			0.66		
HCM LOS	C		C								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1139	-	-	340	286	141	-	-
HCM Lane V/C Ratio	0.007	-	-	0.278	0.023	0.032	-	-
HCM Control Delay (s/veh)	8.2	-	-	19.6	17.9	8.3	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.1	0.1	-	-

## Attachment C

Lanes, Volumes, Timings

Background Conditions with Improvements 2027

1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	1	22	1	33	2	213	38	57	274	6
Future Volume (vph)	2	1	1	22	1	33	2	213	38	57	274	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	2	1	1	25	1	37	2	239	43	64	308	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	63	0	0	284	0	0	379	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC

Background Conditions with Improvements 2027

1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	1	22	1	33	2	213	38	57	274	6
Future Vol, veh/h	2	1	1	22	1	33	2	213	38	57	274	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	2	1	1	25	1	37	2	239	43	64	308	7

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	684	726	311	702	708	261	315	0	0	282	0	0
Stage 1	439	439	-	265	265	-	-	-	-	-	-	-
Stage 2	244	287	-	437	443	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	363	351	729	353	360	778	1240	-	-	1280	-	-
Stage 1	596	578	-	740	689	-	-	-	-	-	-	-
Stage 2	759	675	-	599	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	323	329	729	329	337	778	1240	-	-	1280	-	-
Mov Cap-2 Maneuver	323	329	-	329	337	-	-	-	-	-	-	-
Stage 1	560	543	-	738	688	-	-	-	-	-	-	-
Stage 2	720	673	-	560	541	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	14.66	13.25	0.06	1.35
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	14	-	-	377	499	303	-	-
HCM Lane V/C Ratio	0.002	-	-	0.012	0.126	0.05	-	-
HCM Control Delay (s/veh)	7.9	0	-	14.7	13.3	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.2	-	-

## Attachment C

Lanes, Volumes, Timings

Background Conditions with Improvements 2027

2: SW 42nd Street/SW 32nd Street & SW 7th Ave

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	1608	0	0	1212	109	0	0	0	129	0	160
Future Volume (vph)	142	1608	0	0	1212	109	0	0	0	129	0	160
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92	0.96
Adj. Flow (vph)	148	1675	0	0	1263	114	0	0	0	134	0	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1675	0	0	1377	0	0	0	0	134	0	167
Turn Type	pm+pt	NA		Perm	NA					Prot		pm+ov
Protected Phases	1	6			2					8		1
Permitted Phases	6			2								8
Detector Phase	1	6		2	2					8		1
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0					10.0		7.0
Minimum Split (s)	13.4	26.4		26.4	26.4					16.4		13.4
Total Split (s)	31.4	66.4		66.4	66.4					46.4		31.4
Total Split (%)	21.8%	46.0%		46.0%	46.0%					32.2%		21.8%
Yellow Time (s)	4.4	4.4		4.4	4.4					4.0		4.4
All-Red Time (s)	2.0	2.0		2.0	2.0					2.4		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4					6.4		6.4
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Recall Mode	None	Max		Max	Max					None		None
v/c Ratio	0.48	0.63			0.67					0.57		0.34
Control Delay (s/veh)	10.9	8.0			17.6					52.8		25.7
Queue Delay	0.0	0.0			0.0					0.0		0.0
Total Delay (s/veh)	10.9	8.0			17.6					52.8		25.7
Queue Length 50th (ft)	22	231			294					83		72
Queue Length 95th (ft)	62	362			478					152		127
Internal Link Dist (ft)		969			1616			1			716	
Turn Bay Length (ft)	305											
Base Capacity (vph)	535	3150			2047					689		706
Starvation Cap Reductn	0	0			0					0		0
Spillback Cap Reductn	0	0			0					0		0
Storage Cap Reductn	0	0			0					0		0
Reduced v/c Ratio	0.28	0.53			0.67					0.19		0.24

**Intersection Summary**

Cycle Length: 144.2

Actuated Cycle Length: 103

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: SW 42nd Street/SW 32nd Street & SW 7th Ave



KHA Analyst  
May 2024

Synchro 12 Report  
Page 3

## Attachment C

### HCM 7th Signalized Intersection Summary Background Conditions with Improvements 2027 2: SW 42nd Street/SW 32nd Street & SW 7th Ave Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1608	0	0	1212	109	0	0	0	129	0	160
Future Volume (veh/h)	142	1608	0	0	1212	109	0	0	0	129	0	160
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	148	1675	0	0	1262	106				134	0	151
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96				0.96	0.92	0.96
Percent Heavy Veh, %	2	2	0	2	2	2				2	0	2
Cap, veh/h	351	2676	0	74	2047	172				206	0	295
Arrive On Green	0.07	0.75	0.00	0.00	0.62	0.62				0.12	0.00	0.12
Sat Flow, veh/h	1781	3647	0	296	3319	278				1781	0	1585
Grp Volume(v), veh/h	148	1675	0	0	674	694				134	0	151
Grp Sat Flow(s),veh/h/ln	1781	1777	0	296	1777	1820				1781	0	1585
Q Serve(g_s), s	2.6	21.4	0.0	0.0	22.8	23.0				7.0	0.0	8.3
Cycle Q Clear(g_c), s	2.6	21.4	0.0	0.0	22.8	23.0				7.0	0.0	8.3
Prop In Lane	1.00		0.00	1.00		0.15				1.00		1.00
Lane Grp Cap(c), veh/h	351	2676	0	74	1096	1123				206	0	295
V/C Ratio(X)	0.42	0.63	0.00	0.00	0.62	0.62				0.65	0.00	0.51
Avail Cap(c_a), veh/h	683	2676	0	74	1096	1123				732	0	764
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	9.6	5.6	0.0	0.0	11.5	11.6				41.2	0.0	35.6
Incr Delay (d2), s/veh	0.8	1.1	0.0	0.0	2.6	2.6				3.5	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.4	0.0	0.0	8.9	9.2				3.2	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.4	6.7	0.0	0.0	14.1	14.1				44.6	0.0	37.0
LnGrp LOS	B	A			B	B				D		D
Approach Vol, veh/h		1823			1368						285	
Approach Delay, s/veh		7.0			14.1						40.6	
Approach LOS		A			B						D	
Timer - Assigned Phs	1	2			6			8				
Phs Duration (G+Y+Rc), s	13.3	66.4			79.7			17.6				
Change Period (Y+Rc), s	6.4	6.4			6.4			6.4				
Max Green Setting (Gmax), s	25.0	60.0			60.0			40.0				
Max Q Clear Time (g_c+I1), s	4.6	25.0			23.4			10.3				
Green Ext Time (p_c), s	0.4	12.8			19.0			0.9				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh			12.6									
HCM 7th LOS			B									

