

**MISSION RISE**  
Project № 23017.1, v1.3  
October 2023

**TRAFFIC IMPACT ANALYSIS  
TOWN OF HOWEY-IN-THE HILLS  
FLORIDA**

*Prepared by:*



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## EXECUTIVE SUMMARY

### **Project Information**

Name: Mission Rise

Location: West of SR 19 (South Palm Avenue), east of Silverwood Lane, and south of Number 2 Road in the Town of Howey-in-the-Hills, Lake County, Florida

Description: 499 Single Family Residential Units

Access Plan: One (1) full access at the intersection of Number 2 Road and Spine Road  
One (1) full access at the intersection of SR 19 and Revels Road  
One (1) full access at the intersection of Revels Road and Orange Blossom Road (expected to carry limited traffic)

### **Findings**

Trip Generation: 4,428 Daily Trips / 322 AM Peak Hour Trips / 451 PM Peak Hour Trips

Roadway Capacity: The segments of SR 19, from Lane Park Road to Central Avenue and from CR 455 to CR 478 are projected to operate over their capacities at the project buildout.

Intersection Capacity: The intersections of SR 19 and CR 48, SR 19 and Central Avenue, SR 19 and Revels Road, and SR 19 and CR 455 are projected to experience delays in the buildout condition. The project does not have a significant impact on the intersections.

### **Recommendations**

Intersection Improvements: Retime the signal or construct a roundabout at the intersections of SR 19 and CR 48 to maintain LOS standards.

Provide traffic signals on SR 19 at Central Avenue, Revels Road, and CR 455 to maintain LOS standards. A signal warrant analysis is recommended and should be provided in separate reports.

Construct a 430-foot northbound left turn lane and a 405-foot southbound right turn lane at the intersection of SR 19 and Revels Road.

Construct a 655-foot westbound left turn lane and a 420-foot eastbound right turn lane at the intersection of Number 2 Road and Spine Road.

## PROFESSIONAL ENGINEERING CERTIFICATION

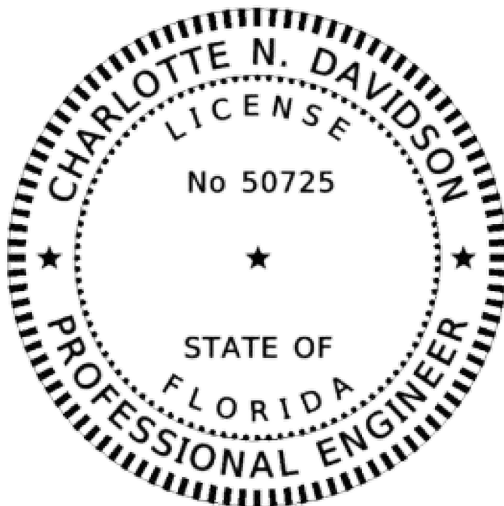
I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with Traffic & Mobility Consultants LLC, a corporation authorized to operate as an engineering business, CA-30024, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

**PROJECT:** Mission Rise

**LOCATION:** Town of Howey-in-the-Hills, Florida

**CLIENT:** ASF TAP Florida, LLC

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

**Charlotte N Davidson**  
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Charlotte N Davidson  
Date: 2023.10.18 13:47:46  
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ON THE DATE ADJACENT TO THE SEAL

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CERTIFICATE OF AUTHORIZATION CA-30024  
CHARLOTTE N. DAVIDSON, P.E. NO 50725

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## 1.0 INTRODUCTION

This Traffic Impact Analysis (TIA) was conducted to assess the impact of the proposed Mission Rise development in the town of Howey-in-the-Hills, Florida. The proposed development consists of 499 single-family units with an anticipated buildout year of 2033. This study conforms to the Tier 2 TIA requirements of the Town of Howey-in-the-Hills and Lake County. The analysis was prepared in accordance with the approved methodology. The study has been updated to incorporate comments received from the Town of Howey-in-the-Hills. The methodology and the response to comments letter are included in **Appendix A**.

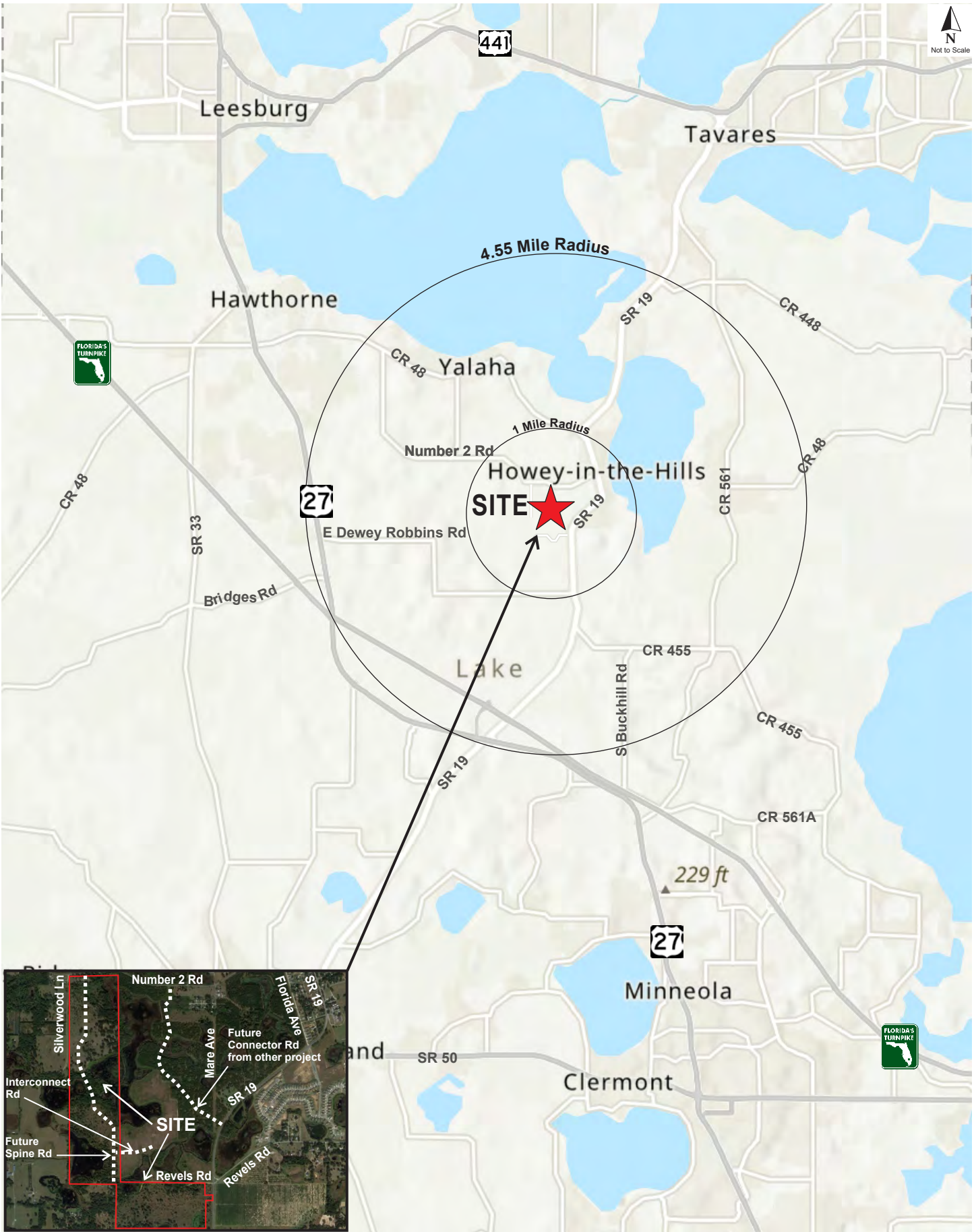
The site is located east of Silverwood Lane, west of SR 19 (South Palm Avenue), and south of Number 2 Road. **Figure 1** depicts the site location and the surrounding transportation network.

The development will be accessed via the intersections of Number 2 Road and Spine Road (future road), SR 19 and Revels Road, and Revels Road and Orange Blossom Road. The preliminary development site plan is provided in **Appendix B**.

Data used in the analysis consisted of site plan/development information provided by the project engineers, AM and PM peak hour intersection traffic counts obtained by Traffic & Mobility Consultants LLC, FDOT's *2023 Multimodal Quality/Level of Service (MQ/LOS) Handbook* and roadway capacities obtained from the *2022 Lake County Congestion Management Process (CMP) Database*.

### 1.1 Study Area

The project study area was established based on the standard requirements of the Lake Sumter Metropolitan Planning Organization (LSMPO) methodology and the Town of Howey-in-the-Hills *Land Development Code (LDC)*. In accordance with the requirements of Tier 2 TIA methodology, the impact area includes roadway segments and intersections within a 4.55-mile radius of the site in addition to roadways where the development traffic is expected to consume 5% or more of their adopted Level of Service (LOS) capacities. The roadway segments characteristics were obtained from the *2022 Lake County Congestion Management Process (CMP) Database* and *2023 FDOT Multimodal Quality/Level of Service (Q/LOS) Handbook Appendix B*, included in **Appendix C**. The project study area determination is provided in **Table 1**, as determined in the approved methodology.



**Table 1  
Study Area**

Roadway Segment	SEG ID	No Lns	Area Type	Median Type	Speed Limit	LOS Std	Pk Dir Cap	Dir	Project		Within 1-Mile? **	% Cap	In Study?
									Dist	Trips			
<b>CR 455</b>													
SR 19 to CR 561	950	2	R	Undivided	45	C	740	EB WB	10%	17 28	NO	2.3% 3.8%	NO
CR 561 to CR 561A	960	2	R	Undivided	25	C	410	EB WB	5%	8 14	NO	2.0% 3.4%	NO
<b>CR 48</b>													
US 27 to Lime Ave	1240	2	U	Undivided	40	D	1,080	EB WB	15%	43 25	NO	4.0% 2.3%	NO
Lime Ave to SR 19	1250	2	U	Undivided	40	D	1,080	EB WB	2%	6 3	NO	0.6% 0.3%	NO
CR 561 to Ranch Rd	1260	2	U	Undivided	40	D	840	EB WB	3%	5 9	NO	0.6% 1.1%	NO
Ranch Rd to CR 448A	1270	2	R	Undivided	40	C	410	EB WB	3%	5 9	NO	1.2% 2.2%	NO
<b>CR 561</b>													
CR 448 to CR 48	1410	2	U	Undivided	50	D	1,080	NB SB	0%	0 0	NO	0.0% 0.0%	NO
CR 48 to South Astatula City Limit	1420	2	U	Undivided	40	D	620	NB SB	3%	9 5	NO	1.5% 0.8%	NO
South Astatula City Limit to CR 455	1430	2	U	Undivided	40	D	1,080	NB SB	3%	9 5	NO	0.8% 0.5%	NO
CR 455 to Howey Cross Rd	1440	2	R	Undivided	35	C	470	NB SB	2%	6 3	NO	1.3% 0.6%	NO
Howey CRoss Rd to Turnpike Rd / CR 561A	1450	2	R	Undivided	40	C	640	NB SB	2%	6 3	NO	0.9% 0.5%	NO
<b>SR 19</b>													
Lane Park Rd to CR 48	3040	2	U	Undivided	55	D	920	NB SB	23%	38 65	NO	4.1% 7.1%	YES
CR 48 to Central Ave	3050	2	U	Undivided	40	D	700	NB SB	25%	42 71	NO	6.0% 10.1%	YES
Central Ave to CR 455	3060	2	U	Undivided	35	D	1,200	NB SB	50%	142 84	YES	11.8% 7.0%	YES
CR 455 to US 27 / SR 25	3070	2	R	Undivided	55	C	450	NB SB	35%	99 58	NO	22.0% 12.9%	YES
US 27 / SR 25 to CR 478	3080	2	R	Undivided	55	C	450	NB SB	20%	57 33	NO	12.7% 7.3%	YES
<b>SR 91 (Florida Turnpike)</b>													
US 27/SR 25 to US 27/SR 25/SR 19 Interchange	3566	4	U	Freeway	70	B	2,230	EB WB	10%	17 28	NO	0.8% 1.3%	NO
<b>US 27/SR 25</b>													
SR 19 to CR 561	3830	4	U	Divided	55	D	3,280	EB WB	15%	25 43	NO	0.8% 1.3%	NO
<b>Central Ave</b>													
SR 19 to Mare Ave	N/A	2	U	Undivided	30	D	770 *	EB WB	10%	17 28	YES	2.2% 3.6%	YES
<b>Number 2 Rd</b>													
Mare Ave to Silverwood Ln	N/A	2	U	Undivided	30	D	730 *	EB WB	35%	58 99	YES	7.9% 13.6%	YES
Silverwood Ln to CR 48	N/A	2	U	Undivided	45	D	730 *	EB WB	15%	25 43	YES	3.4% 5.9%	YES

Source: 2022 Lake County CMP Database

\*2023 FDOT Multimodal Quality/Level of Service Handbook, Appendix B: Florida's Generalized Service Volume Tables

Bold numbers represent capacity equal or higher than 5%.



Based on the study area analysis presented in **Table 1**, the following roadway segments were analyzed for the PM peak hour:

- SR 19
  - Lane Park Road to CR 48
  - CR 48 to Central Avenue
  - Central Avenue to CR 455
  - CR 455 to US 27 / SR 25
  - US 27 / SR 25 to CR 478
  
- Central Avenue
  - SR 19 to Mare Avenue
  
- Number 2 Road
  - Mare Avenue to Silverwood Lane
  - Silverwood Lane to CR 48

The following intersections were analyzed for the AM and PM peak hours:

- SR 19 and CR 48 (Signalized)
- SR 19 and Central Avenue (Unsignalized)
- Central Avenue and South Florida Avenue (Unsignalized)
- SR 19 and Revels Road (Unsignalized) (East Project Access)
- SR 19 and CR 455 (Unsignalized)
- Spine Road and Interconnect Road (Proposed)
- Number 2 Road and Spine Road (North Project Access) (Proposed)
- Revels Road and Spine Road (Proposed)
- Revels Road and Orange Blossom Road (South Project Access)

## 2.0 EXISTING CONDITIONS ANALYSIS

Existing conditions in the vicinity of the site were analyzed to establish a baseline for the traffic conditions prevailing in the vicinity of the proposed development. The analysis included a review of existing roadway segment capacity and analysis of the intersection operations at the study intersections.

### 2.1 Roadway Segment Capacity

Existing roadway conditions were analyzed by comparing the existing traffic volumes within the study area and the adopted level of service (LOS) standards for the roadway segments. **Table 2** summarizes the roadway segment capacity analysis.

**Table 2  
Existing Roadway Segment Capacity Analysis**

Roadway Segment	Seg ID	No Lns	LOS Std	Pk Dir Cap	Dir	Existing Vol	LOS	V/C	Deficient?
<b>*Central Ave</b>									
SR 19 to Mare Ave	N/A	2	D	530	EB	57	C	0.11	NO
					WB	59	C	0.11	NO
<b>SR 19</b>									
Lane Park Rd to CR 48	3040	2	D	920	NB	610	C	0.66	NO
					SB	656	C	0.71	NO
CR 48 to Central Ave	3050	2	D	700	NB	433	C	0.62	NO
					SB	372	C	0.53	NO
Central Ave to CR 455	3060	2	D	1,200	NB	433	B	0.36	NO
					SB	372	B	0.31	NO
CR 455 to US 27 / SR 25	3070	2	C	450	NB	507	D	1.13	YES
					SB	435	C	0.97	NO
US 27 / SR 25 to CR 478	3080	2	C	450	NB	466	D	1.04	YES
					SB	519	D	1.15	YES
<b>Number 2 Rd</b>									
Mare Avenue to Silverwood Ln	N/A	2	D	400	EB	57	C	0.14	NO
					WB	59	C	0.15	NO
Silverwood Ln to CR 48	N/A	2	D	400	EB	57	C	0.14	NO
					WB	59	C	0.15	NO

Source: 2022 Lake County CMP Database

\* Counts were obtained from PM Peak Turning Movement Counts

\*\*A reduction of 25% was applied to the Peak Hour Directional Capacity of 530, as Number 2 Road is a substandard road

The analysis indicates that all study roadway segments currently operate adequately within their capacities except the segments of SR 19 from CR 455 to CR 478 which currently operate over capacity.

## 2.2 Intersection Capacity

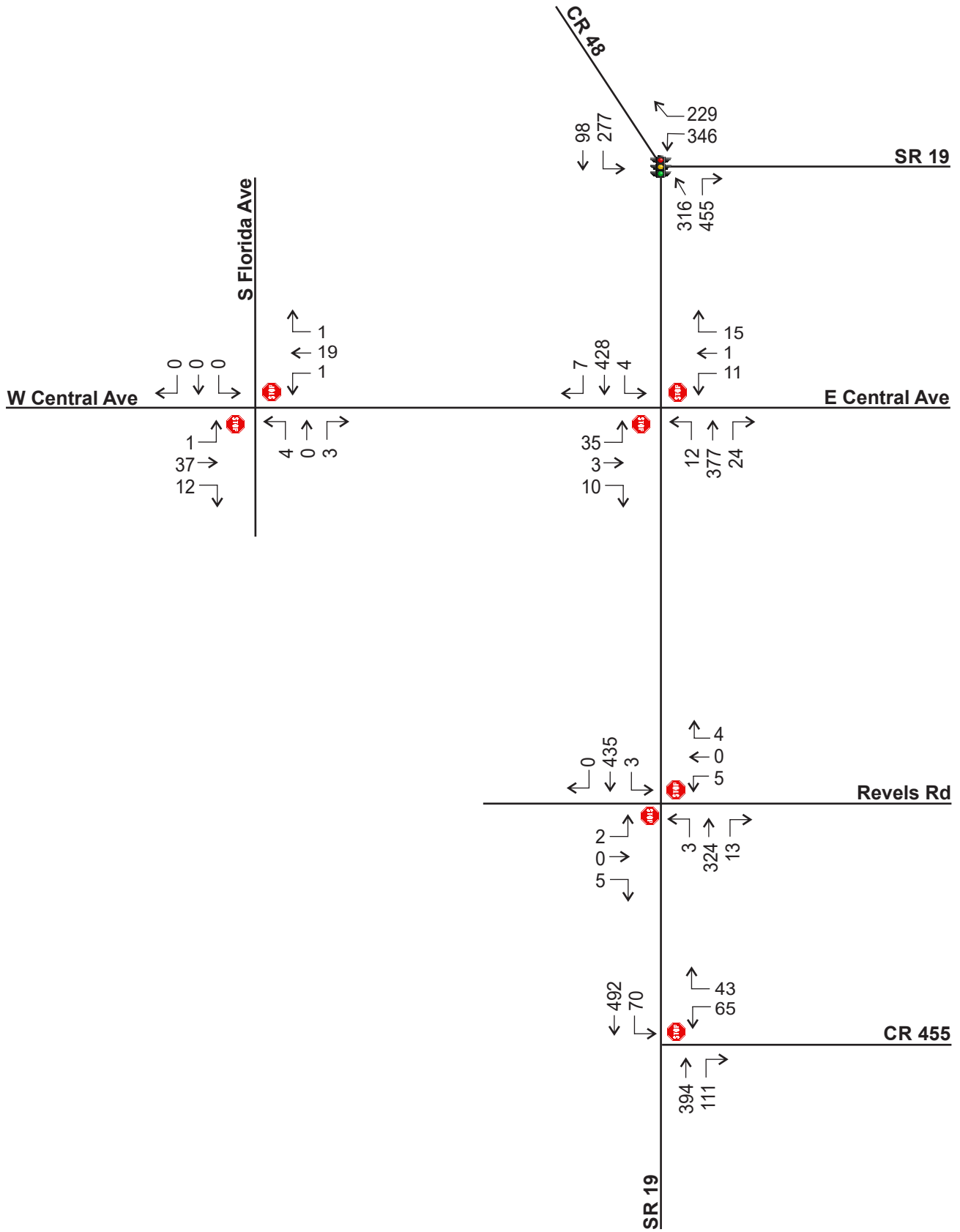
The intersection capacity analysis was performed for the AM and PM peak hour periods. The capacity analysis was performed using *Synchro* and the methods of the *Highway Capacity Manual (HCM)*. Turning movement volumes obtained during the AM and PM peak hour are displayed in **Figure 2** and **Figure 3**, respectively. The counts at SR 19 and CR 455 were collected on January 24, 2023, which coincides with a seasonal factor of 1.0. The remaining intersection turning movement counts were collected on July 19, 2023, during the off-peak season; therefore, a seasonal factor of 1.06 was applied to these counts. The turning movement counts and the seasonal factor report are included in **Appendix D**.