## Attachment C

Lanes, Volumes, Timings  
3: CR 475 & SW 29th Street Road

Background Conditions with Improvements 2027  
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	0	24	22	0	30	12	274	8	8	377	55
Future Volume (vph)	35	0	24	22	0	30	12	274	8	8	377	55
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	44	0	30	28	0	38	15	347	10	10	477	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	66	0	15	357	0	0	557	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC  
3: CR 475 & SW 29th Street Road

Background Conditions with Improvements 2027  
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+			+		↑	↑			+	
Traffic Vol, veh/h	35	0	24	22	0	30	12	274	8	8	377	55
Future Vol, veh/h	35	0	24	22	0	30	12	274	8	8	377	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	65	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	2	2	2
Mvmt Flow	44	0	30	28	0	38	15	347	10	10	477	70

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	909	920	512	880	949	352	547	0	0	357	0	0
Stage 1	532	532	-	382	382	-	-	-	-	-	-	-
Stage 2	377	387	-	497	567	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	256	271	562	268	260	692	1012	-	-	1202	-	-
Stage 1	531	525	-	640	612	-	-	-	-	-	-	-
Stage 2	644	609	-	555	507	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	235	264	562	246	253	692	1012	-	-	1202	-	-
Mov Cap-2 Maneuver	235	264	-	246	253	-	-	-	-	-	-	-
Stage 1	524	519	-	631	603	-	-	-	-	-	-	-
Stage 2	600	600	-	518	501	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	20.4	16.03	0.35	0.15
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1012	-	-	308	392	32	-	-
HCM Lane V/C Ratio	0.015	-	-	0.243	0.168	0.008	-	-
HCM Control Delay (s/veh)	8.6	-	-	20.4	16	8	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.6	0	-	-

## Buildout Traffic Conditions (2027)

# Attachment C

## Lanes, Volumes, Timings

## Buildout Conditions 2027

### 1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	0	2	65	0	63	2	450	21	20	126	2
Future Volume (vph)	8	0	2	65	0	63	2	450	21	20	126	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	9	0	2	76	0	73	2	523	24	23	147	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	149	0	0	549	0	0	172	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

# Attachment C

HCM 7th TWSC  
1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Buildout Conditions 2027  
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	2	65	0	63	2	450	21	20	126	2
Future Vol, veh/h	8	0	2	65	0	63	2	450	21	20	126	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	9	0	2	76	0	73	2	523	24	23	147	2

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	722	747	148	733	735	535	149	0	0	548	0	0
Stage 1	194	194	-	540	540	-	-	-	-	-	-	-
Stage 2	528	552	-	193	195	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.236	-	-
Pot Cap-1 Maneuver	342	342	899	336	347	545	1426	-	-	1012	-	-
Stage 1	808	740	-	526	521	-	-	-	-	-	-	-
Stage 2	534	515	-	809	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	288	332	899	326	337	545	1426	-	-	1012	-	-
Mov Cap-2 Maneuver	288	332	-	326	337	-	-	-	-	-	-	-
Stage 1	787	721	-	525	520	-	-	-	-	-	-	-
Stage 2	461	513	-	786	721	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v16.19		18.88	0.03	1.17
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	333	407	242	-	-
HCM Lane V/C Ratio	0.002	-	-	0.035	0.366	0.023	-	-
HCM Control Delay (s/veh)	7.5	0	-	16.2	18.9	8.6	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.6	0.1	-	-

## Attachment C

Lanes, Volumes, Timings  
2: SW 42nd Street/SW 32nd Street & SW 7th Ave

Buildout Conditions 2027  
Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	1059	0	26	1553	290	0	0	0	80	0	145
Future Volume (vph)	166	1059	0	26	1553	290	0	0	0	80	0	145
Peak Hour Factor	0.91	0.91	0.92	0.92	0.91	0.91	0.92	0.92	0.92	0.91	0.92	0.91
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Adj. Flow (vph)	182	1164	0	28	1707	319	0	0	0	88	0	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	1164	0	28	2026	0	0	0	0	88	0	159
Turn Type	pm+pt	NA		Perm	NA					Prot		pm+ov
Protected Phases	1	6			2					8		1
Permitted Phases	6			2								8
Detector Phase	1	6		2	2					8		1
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0					10.0		7.0
Minimum Split (s)	13.4	26.4		26.4	26.4					16.4		13.4
Total Split (s)	31.4	66.4		66.4	66.4					46.4		31.4
Total Split (%)	21.8%	46.0%		46.0%	46.0%					32.2%		21.8%
Yellow Time (s)	4.4	4.4		4.4	4.4					4.0		4.4
All-Red Time (s)	2.0	2.0		2.0	2.0					2.4		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4					6.4		6.4
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Recall Mode	None	Max		Max	Max					None		None
v/c Ratio	0.65	0.41		0.10	0.95					0.43		0.37
Control Delay (s/veh)	32.0	4.4		12.4	32.5					50.5		26.2
Queue Delay	0.0	0.0		0.0	0.0					0.0		0.0
Total Delay (s/veh)	32.0	4.4		12.4	32.5					50.5		26.2
Queue Length 50th (ft)	61	111		7	622					54		68
Queue Length 95th (ft)	141	172		26	#1007					110		122
Internal Link Dist (ft)		969			1616			1			716	
Turn Bay Length (ft)	305			130								
Base Capacity (vph)	506	3165		277	2121					708		630
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.36	0.37		0.10	0.96					0.12		0.25

### Intersection Summary

Cycle Length: 144.2

Actuated Cycle Length: 99.3

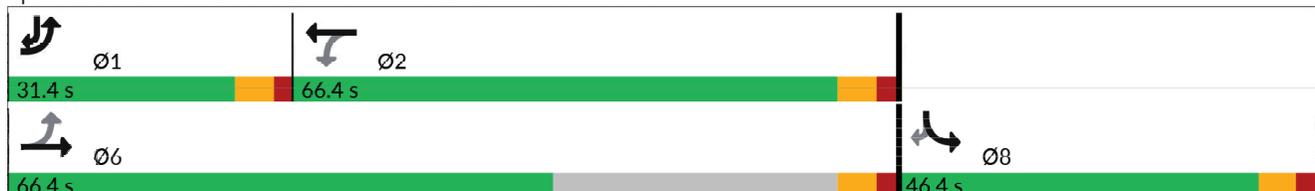
Natural Cycle: 90

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: SW 42nd Street/SW 32nd Street & SW 7th Ave