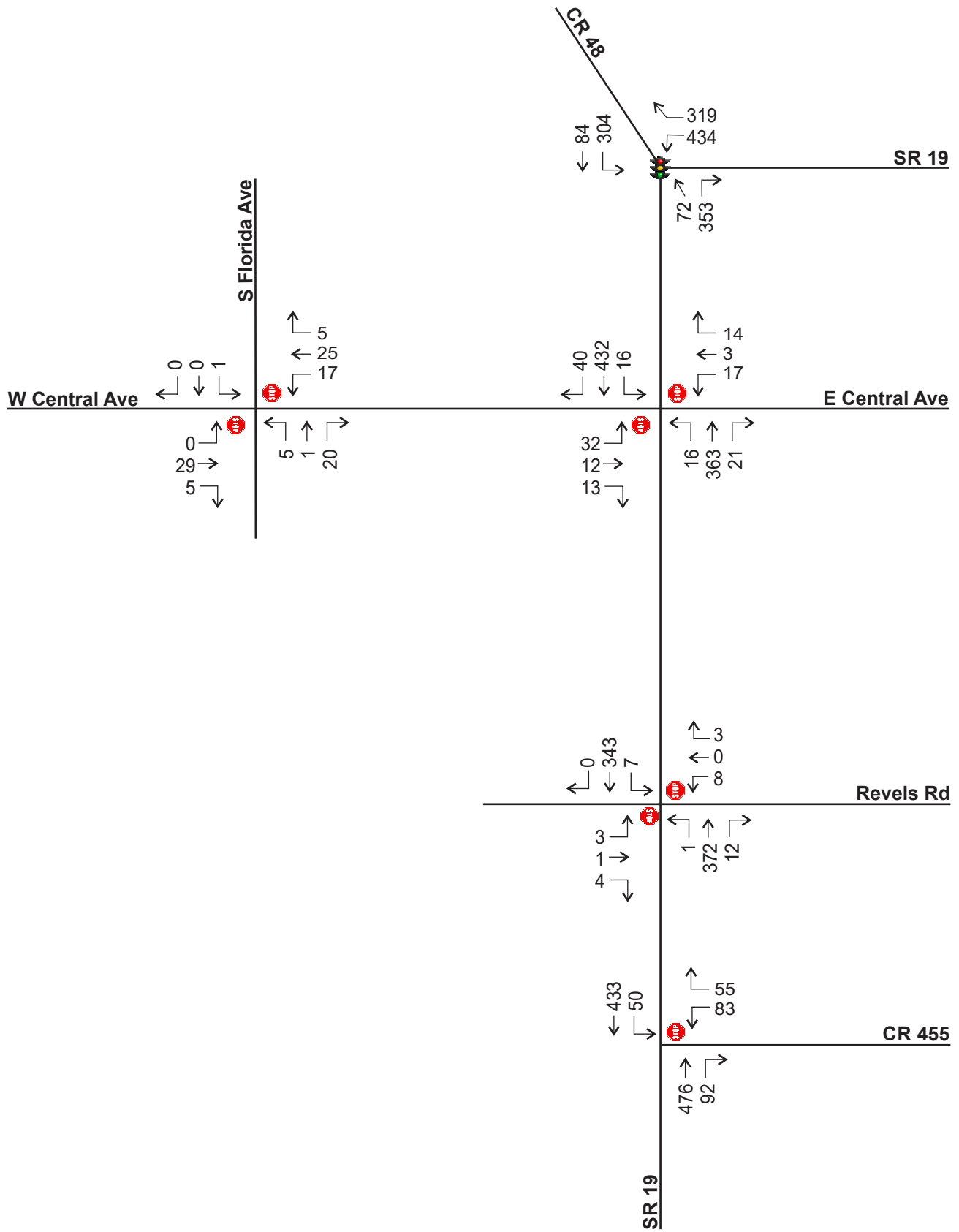
The results of the intersection capacity analysis, summarized in **Table 3**, reveal that all study intersections are currently operating at adequate LOS. Detailed *HCM* analysis worksheets are included in **Appendix E**.

**Table 3**  
**Existing Intersection Capacity Analysis**

Intersection	Traffic Control	Time Period	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
SR 19 & CR 48	Signal	AM	--	--	50.7	D	20.3	C	11.2	B	29.5	C
		PM	--	--	87.5	F	17.1	B	10.7	B	55.7	E
SR 19 & Central Ave	TWSC	AM	20.7	C	15.1	C	8.9	A	8.8	A	--	--
		PM	22.6	C	17.9	C	9.0	A	8.8	A	--	--
W Central Ave & S Florida Ave	TWSC	AM	7.3	A	7.3	A	8.8	A	0.0	A	--	--
		PM	0.0	A	7.3	A	8.8	A	9.4	A	--	--
SR 19 & Revels Rd	TWSC	AM	13.3	B	15.0	C	8.3	A	8.0	A	--	--
		PM	14.0	B	16.1	C	8.1	A	8.2	A	--	--
SR 19 & CR 455	TWSC	AM	--	--	25.1	D	--	--	8.9	A	--	--
		PM	--	--	26.7	D	--	--	9.0	A	--	--

*Average delay is in seconds*





### 3.0 PROJECT TRAFFIC

#### 3.1 Trip Generation

The Trip Generation Analysis was conducted using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11<sup>th</sup> Edition*. The ITE Information sheets are included in **Appendix F**. **Table 4** summarizes the resulting trip generation analysis.

**Table 4**  
**Trip Generation Analysis**

ITE Code	Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
			Rate	Trips	Rate	Total	Enter	Exit	Rate	Total	Enter	Exit
210	Single Family Residential (Detached)	499 DU	8.87	4,428	0.64	322	81	241	0.90	451	284	167

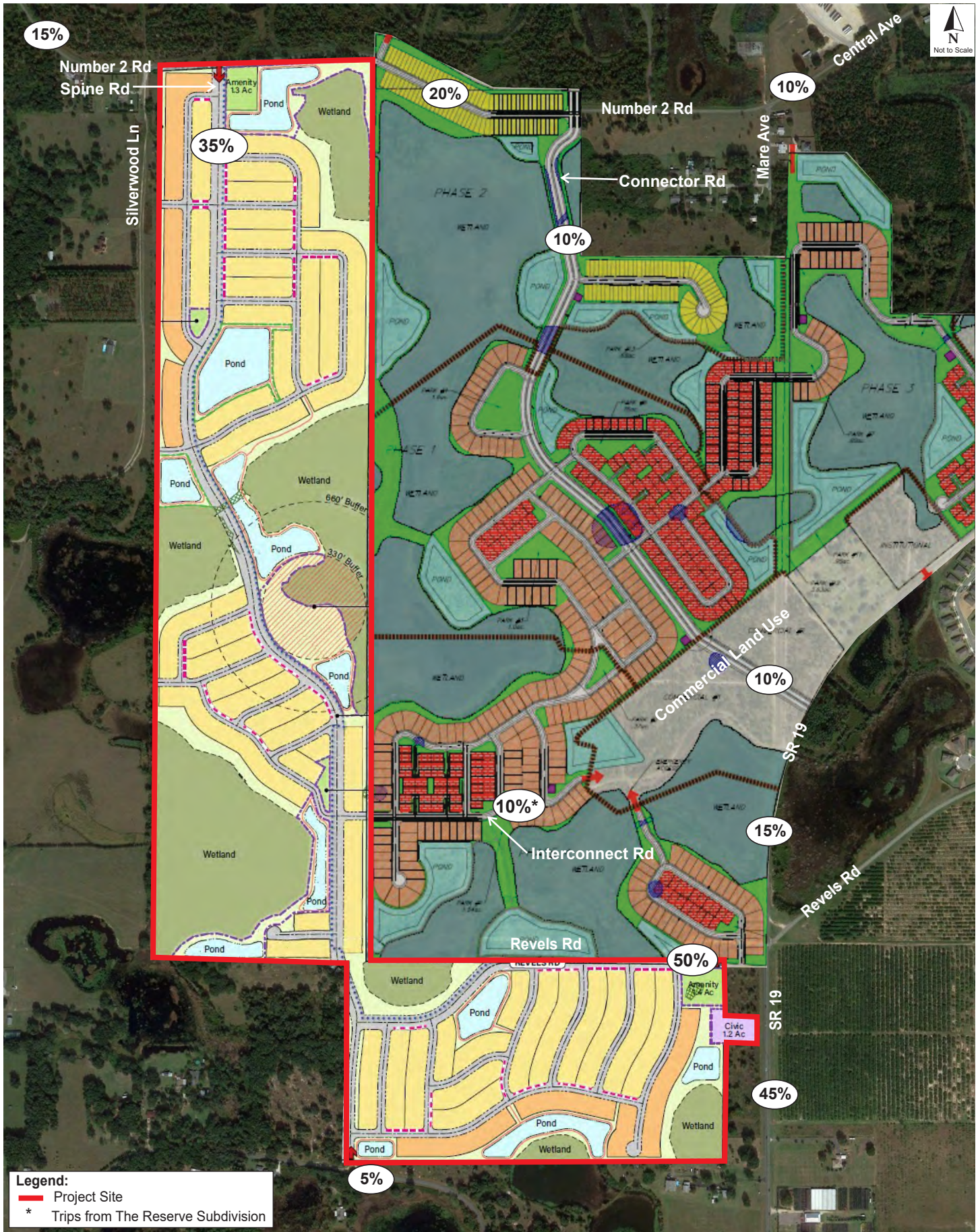
*Trip Generation analysis based on ITE Trip Generation Manual, 11th Edition.*

The proposed development is projected to generate 4,428 new daily trips, of which 322 trips occur during the AM peak hour and 451 trips occur during the PM peak hour.

#### 3.2 Trip Distribution

A trip distribution pattern was developed using the *Central Florida Regional Planning Model (CFRPMv7)*. The model distribution was slightly adjusted based on local knowledge, professional engineering judgement, and the location of the development with respect to the study area attractions and activity centers to reflect the prevailing travel patterns in the study area and the surrounding transportation network. The raw model plots are provided in **Appendix G**, and the project trip distribution pattern is shown in **Figure 4**. Detailed trip distribution near the project site is shown in **Figure 5**.







#### 4.0 PROJECTED CONDITIONS ANALYSIS

An analysis of projected conditions was conducted to determine the impact of the proposed development on the roadway segments capacity, as well as the proposed access connections and intersections to the site. The project buildout year for the analysis is 2033.

#### 4.1 Planned and Programmed Improvements

The *Lake-Sumter Metropolitan Planning Organization (LSMPO) 2023-2027 Transportation Improvement Program (TIP)*, as well as *LSMPO 2022 List of Priority Projects (LOPP)* were reviewed to identify any planned or programmed improvements to the transportation facilities in this area. The improvements are listed in **Table 5**. Construction is not planned to be completed within the next three (3) years for either improvement. Excerpts from the *LSMPO TIP* and *LSMPO LOPP* are provided in **Appendix H**.

**Table 5  
Planned and Programmed Improvements**

FM #	Project Name	From	To	Proposed Phase	Proposed Phase FY	Description of Improvement
2383191	SR 19 *	CR 48	CR 561	PDE-PE-ENV	2023	Add Lanes & Reconstruct
238319-1	SR 19 **	Howey Bridge	CR 561	-	-	Road Widening

\* LSMPO TIP Fiscal Year 2023-2027

\*\* LSMPO 2022 LOPP Tier 2 project

#### 4.2 Background Traffic Projection

Projected traffic includes background traffic volumes, the project trips, and committed trips. Projected background traffic for the buildout year of 2033 was estimated by applying the growth rates obtained from *2022 Lake County CMP Database* to the existing traffic volumes. A minimum of 2% annual growth rate was applied to existing traffic volumes for which published annual growth rates are below 2%. The committed trips for the following approved developments within the study area are included in **Appendix I**:

- Whispering Hills
- Talichet Phase 1 and Phase 2
- The Reserve at Howey in the Hills
- Lake Hills (Four Seasons). Trips were estimated based on the trip generation analysis and the trip distribution obtained from the methodology.
- Watermark (Simpson)

### 4.3 Roadway Segment Capacity

Projected roadway conditions were analyzed by comparing the projected traffic volumes on the study segments to their service volumes and adopted LOS standards. The total projected traffic volume is composed of background traffic, vested trips and project trips. **Table 6** summarizes the roadway segment capacity analysis, which reveals the following:

- SR 19 from Lane Park Road to Central Avenue and from CR 455 to CR 478 are projected to operate over their capacities due to background traffic.
- All remaining roadway segments are projected to continue to operate adequately at project buildout.

#### Roadway Segment Capacity Analysis with Recommended Mitigation

Number 2 Road is a substandard road with reduced capacity. It is projected to operate at an acceptable LOS; however, operational safety is a concern due to its narrow width. Lake County would need to improve it in the future to achieve safety.

SR 19 from CR 48 to CR 561 is programmed in the *TIP* to be widened to four (4) lanes. The roadway segment capacity analysis reveals that the widening of SR 19 to 4-lanes is projected to improve the capacity of the segment from Lane Park Road to CR 48. The segments of SR 19 from CR 48 to Central Avenue and from CR 455 to CR 478 would need to be widened to 4-lanes to achieve acceptable LOS conditions at project buildout, as summarized in **Table 7**.

**Table 6  
Projected Roadway Segment Capacity Analysis**

Roadway Segment	No Lns	LOS Std	PH Dir Capacity	Dir	Exist Vol	Growth Rate	2033 Backg'd	Vested Trips	Total Backg'd Volume	Backg'd LOS	Backg'd V/C	Trip Distr	Proj Dir	Project Volume	Total Volume	Final LOS	Final V/C
<b>*Central Ave</b>																	
SR 19 to Mare Ave	2	D	530	NB/EB SB/WB	57 59	2.00%	70 72	53 85	123 157	C C	0.23 0.30	10%	OUT IN	17 28	140 185	C C	0.26 0.35
<b>SR 19</b>																	
Lane Park Rd to CR 48	2	D	920	NB/EB SB/WB	610 656	2.00%	744 800	125 264	869 1,064	C F	0.94 1.16	23%	OUT IN	38 65	907 1,129	D F	0.99 1.23
CR 48 to Central Ave	2	D	700	NB/EB SB/WB	433 372	2.00%	528 454	266 355	794 809	F F	1.13 1.16	25%	OUT IN	42 71	836 880	F F	1.19 1.26
Central Ave to CR 455	2	D	1,200	NB/EB SB/WB	433 372	2.00%	528 454	437 272	965 726	D C	0.80 0.61	50%	IN OUT	142 84	1,107 810	D C	0.92 0.68
CR 455 to US 27/ SR 25	2	C	450	NB/EB SB/WB	507 435	2.00%	619 531	286 178	905 709	E D	2.01 1.58	35%	IN OUT	99 58	1,004 767	E E	2.23 1.70
US 27/ SR 25 to CR 478	2	C	450	NB/EB SB/WB	466 519	2.00%	569 633	286 178	855 811	E E	1.90 1.80	10%	IN OUT	28 17	883 828	E E	1.96 1.84
<b>**Number 2 Rd</b>																	
Mare Ave to Silverwood Ln	2	D	400	NB/EB SB/WB	57 59	2.00%	70 72	53 53	123 125	C C	0.31 0.31	35%	OUT IN	58 99	181 224	C D	0.45 0.56
Silverwood Ln to CR 48	2	D	400	NB/EB SB/WB	57 59	2.00%	70 72	53 53	123 125	C C	0.31 0.31	15%	IN OUT	43 25	166 150	C C	0.42 0.38

Source: 2022 Lake County Annual Traffic Counts

\*Exiting Counts were obtained from PM Peak Turning Movement Counts

\*\*A reduction of 25% was applied to the Peak Hour Directional Capacity of 530, as Number 2 Road is a substandard road

**Table 7  
Projected Roadway Segment Capacity Analysis with Mitigation**

Roadway Segment	No Lns	LOS Std	PH Dir Capacity	Dir	Exist Vol	Growth Rate	2033 Backg'd	Vested Trips	Total Backg'd Volume	Backg'd LOS	Backg'd V/C	Trip Distr	Proj Dir	Project Volume	Total Volume	Final LOS	Final V/C	Project Responsible ?
<b>SR 19</b>																		
Lane Park Rd to CR 48	4	D	1,480	NB/EB SB/WB	610 656	2.00%	744 800	125 264	869 1,064	C D	0.59 0.72	23%	OUT IN	38 65	907 1,129	D D	0.61 0.76	NO NO
CR 48 to Central Ave	4	D	1,480	NB/EB SB/WB	433 372	2.00%	528 454	266 355	794 809	D D	0.54 0.55	25%	OUT IN	42 71	836 880	D D	0.56 0.59	NO NO
CR 455 to US 27/ SR 25	4	C	1,360	NB/EB SB/WB	507 435	2.00%	619 531	286 178	905 709	C C	0.67 0.52	35%	IN OUT	99 58	1,004 767	C C	0.74 0.56	NO NO
US 27/ SR 25 to CR 478	4	C	1,360	NB/EB SB/WB	466 519	2.00%	569 633	286 178	855 811	C C	0.63 0.60	10%	IN OUT	28 17	883 828	C C	0.65 0.61	NO NO
<b>**Number 2 Rd</b>																		
Mare Ave to Silverwood Ln	2	D	530	NB/EB SB/WB	57 59	2.00%	70 72	53 53	123 125	C C	0.23 0.24	35%	OUT IN	58 99	181 224	C D	0.34 0.42	NO NO
Silverwood Ln to CR 48	2	D	530	NB/EB SB/WB	57 59	2.00%	70 72	53 53	123 125	C C	0.23 0.24	15%	IN OUT	43 25	166 150	C C	0.31 0.28	NO NO

Source: 2022 Lake County Annual Traffic Counts

\*Exiting Counts were obtained from PM Peak Turning Movement Counts

\*\*A reduction of 25% was applied to the Peak Hour Directional Capacity of 530, as Number 2 Road is a substandard road

Note: Roadway mitigations are necessitated by background traffic. Number 2 Road is an existing substandard facility.