## Attachment C

### HCM 7th Signalized Intersection Summary 2: SW 42nd Street/SW 32nd Street & SW 7th Ave

Buildout Conditions 2027  
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1059	0	26	1553	290	0	0	0	80	0	145
Future Volume (veh/h)	166	1059	0	26	1553	290	0	0	0	80	0	145
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1856	1856	0	1870	1870	1870				1841	0	1841
Adj Flow Rate, veh/h	182	1164	0	28	1707	287				88	0	145
Peak Hour Factor	0.91	0.91	0.92	0.92	0.91	0.91				0.91	0.92	0.91
Percent Heavy Veh, %	3	3	0	2	2	2				4	0	4
Cap, veh/h	223	2667	0	373	1892	309				196	0	286
Arrive On Green	0.07	0.76	0.00	0.62	0.62	0.62				0.11	0.00	0.11
Sat Flow, veh/h	1767	3618	0	482	3058	500				1753	0	1560
Grp Volume(v), veh/h	182	1164	0	28	971	1023				88	0	145
Grp Sat Flow(s),veh/h/ln	1767	1763	0	482	1777	1780				1753	0	1560
Q Serve(g_s), s	4.4	11.6	0.0	2.3	44.6	49.9				4.6	0.0	8.1
Cycle Q Clear(g_c), s	4.4	11.6	0.0	2.3	44.6	49.9				4.6	0.0	8.1
Prop In Lane	1.00		0.00	1.00		0.28				1.00		1.00
Lane Grp Cap(c), veh/h	223	2667	0	373	1099	1102				196	0	286
V/C Ratio(X)	0.82	0.44	0.00	0.08	0.88	0.93				0.45	0.00	0.51
Avail Cap(c_a), veh/h	552	2667	0	373	1099	1102				723	0	755
HCM Platoon Ratio	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	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	4.3	0.0	7.5	15.5	16.6				40.3	0.0	35.7
Incr Delay (d2), s/veh	7.1	0.5	0.0	0.4	10.4	14.6				1.6	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	3.4	0.0	0.3	19.0	22.2				2.0	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.2	4.8	0.0	7.9	25.9	31.1				41.9	0.0	37.0
LnGrp LOS	C	A		A	C	C				D		D
Approach Vol, veh/h		1346			2022						233	
Approach Delay, s/veh		8.8			28.3						38.9	
Approach LOS		A			C						D	
Timer - Assigned Phs	1	2			6			8				
Phs Duration (G+Y+Rc), s	13.3	66.4			79.7			17.2				
Change Period (Y+Rc), s	6.4	6.4			6.4			6.4				
Max Green Setting (Gmax), s	25.0	60.0			60.0			40.0				
Max Q Clear Time (g_c+I1), s	6.4	51.9			13.6			10.1				
Green Ext Time (p_c), s	0.5	7.1			11.7			0.7				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh			21.7									
HCM 7th LOS			C									

## Attachment C

Lanes, Volumes, Timings  
3: CR 475 & SW 29th Street Road

Buildout Conditions 2027  
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	0	37	4	0	2	7	354	26	33	359	25
Future Volume (vph)	53	0	37	4	0	2	7	354	26	33	359	25
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	17%	17%	17%	2%	2%	2%	6%	6%	6%
Adj. Flow (vph)	58	0	41	4	0	2	8	389	29	36	395	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	6	0	8	418	0	0	458	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC  
3: CR 475 & SW 29th Street Road

Buildout Conditions 2027  
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⬆️			⬆️		⬆️	⬆️			⬆️	
Traffic Vol, veh/h	53	0	37	4	0	2	7	354	26	33	359	25
Future Vol, veh/h	53	0	37	4	0	2	7	354	26	33	359	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	65	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	17	17	17	2	2	2	6	6	6
Mvmt Flow	58	0	41	4	0	2	8	389	29	36	395	27

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	885	914	408	886	913	403	422	0	0	418	0	0
Stage 1	481	481	-	419	419	-	-	-	-	-	-	-
Stage 2	404	433	-	467	495	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.27	6.67	6.37	4.12	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.653	4.153	3.453	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	266	273	643	250	258	616	1137	-	-	1120	-	-
Stage 1	566	554	-	583	565	-	-	-	-	-	-	-
Stage 2	623	582	-	549	522	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	252	260	643	223	246	616	1137	-	-	1120	-	-
Mov Cap-2 Maneuver	252	260	-	223	246	-	-	-	-	-	-	-
Stage 1	542	530	-	579	561	-	-	-	-	-	-	-
Stage 2	616	578	-	492	500	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v20.15		18.04	0.15	0.66
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1137	-	-	336	283	141	-	-
HCM Lane V/C Ratio	0.007	-	-	0.295	0.023	0.032	-	-
HCM Control Delay (s/veh)	8.2	-	-	20.1	18	8.3	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-	-

## Attachment C

Lanes, Volumes, Timings

Buildout Conditions 2027

1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	1	43	1	40	2	213	74	70	274	6
Future Volume (vph)	2	1	1	43	1	40	2	213	74	70	274	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	2	1	1	48	1	45	2	239	83	79	308	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	94	0	0	324	0	0	394	0
Sign Control		Stop			Stop			Free			Free	

**Intersection Summary**

Control Type: Unsignalized

# Attachment C

HCM 7th TWSC  
1: SW 7th Ave & SW 26th Street/N Full Access Dwy

Buildout Conditions 2027  
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⬆️			⬆️			⬆️			⬆️	
Traffic Vol, veh/h	2	1	1	43	1	40	2	213	74	70	274	6
Future Vol, veh/h	2	1	1	43	1	40	2	213	74	70	274	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	2	1	1	48	1	45	2	239	83	79	308	7

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	713	796	311	751	757	281	315	0	0	322	0	0
Stage 1	469	469	-	285	285	-	-	-	-	-	-	-
Stage 2	244	327	-	466	472	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	347	320	729	327	337	758	1240	-	-	1237	-	-
Stage 1	575	561	-	722	675	-	-	-	-	-	-	-
Stage 2	759	648	-	577	559	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	299	295	729	300	310	758	1240	-	-	1237	-	-
Mov Cap-2 Maneuver	299	295	-	300	310	-	-	-	-	-	-	-
Stage 1	531	518	-	720	674	-	-	-	-	-	-	-
Stage 2	711	646	-	531	516	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v15.43		16.01	0.05	1.62
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	12	-	-	350	421	358	-	-
HCM Lane V/C Ratio	0.002	-	-	0.013	0.224	0.064	-	-
HCM Control Delay (s/veh)	7.9	0	-	15.4	16	8.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0.2	-	-