The development is not responsible for these improvements, per Florida Statutes.

#### 4.4 Intersection Capacity Analysis

The projected volumes for the intersection capacity and operations analysis were calculated by assigning the project trips to the project driveways and adding those volumes to the background volumes and vested trips at the study intersections. Projected background traffic was estimated as discussed in the previous section. Projected background traffic on the proposed Spine Road and Revels Road were estimated based on the *CFRPMv7* model daily volumes. The AADT model plots are included in **Appendix J**.

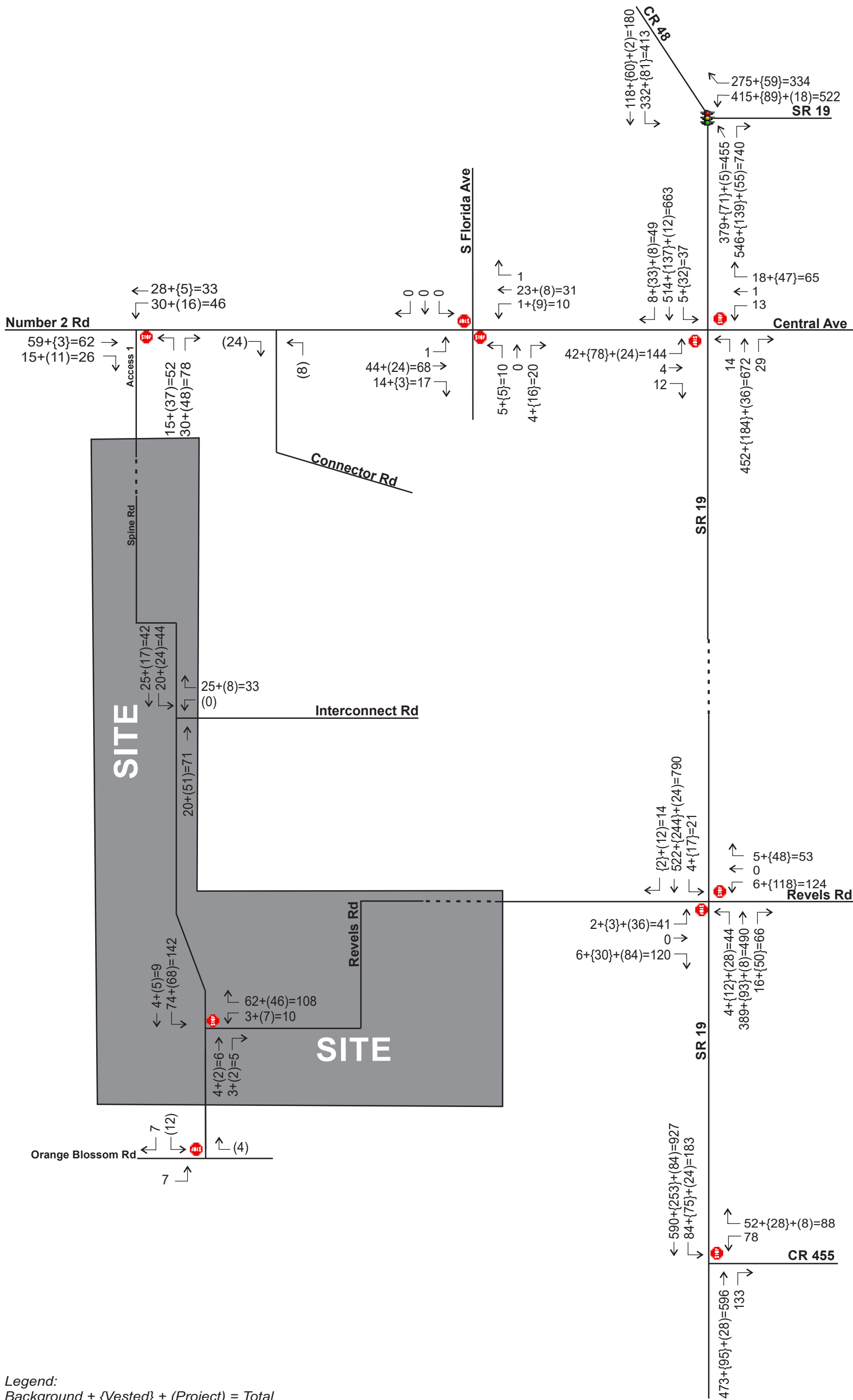
##### Intersection Capacity Analysis

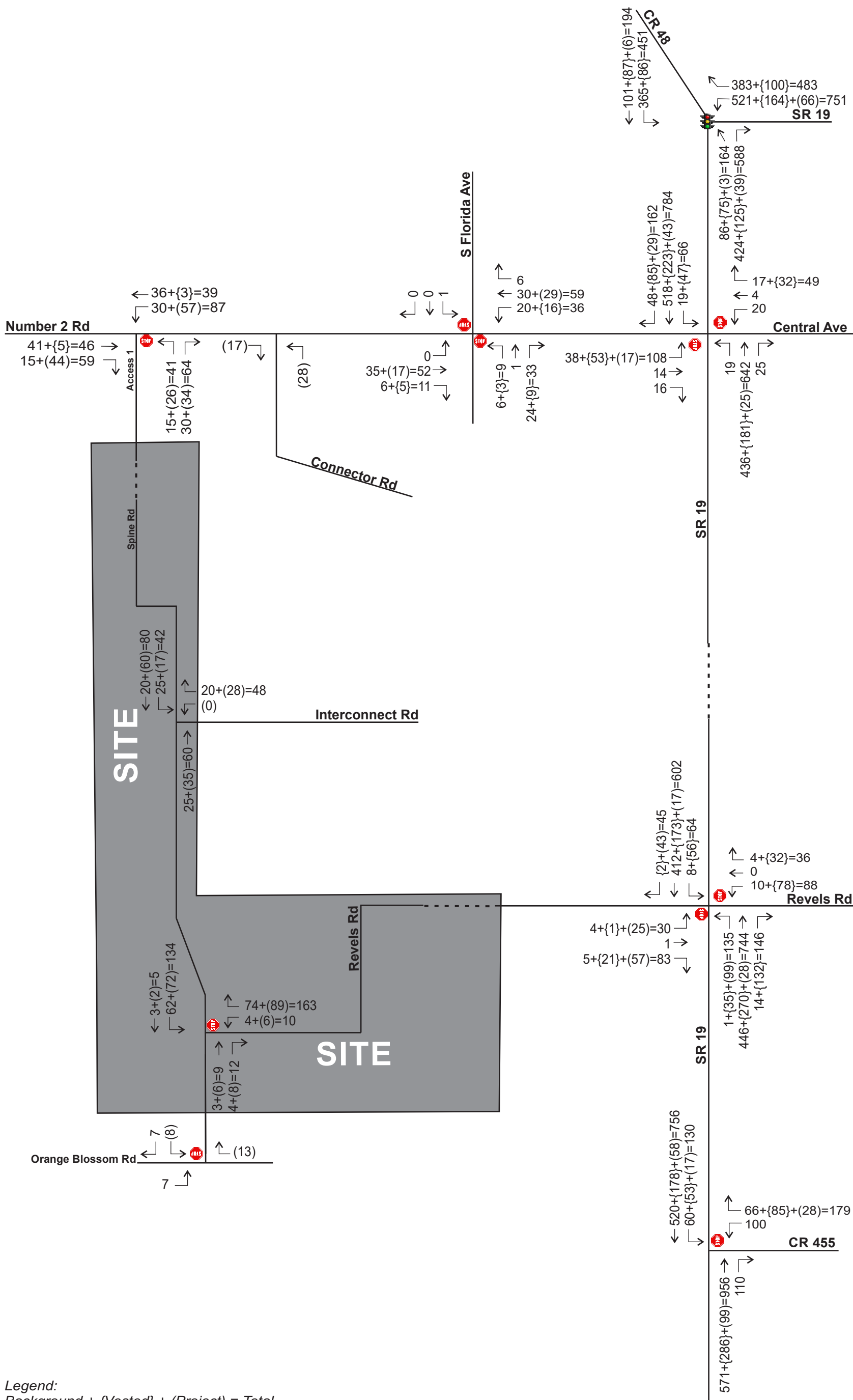
The projected AM and PM peak hour volumes are illustrated in **Figure 6** and **Figure 7**, respectively. The analysis includes right and left turn lanes on SR 19, and a right turn lane on Revels Road at the intersection of SR 19 and Revels Road. It also includes right and left turn lanes on Number 2 Road at the intersection of Spine Road and Number 2 Road. The results of the analysis are summarized in **Table 8**, and the analysis worksheets are included in **Appendix K**. The intersection volume projection sheets are included in **Appendix L**.