# Attachment C

Lanes, Volumes, Timings  
2: SW 42nd Street/SW 32nd Street & SW 7th Ave

Buildout Conditions 2027  
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	1608	0	12	1212	131	0	0	0	142	0	168
Future Volume (vph)	156	1608	0	12	1212	131	0	0	0	142	0	168
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92	0.96
Adj. Flow (vph)	163	1675	0	13	1263	136	0	0	0	148	0	175
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	1675	0	13	1399	0	0	0	0	148	0	175
Turn Type	pm+pt	NA		Perm	NA					Prot		pm+ov
Protected Phases	1	6			2					8		1
Permitted Phases	6			2								8
Detector Phase	1	6		2	2					8		1
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0					10.0		7.0
Minimum Split (s)	13.4	26.4		26.4	26.4					16.4		13.4
Total Split (s)	31.4	66.4		66.4	66.4					46.4		31.4
Total Split (%)	21.8%	46.0%		46.0%	46.0%					32.2%		21.8%
Yellow Time (s)	4.4	4.4		4.4	4.4					4.0		4.4
All-Red Time (s)	2.0	2.0		2.0	2.0					2.4		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4					6.4		6.4
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Recall Mode	None	Max		Max	Max					None		None
v/c Ratio	0.53	0.63		0.08	0.69					0.61		0.35
Control Delay (s/veh)	14.5	8.4		14.6	19.2					54.3		25.5
Queue Delay	0.0	0.0		0.0	0.0					0.0		0.0
Total Delay (s/veh)	14.5	8.4		14.6	19.2					54.3		25.5
Queue Length 50th (ft)	26	242		4	320					94		77
Queue Length 95th (ft)	88	382		17	520					168		133
Internal Link Dist (ft)		969			1616			1			716	
Turn Bay Length (ft)	305			130								
Base Capacity (vph)	520	3098		148	2007					678		707
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.31	0.54		0.09	0.70					0.22		0.25

**Intersection Summary**

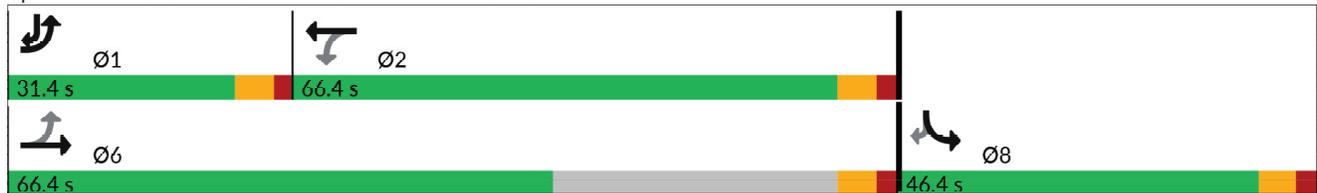
Cycle Length: 144.2

Actuated Cycle Length: 104.9

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: SW 42nd Street/SW 32nd Street & SW 7th Ave



KHA Analyst  
May 2024

Synchro 12 Report  
Page 3

## Attachment C

### HCM 7th Signalized Intersection Summary 2: SW 42nd Street/SW 32nd Street & SW 7th Ave

Buildout Conditions 2027  
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	1608	0	12	1212	131	0	0	0	142	0	168
Future Volume (veh/h)	156	1608	0	12	1212	131	0	0	0	142	0	168
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	162	1675	0	13	1262	125				148	0	158
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96				0.96	0.92	0.96
Percent Heavy Veh, %	2	2	0	2	2	2				2	0	2
Cap, veh/h	343	2663	0	229	2003	198				213	0	302
Arrive On Green	0.07	0.75	0.00	0.61	0.61	0.61				0.12	0.00	0.12
Sat Flow, veh/h	1781	3647	0	296	3267	323				1781	0	1585
Grp Volume(v), veh/h	162	1675	0	13	685	702				148	0	158
Grp Sat Flow(s),veh/h/ln	1781	1777	0	296	1777	1812				1781	0	1585
Q Serve(g_s), s	2.9	21.9	0.0	2.1	23.7	23.9				7.8	0.0	8.8
Cycle Q Clear(g_c), s	2.9	21.9	0.0	10.7	23.7	23.9				7.8	0.0	8.8
Prop In Lane	1.00		0.00	1.00		0.18				1.00		1.00
Lane Grp Cap(c), veh/h	343	2663	0	229	1090	1111				213	0	302
V/C Ratio(X)	0.47	0.63	0.00	0.06	0.63	0.63				0.69	0.00	0.52
Avail Cap(c_a), veh/h	672	2663	0	229	1090	1111				728	0	760
HCM Platoon Ratio	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	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	10.6	5.8	0.0	11.5	11.9	11.9				41.3	0.0	35.6
Incr Delay (d2), s/veh	1.0	1.1	0.0	0.5	2.7	2.7				4.0	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.7	0.0	0.2	9.3	9.6				3.6	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.6	7.0	0.0	12.0	14.7	14.7				45.3	0.0	37.0
LnGrp LOS	B	A		B	B	B				D		D
Approach Vol, veh/h		1837			1400						306	
Approach Delay, s/veh		7.4			14.6						41.0	
Approach LOS		A			B						D	
Timer - Assigned Phs	1	2			6			8				
Phs Duration (G+Y+Rc), s	13.3	66.4			79.7			18.1				
Change Period (Y+Rc), s	6.4	6.4			6.4			6.4				
Max Green Setting (Gmax), s	25.0	60.0			60.0			40.0				
Max Q Clear Time (g_c+I1), s	4.9	25.9			23.9			10.8				
Green Ext Time (p_c), s	0.4	13.4			18.9			1.0				
<b>Intersection Summary</b>												
HCM 7th Control Delay, s/veh			13.1									
HCM 7th LOS			B									

## Attachment C

Lanes, Volumes, Timings  
3: CR 475 & SW 29th Street Road

Buildout Conditions 2027  
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	0	25	22	0	30	14	276	8	8	381	58
Future Volume (vph)	37	0	25	22	0	30	14	276	8	8	381	58
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	47	0	32	28	0	38	18	349	10	10	482	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	66	0	18	359	0	0	565	0
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Control Type: Unsignalized												

## Attachment C

HCM 7th TWSC  
3: CR 475 & SW 29th Street Road

Buildout Conditions 2027  
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⬆			⬆		⬆	⬆			⬆	
Traffic Vol, veh/h	37	0	25	22	0	30	14	276	8	8	381	58
Future Vol, veh/h	37	0	25	22	0	30	14	276	8	8	381	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	65	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	2	2	2
Mvmt Flow	47	0	32	28	0	38	18	349	10	10	482	73

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	924	934	519	892	966	354	556	0	0	359	0	0
Stage 1	539	539	-	390	390	-	-	-	-	-	-	-
Stage 2	385	395	-	503	576	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	250	266	557	263	255	689	1005	-	-	1199	-	-
Stage 1	526	522	-	634	608	-	-	-	-	-	-	-
Stage 2	638	605	-	551	502	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	229	258	557	240	247	689	1005	-	-	1199	-	-
Mov Cap-2 Maneuver	229	258	-	240	247	-	-	-	-	-	-	-
Stage 1	520	515	-	623	597	-	-	-	-	-	-	-
Stage 2	592	594	-	513	496	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v21.17		16.27	0.41	0.14
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1005	-	-	300	385	31	-	-
HCM Lane V/C Ratio	0.018	-	-	0.261	0.171	0.008	-	-
HCM Control Delay (s/veh)	8.6	-	-	21.2	16.3	8	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0.6	0	-	-

# APPENDIX E: Turn Lane Evaluation

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

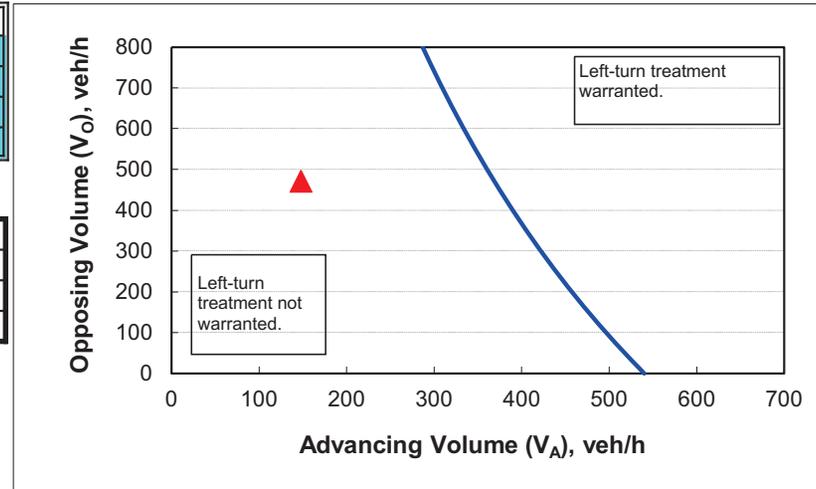
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	35
Percent of left-turns in advancing volume ( $V_A$ ), %:	14%
Advancing volume ( $V_A$ ), veh/h:	148
Opposing volume ( $V_O$ ), veh/h:	471

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	369
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	4.1
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

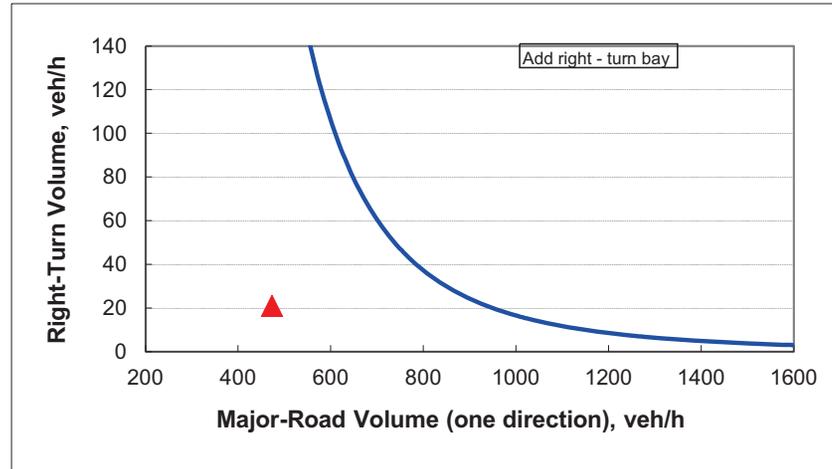
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	473
Right-turn volume, veh/h:	21

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	251
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Do NOT add right-turn bay.</b>	



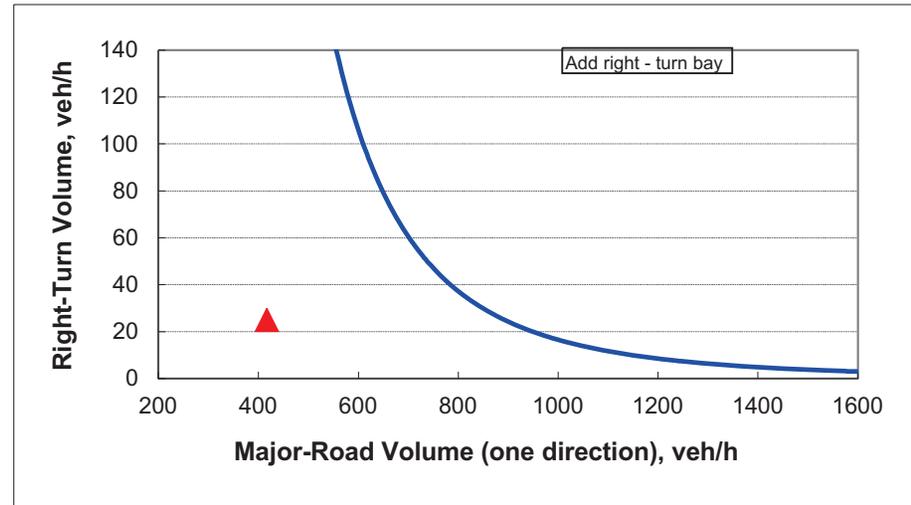
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	30
Major-road volume (one direction), veh/h:	417
Right-turn volume, veh/h:	25

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	251
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Do NOT add right-turn bay.</b>	