**Table 8**  
**Projected Intersection Capacity Analysis**

Intersection	Traffic Control	Time Period	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
SR 19 & CR 48	Signal	AM	--	--	177.1	F	29.7	C	22.1	C	87.2	F
		PM	--	--	>300	F	21.5	B	12.1	B	234.3	F
SR 19 & Central Ave	TWSC	AM	>300	F	26.5	D	10.1	B	10.3	B	--	--
		PM	>300	F	89.7	F	11.4	B	10.3	B	--	--
W Central Ave & S Florida Ave	TWSC	AM	7.3	A	7.4	A	9.2	A	0.0	A	--	--
		PM	0.0	A	7.4	A	9.3	A	10.6	B	--	--
SR 19 & Revels Rd / Project Entrance	TWSC	AM	51.2	F	>300	F	10.1	B	8.8	A	--	--
		PM	135.1	F	>300	F	9.9	A	10.7	B	--	--
SR 19 & CR 455	TWSC	AM	--	--	>300	F	--	--	10.7	B	--	--
		PM	--	--	>300	F	--	--	12.7	B	--	--
Spine Rd & Interconnect Rd / Proposed	TWSC	AM	--	--	8.8	A	--	--	7.4	A	--	--
		PM	--	--	8.8	A	--	--	7.4	A	--	--
Number 2 Rd and Spine Rd / Project Entrance	TWSC	AM	--	--	7.5	A	9.8	A	--	--	--	--
		PM	--	--	7.6	A	9.9	A	--	--	--	--
Spine Rd & Revels Rd	TWSC	AM	--	--	9.1	A	--	--	7.5	A	--	--
		PM	--	--	9.3	A	--	--	7.5	A	--	--
Revels Rd & Orange Blossom Rd / Project Entrance	TWSC	AM	7.2	A	--	--	--	--	8.6	A	--	--
		PM	7.3	A	--	--	--	--	8.6	A	--	--

*Average delay is in seconds*





Legend:  
Background + {Vested} + (Project) = Total

The analysis reveals the following:

- The intersection of SR 19 and CR 48 is projected to operate with delay during the AM and the PM peak hour. Further review is needed.
- The intersection of SR 19 and Central Avenue is projected to operate with delay in the eastbound and westbound directions. The westbound movement does not carry any project traffic and it is projected to operate at volume to capacity ratio less than 1.0. Further review is needed.
- The intersection of SR 19 and Revels Road is projected to operate with delay in the eastbound and westbound directions. The westbound movement does not carry any project traffic. Further review is needed.
- The intersection of SR 19 and CR 455 is projected to operate with delay for the westbound left movement. Project trips contribute no traffic to the movement. Further review is needed.

The remaining study intersections are projected to operate adequately at the project buildout.

#### Intersection Capacity Analysis with Recommended Mitigation

The proposed project does not significantly impact study area intersections. Four (4) intersections have been reviewed further. The intersections are determined to need the following improvements to achieve acceptable LOS conditions at project buildout:

- Retiming the signal is recommended at the intersection of SR 19 and CR 48 OR constructing a 2-lane roundabout at the intersection of SR 19 and CR 48.
- Installing a signal is recommended at the intersection of SR 19 and Central Avenue.
- Installing a signal is recommended at the intersection of SR 19 and Revels Road.
- Installing a signal is recommended at the intersection of SR 19 and CR 455.



The traffic operations for the mitigated intersections are projected to have acceptable LOS, as detailed in **Table 9**. The background conditions and the buildout conditions with the mitigation analysis worksheets are included in **Appendix M**.

**Table 9  
Projected Intersection Capacity Analysis with Mitigation**

Intersection	Traffic Control	Peak Period	Scenario	EB		WB		NB		SB		Overall	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
SR 19 & CR 48	Option 1: Retiming Signal	AM	Background	--	--	161.9	F	29.5	C	21.8	C	80.1	F
			Buildout	--	--	177.1	F	29.7	C	22.1	C	87.2	F
			Mitigation	--	--	59.4	E	72.4	E	54.1	D	60.9	D
		PM	Background	--	--	>300	F	21.5	C	12.1	B	187.5	F
			Buildout	--	--	>300	F	21.5	C	12.1	B	233.7	F
			Mitigation	--	--	48.7	D	56.5	E	58.2	E	52.6	D
SR 19 & CR 48	Option 2: Roundabout	AM	Background	--	--	161.9	F	29.5	C	21.8	C	80.1	F
			Buildout	--	--	177.1	F	29.7	C	22.1	C	87.2	F
			Mitigation	--	--	14.2	B	23.0	C	11.9	B	17.7	C
		PM	Background	--	--	>300	F	21.5	C	12.1	B	187.5	F
			Buildout	--	--	>300	F	21.5	C	12.1	B	233.7	F
			Mitigation	--	--	12.6	B	15.7	C	23.4	C	16.1	C
SR 19 & Central Ave	Signal	AM	Background	>300	F	24.5	C	9.9	A	10.1	A	--	--
			Buildout	>300	F	26.5	D	10.1	B	10.3	B	--	--
			Mitigation	21.0	C	18.3	B	8.2	A	8.2	A	9.9	A
		PM	Background	>300	F	65.2	E	11.0	B	10.2	B	--	--
			Buildout	>300	F	89.7	F	11.4	B	10.3	A	--	--
			Mitigation	13.3	B	12.0	B	6.8	A	24.7	C	16.9	B
SR 19 & Revels Road	Signal	AM	Background	22.5	C	>300	F	9.7	A	8.8	A	--	--
			Buildout	51.2	F	>300	F	10.1	B	8.8	A	--	--
			Mitigation	18.2	B	16.0	B	5.0	A	6.2	A	7.3	A
		PM	Background	30.0	D	>300	F	9.0	A	10.6	B	--	--
			Buildout	135.1	F	>300	F	9.9	A	10.7	B	--	--
			Mitigation	30.0	C	26.7	C	6.5	A	3.8	A	7.3	A
SR 19 & CR 455	Signal	AM	Background	--	--	>300	F	--	--	10.3	B	--	--
			Buildout	--	--	>300	F	--	--	10.7	B	--	--
			Mitigation	--	--	78.2	E	2.3	A	30.8	C	24.3	C
		PM	Background	--	--	>300	F	--	--	11.6	B	--	--
			Buildout	--	--	>300	F	--	--	12.7	B	--	--
			Mitigation	--	--	130.1	F	6.4	A	62.3	E	44.1	D

*Average delay is in seconds*

The analysis reveals the following:

- The intersection of SR 19 and CR 48 is projected to operate at an acceptable overall LOS by optimizing the signal timing or by constructing a 2-lane roundabout. Since the intersection can operate adequately by retiming the traffic signal; the project is not responsible to add a roundabout.
- The intersection of SR 19 and Central Avenue is projected to operate adequately at buildout with a signal. The westbound movement does not carry any project traffic. Project contribute 5.9% of the total traffic.
- The intersection of SR 19 and Revels Road is projected to operate adequately at buildout with a signal. The westbound movement does not carry any project traffic. Project contributes 13.6% of the total traffic.
- The intersection of SR 19 and CR 455 is projected to operate adequately at buildout with a signal. The westbound movement does not carry any project traffic. Project contribute 9.0% of the total traffic.

In lieu of contributing a proportionate share to the three (3) intersections needing new traffic signals, the developer is recommending to construct the new traffic signal at SR 19 and Revels Road, which serves as the main access to the project.

## 5.0 ACCESS REVIEW

The development will be accessed via the intersections of Number 2 Road and Spine Road (future road), SR 19 and Revels Road, and Revels Road and Orange Blossom Road. SR 19 is a 2-lane undivided facility with a posted speed limit of 55 miles per hour (mph) near the project entrance. Number 2 Road is a 2-lane undivided facility with a posted speed limit of 30 mph in the east direction and 45 mph in the west direction near the project entrance. Orange Blossom Road is a 2-lane undivided facility with a posted speed limit of 30 mph near the project entrance.

### 5.1 Turn Lane Review

A review of the need for turn lanes at the project entrance intersections was conducted based on the Lake County *Land Development Code (LDC)* guidelines, which are provided in **Appendix N**. In accordance with the *LDC* guidelines, right and left turn lanes are warranted at the intersections of SR 19 and Revels Road, and at Number 2 Road and Spine Road. The intersection of Orange Blossom Road and Revels Road is expected to carry limited traffic; therefore, exclusive turn lanes are not recommended.

The recommended lengths of the turn lanes on SR 19 were calculated based on the requirements of the *FDOT Design Manual Exhibit 212-1*, provided in **Appendix O**, and the recommended lengths of the turn lanes on Number 2 Road were calculated based on the Lake County *LDC* guidelines. Per Lake County requirement for turn lane widening on Number 2 Road, the length of tapers will need to be twice the standard length. The calculations are provided as follows:

#### SR 19 and Revels Road

Left Turn Lane Length = Deceleration Distance + Queue Length

Deceleration at 60 mph (design speed) = 405 feet

95<sup>th</sup> Percentile Queue Length = 1 x 25 = 25 feet

**Northbound Left Turn Lane = 405 feet + 25 feet = 430 feet (including a 50-foot taper)**

Right Turn Lane Length = Deceleration Distance

Deceleration at 60 mph (design speed) = 405 feet

**Southbound Right Turn Lane = 405 feet**

Number 2 Road and Spine Road

Left Turn Lane Length = Taper Length + Storage Length

Taper Length at 50 mph (design speed) = 230 feet x 2 = 460 feet

Storage Length at 50 mph (design speed) = 195 feet

**Westbound Left Turn Lane = 460 feet + 195 feet = 655 feet**

Right Turn Lane Length = Taper Length + Storage Length

Taper Length at 35 mph (design speed) = 170 feet x 2 = 340 feet

Storage Length at 35 mph (design speed) = 80 feet

**Eastbound Right Turn Lane = 340 feet + 80 feet = 420 feet**

## 6.0 STUDY CONCLUSIONS

This traffic analysis was conducted to assess the impact of the proposed Mission Rise development in the Town of Howey-in-the-Hills, Florida. The project will include 499 single family residential units. The analysis included a determination of project trip generation, a review of existing and projected roadway and intersection capacity.

The results of the traffic analysis are summarized as follows:

- The proposed development is projected to generate 4,428 trips per day, of which 322 trips occur during the AM peak hour and 451 trips occur during the PM peak hour.
- SR 19 SR 19 from Lane Park Road to Central Avenue and from CR 455 to CR 478 are projected to operate over their capacities due to background traffic. The development is not responsible for mitigating background deficiencies, per Florida's Statutes.
- SR 19 from CR 48 to CR 561 is programmed in the *TIP* to be widened to 4 lanes.
- All remaining roadway segments are projected to continue to operate adequately at project buildout.
- The intersection of SR 19 and CR 48 is projected to operate with delay during the AM and the PM peak hour. It is recommended to retime the signal or implement a 2-lane roundabout to maintain LOS standards. The development is not responsible to implement a roundabout.
- The intersection of SR 19 and Central Avenue is projected to operate with delay in the eastbound and the westbound movement. The westbound movement does not carry any project traffic.
- The intersection of SR 19 and Revels Road is projected to operate with delay in the eastbound and westbound directions. The westbound movement does not carry any project traffic.

- The intersection of SR 19 and CR 455 is projected to operate with delay for the westbound left movement. Project trips contribute no traffic to the movement.
- In lieu of contributing a proportional share to the three (3) intersections where traffic signals are projected to be needed, the developer is recommending to construct the traffic signal at the intersection of SR 19 and Revels Road.
- A traffic signal at SR 19 and Revels Road traffic signal needs to be warranted based on a signal warrant study of the in-field traffic volumes. An Intersection Control Evaluation (ICE) study will also need to be coordinated with FDOT.
- All remaining study intersections are projected to operate adequately at project buildout.
- The turn lane recommendations are as follows:
  - Construct a 430-foot northbound left turn lane and a 405-foot southbound right turn lane at the intersection of SR 19 and Revels Road.
  - Construct a 655-foot westbound left turn lane and a 420-foot eastbound right turn lane at the intersection of Number 2 Road and Spine Road.

## **APPENDICES**

**Appendix A**  
Study Methodology and Response to Comments Letter





## MEMORANDUM

May 23, 2023

**Re: Mission Rise**  
Traffic Impact Analysis Methodology, v1.1  
Town of Howey-In-The-Hills, Florida  
Project № 23017.1

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This methodology outlines the proposed Traffic Impact Analysis (TIA) for the above referenced project. This methodology was prepared in accordance with the requirements of the Town of Howey-In-The-Hills and the Lake~Sumter Metropolitan Planning Organization (LSMPO) TIA guidelines for a Tier 2 TIA. This methodology has been revised in accordance with the comments provided by the Town of Howey-In-The-Hills. The comments and response to comments letter are included in the **Attachments**.

### Project Description

The ±243.3-acre site is a single-family residential development consisting of 592 dwelling units. The project site consists of parcels 34-20-25-0001-000-00100, 34-20-25-0004-000-01003, 02-21-25-0002-000-04800, and 27-20-25-0004-000-01200. The anticipated buildout year is 2033. A preliminary site plan is included in the **Attachments**.

### Project Location

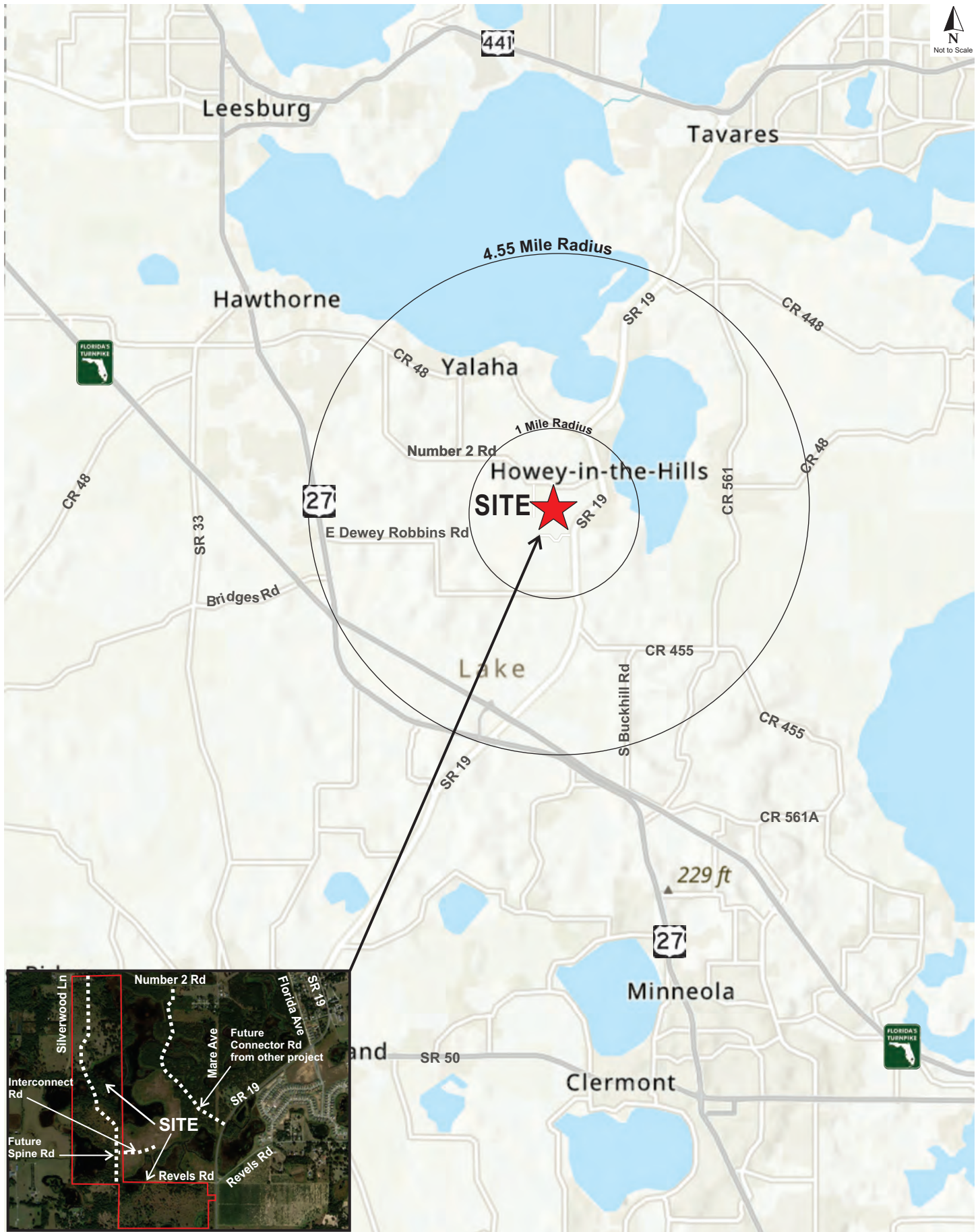
The site is located east of Silverwood Lane, west of SR 19 (South Palm Avenue), and south of Number 2 Road in the Town of Howey-in-the-Hills, Florida. The site will be crossed from north to south by a future two-lane spine road that will connect Number 2 Roadway with Revels Road, as shown in **Figure 1**.

### Project Access

The project has access to the external network via one (1) full access driveway on Number 2 Road and one (1) full access driveway on SR 19. In addition, there is an emergency access to the south via Orange Blossom Road. The access configuration is depicted in the preliminary site plan included in the **Attachments**.

### Trip Generation

A trip generation analysis was performed for the development using the trip generation information from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11<sup>th</sup> Edition*. The ITE information sheets are included in the **Attachments**. The trip generation of the proposed development is summarized in **Table 1**.



## Mission Rise

Traffic Impact Analysis Methodology, v1.1

Project № 23017.1

May 23, 2023

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**Table 1**  
**Trip Generation Analysis**

ITE Code	Land Use	Size	Daily		AM Peak Hour			PM Peak Hour				
			Eqvlt Rate	Trips	Eqvlt Rate	Total	Enter	Exit	Eqvlt Rate	Total	Enter	Exit
210	Single Family Residential (Detached)	592 DU	8.75	5,181	0.63	376	94	282	0.89	529	333	196

*Trip Generation analysis based on ITE Trip Generation Manual, 11th Edition.*

The proposed development at project buildout is projected to generate 5,181 new daily trips of which 376 trips occur during the AM peak hour, and 529 trips occur during the PM peak hour.