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

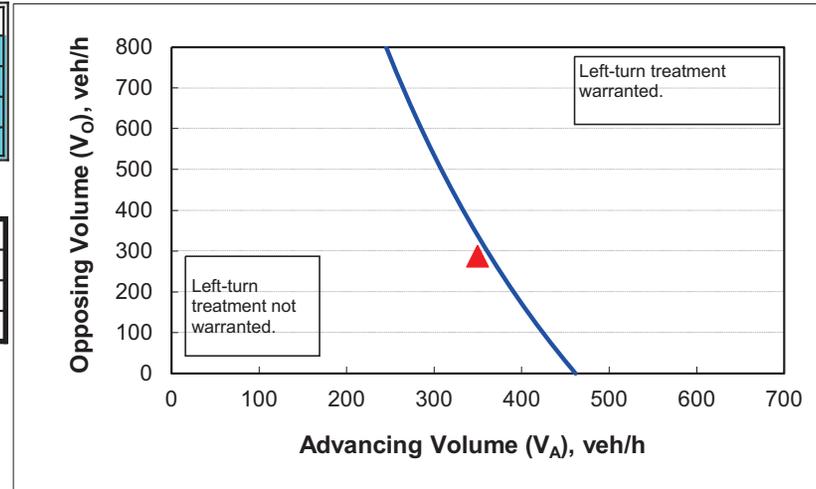
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	35
Percent of left-turns in advancing volume ( $V_A$ ), %:	20%
Advancing volume ( $V_A$ ), veh/h:	350
Opposing volume ( $V_O$ ), veh/h:	287

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	364
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	4.1
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

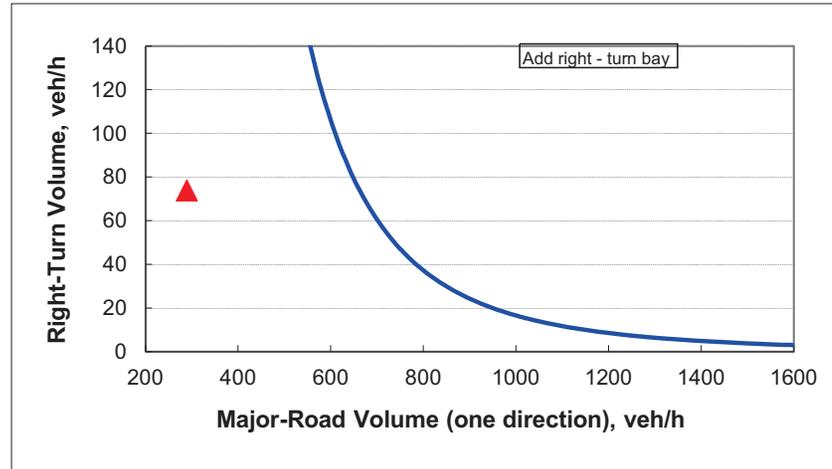
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

INPUT

Roadway geometry:	2-lane roadway	
	Variable	Value
Major-road speed, mph:		35
Major-road volume (one direction), veh/h:		289
Right-turn volume, veh/h:		74

OUTPUT

	Variable	Value
Limiting right-turn volume, veh/h:		1508
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>		
<b>Do NOT add right-turn bay.</b>		



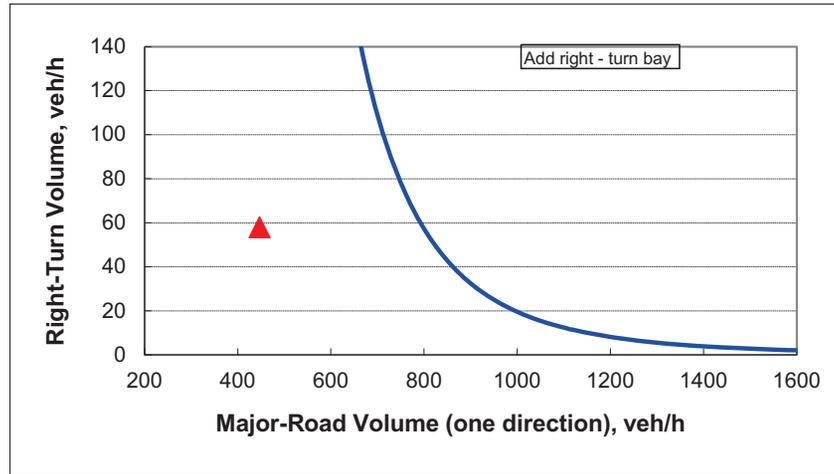
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	30
Major-road volume (one direction), veh/h:	447
Right-turn volume, veh/h:	58

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	946
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Do NOT add right-turn bay.</b>	



**Table 6. Buildout Traffic Conditions Turn Lane Summary**

Intersection	Required Deceleration (ft) <sup>1</sup>	Existing Total Turn Lane Length (ft) <sup>2</sup>	AM Peak Hour		PM Peak Hour		Max		Existing Storage Length Sufficient? <sup>4</sup>
			50th %tile Queue Length (ft) <sup>3</sup>	95 %tile Queue Length (ft) <sup>3</sup>	50th %tile Queue Length (ft) <sup>3</sup>	95 %tile Queue Length (ft) <sup>3</sup>	50th %tile Queue + Decel L (ft)	95th %tile Queue + Taper (ft)	
<b>SW 32nd Street &amp; SW 7th Avenue</b>									
EBL	155	355	75	150	50	100	230	200	Y
SBL	145	370	75	125	100	175	245	225	Y

Notes:

1. Based on the 2018 FDOT Greenbook.
2. Turn lane lengths were derived from the SW 7th Avenue Improvement Plans, approved September 2023.
3. Based on the 50th percentile and 95th percentile back of queue length (rounded up in 25-foot increments) as reported in Synchro 12.
4. The existing storage length was determined to be sufficient if the turn lane could accommodate the maximum between the summation of the required deceleration length plus 50th percentile queue length and the 95th percentile queue length plus a 50 foot taper length (with a minimum 50 foot queue length assumed).

# APPENDIX F: Planned Improvements

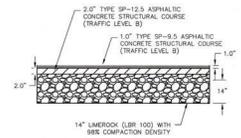


No.	REVISIONS	DATE	BY

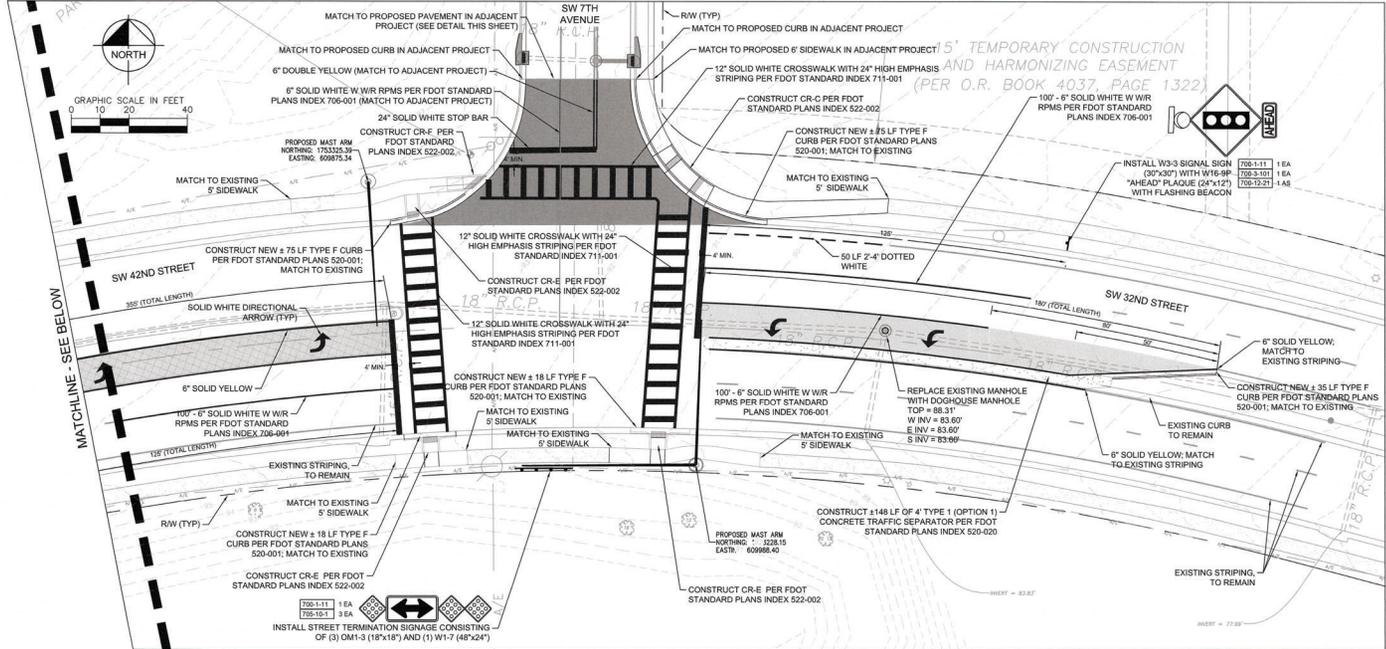
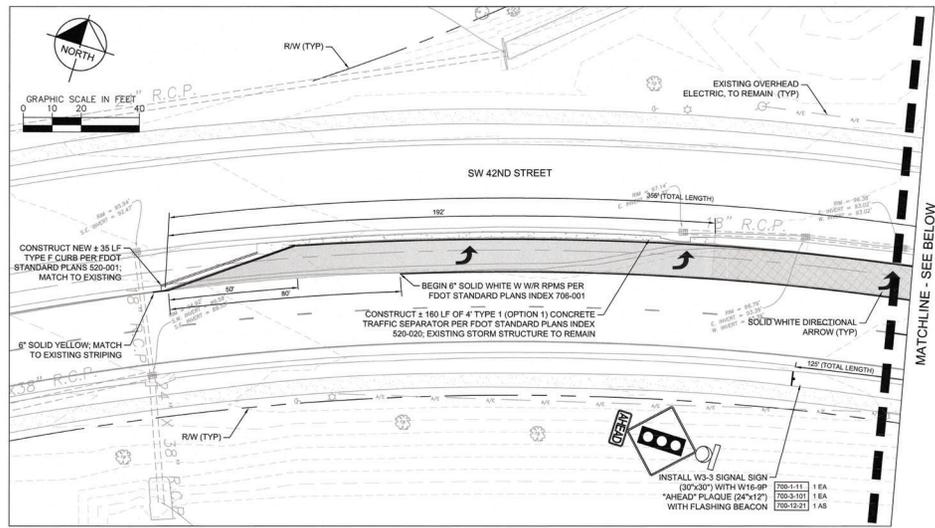
**LEGEND**

- 4" CONCRETE SIDEWALK (3000 PSI)
- 4" CONCRETE SEPARATOR
- MILLING AND RESURFACING (SEE DETAILS SHEET C05)
- NEW ASPHALT PAVEMENT MATCH SW 2ND AVE TYPICAL (SEE DETAILS SHEET C03)
- NEW ASPHALT PAVEMENT MATCH SW 7TH AVE TYPICAL (SEE DETAIL THIS SHEET)

- NOTES:**
- FOR INFORMATION ON SW 7TH AVENUE, SEE KIMLEY-HORN PLANS UNDER SEPARATE COVER.
  - FOR INFORMATION ON INTERSECTION GRADING SEE SHEET C03.
  - ALL STRIPING SHALL BE INSTALLED PER FOOT STANDARD INDEX 711-001.
  - NO STORAGE OR STAGING WITHIN ROADWAY RIGHT OF WAY SHALL BE PERMITTED. ALL STORAGE AND STAGING WILL BE ON THE ADJACENT EASE AND WILL BE SHOWN ON SITE PLAN SP122-447H-LANE LOUSE APARTMENTS. ALL MATERIALS, MACHINERY AND VEHICLES SHALL BE STORED ON SITE IN AN ORDERLY ORGANIZED FASHION.



**SW 7TH AVENUE  
NEW PAVEMENT SECTION**



CALL 2 BUSINESS DAYS BEFORE YOU DIG  
IT'S THE LAW!  
DIAL 811

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

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1700 SE 17TH STREET, SUITE 200, OCALA, FL 34471  
WWW.KIMLEY-HORN.COM TEL: 352.309.3006



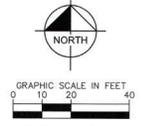
**IMPROVEMENT PLAN**

PERMIT SUBMITTAL  
**SW 32ND STREET**  
PREPARED FOR  
**MESA CAPITAL PARTNERS**  
CITY OF OCALA, FLORIDA  
SHEET NUMBER  
**C08**

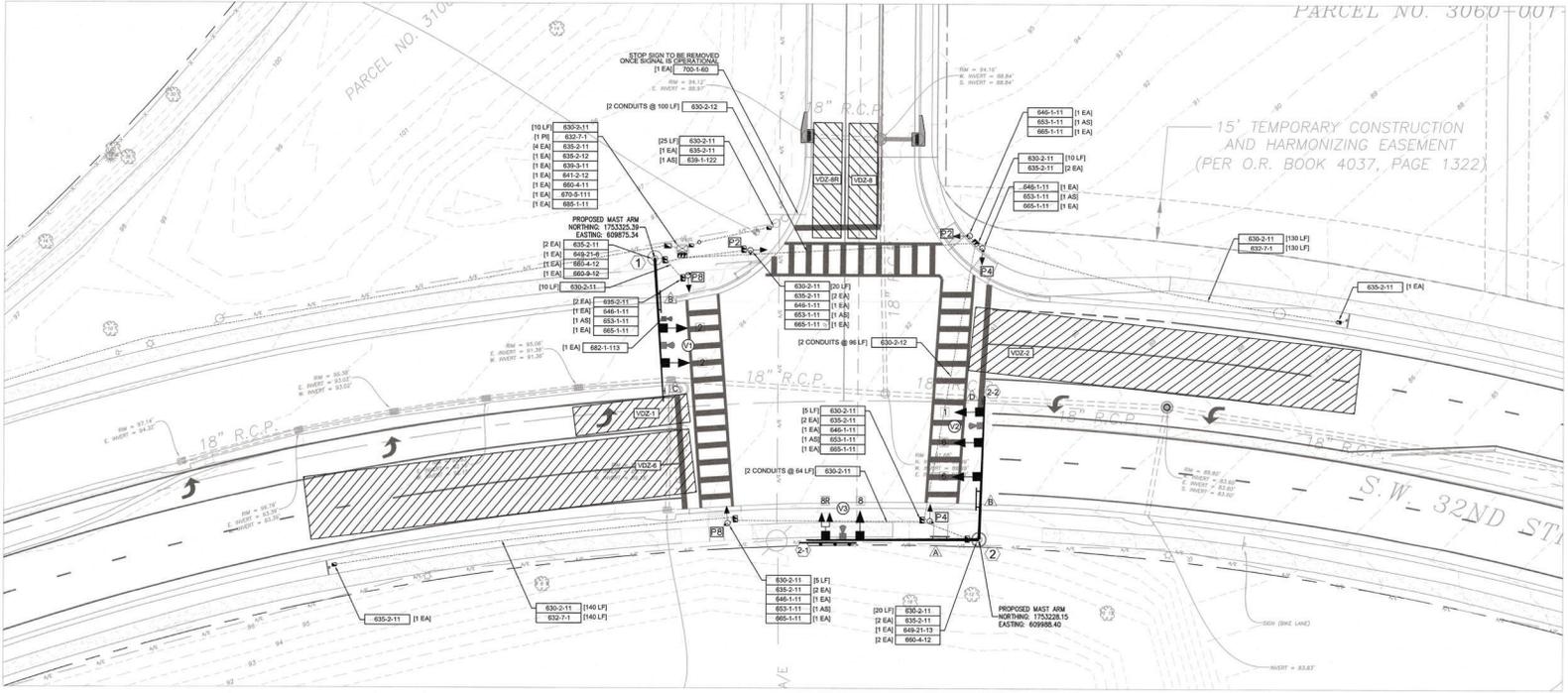




- NOTES:**
- SW 32ND STREET IS THE MAJOR STREET, MOVEMENTS 2 AND 6.
  - SW 7TH AVENUE IS THE MINOR STREET, MOVEMENT 8.
  - CONTROLLER TIMINGS ARE INTIAL AND MAY REQUIRE FIELD ADJUSTMENT. YELLOW AND ALL RED SIGNAL TIMINGS SHALL COMPLY WITH FDOT REQUIREMENTS.
  - FLASHING OPERATION SHALL BE YELLOW FOR MOVEMENTS 2 AND 6, RED FOR ALL OTHER MOVEMENTS.
  - PROPOSED VIDEO DETECTION ZONES SHOWN ARE FOR GUIDANCE TO THE TECHNICIAN SETTING UP THE SYSTEM. DIMENSIONS GIVEN ARE NOMINAL AND SHOULD CONFORM AS CLOSELY AS POSSIBLE TO THOSE PLANNED WITHOUT CREATING OVERLAPS OR CONFLICTS IN COVERAGE AREAS.
  - EXISTING STREET MOUNTED STOP AND STREET NAME SIGN ASSEMBLY ON SW 7TH AVENUE SHALL BE REMOVED ONCE SIGNAL IS OPERATIONAL.



NO.	REVISIONS	DATE	BY

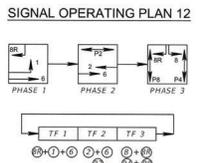


**VIDEO DETECTION ZONES**

VIDEO CAMERA NO.	ZONE	COVERAGE AREA	DETECTOR OPERATION
VC-1	VDZ-2	22' X 130'	NORMAL
VC-2	VDZ-1	10' X 40'	NORMAL
VC-2	VDZ-6	22' X 130'	NORMAL
VC-3	VDZ-8	10' X 40'	NORMAL
VC-3	VDZ-8R	10' X 40'	NORMAL

**CONTROLLER TIMINGS**

TIMING FUNCTION	1	2	3	4	5	6	7	8
MOVEMENT NUMBER	1	2	3	4	5	6	7	8
INITIAL	1	20	-	-	20	-	20	10
EXTENSION	3	3	-	-	3	-	3	3
MAXIMUM GREEN T	25	80	-	-	80	-	80	40
YELLOW CLEARANCE	4.4	4.4	-	-	4.4	-	4.4	4.0
ALL RED	2.0	2.0	-	-	2.0	-	2.4	2.4
PEDESTRIAN WALK	7	7	-	-	7	-	7	7
TRIP FWD	-	22	-	23	-	-	22	-



**Kimley»Horn**  
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 1700 SE 17TH STREET, SUITE 200, Ocala, FL 34471  
 WWW.KIMLEY-HORN.COM REGISTERED 35106

KHA PROJECT 142592300  
 DATE MARCH 2023  
 SCALE AS SHOWN  
 DESIGNED BY KHA  
 DRAWN BY BAD  
 CHECKED BY ALC  
 DATE

**SIGNALIZATION PLAN**

PERMIT SUBMITTAL  
**SW 32ND STREET**  
 PREPARED FOR  
**MESA CAPITAL PARTNERS**  
 CITY OF OCALA, FLORIDA

SHEET NUMBER  
**T02**

CALL 2 BUSINESS DAYS BEFORE YOU DIG  
 IT'S THE LAW! DIAL 811  
 Know what's below. Call before you dig.  
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.