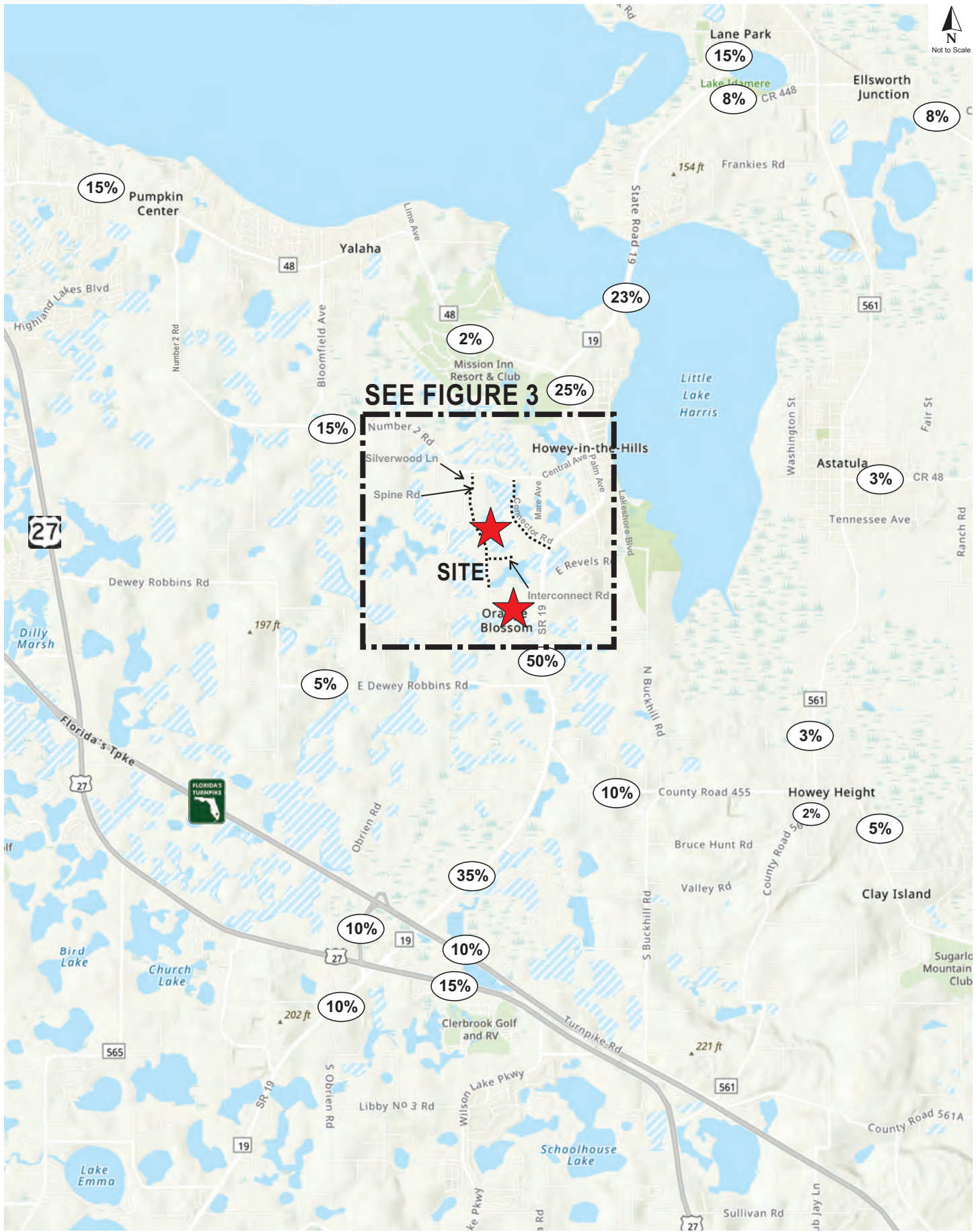
### Trip Distribution

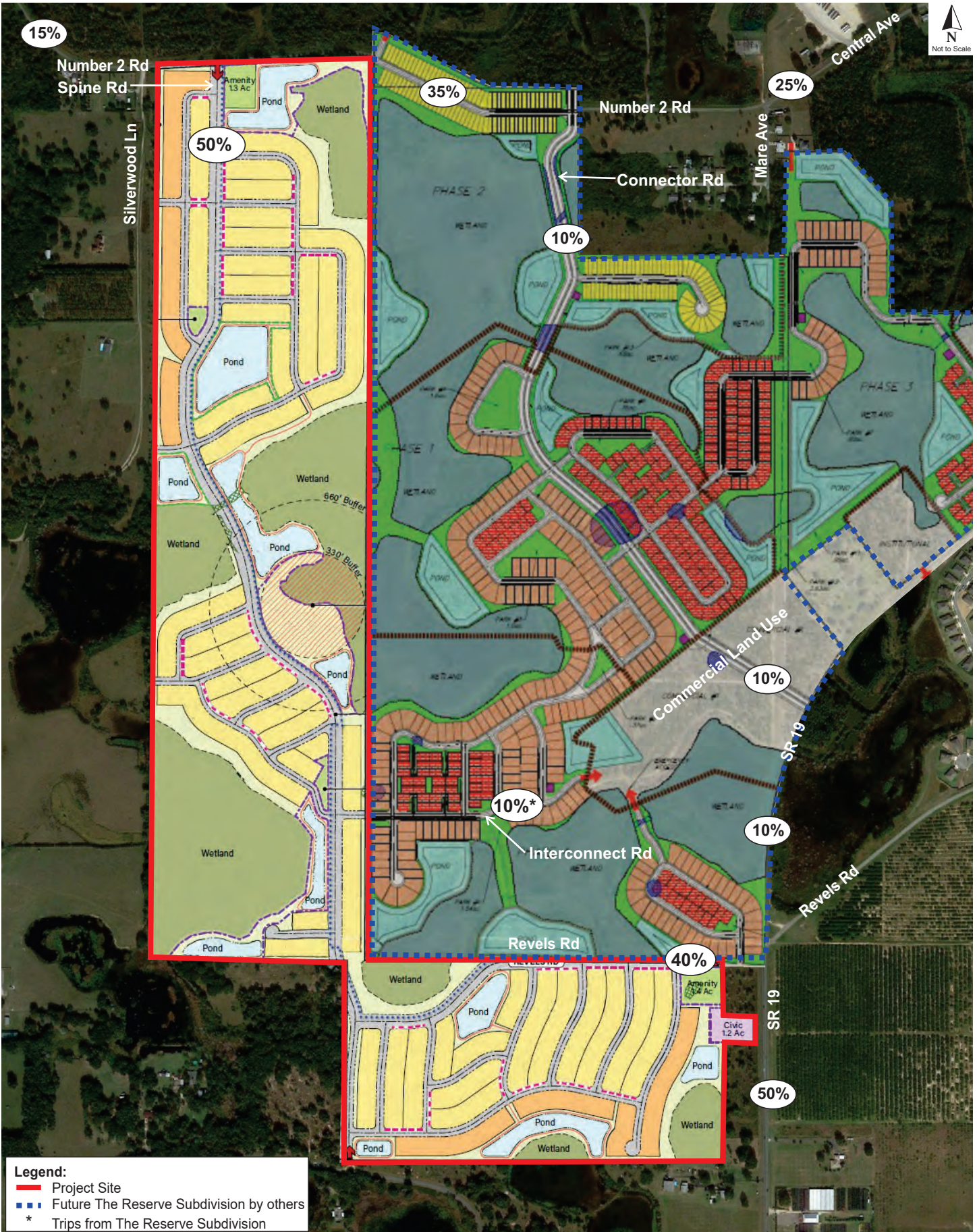
A trip distribution pattern in the general vicinity of the project site was initially determined based on the *Central Florida Regional Planning Model (CFRPM v7)*. Two (2) future connections (Spine Road and Connector Road) from SR 19 to Number 2 Road were included in the model for this project. The model distribution was modified to reflect the local network and prevailing traffic patterns. The proposed trip distribution pattern is provided in **Figure 2**. Detailed trip distribution near the project site is shown in **Figure 3**. The model distribution plots are included in the **Attachments**.

### Study Area

In accordance with the LSMPO requirements for a Tier 2 TIA methodology, the study area will include a minimum 1-mile radius plus all roadway segments within a 4.55-mile radius in addition to roadways where the development is projected to consume 5% or more of their adopted Level of Service (LOS), unless otherwise specified by the City/LSMPO.

The extent of the study impact area shall be determined by the area of influence of the project. The area of influence shall be established as one-half ( $\frac{1}{2}$ ) the total trip length associated with the land use of the proposed development, based upon the *2021 Lake County Transportation Impact Fee Update Study Final Report*. The total trip length for single-family is 9.1-miles. Accordingly, the area of influence will encompass all roadway segments within 4.55-mile radius. Excerpts of the *2022 Lake County Congestion Management Process (CMP) Database*, the *2021 Lake County Transportation Impact Fee Update Study Final Report*, and the *2023 FDOT Multimodal Quality/Level of Service (Q/LOS) Handbook Appendix B* are included in the **Attachments**. **Table 2** lists all roadway segments within the area of influence along with their capacities and percentages consumed by the project trips.





# Mission Rise

Traffic Impact Analysis Methodology, v1.1

Project № 23017.1

May 23, 2023

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## Table 2 Study Area

Roadway Segment	SEG ID	No Lns	Area Type	Median Type	Speed Limit	LOS Std	Pk Dir Cap	Dir	Project		Within 1-Mile? **	% Cap	In Study?
									Dist	Trips			
<b>CR 455</b>													
SR 19 to CR 561	950	2	R	Undivided	45	C	740	EB WB	10%	20 33	NO	2.7% 4.5%	NO
CR 561 to CR 561A	960	2	R	Undivided	25	C	410	EB WB	5%	10 17	NO	2.4% 4.1%	NO
<b>CR 48</b>													
US 27 to Lime Ave	1240	2	U	Undivided	40	D	1,080	EB WB	15%	50 29	NO	4.6% 2.7%	NO
Lime Ave to SR 19	1250	2	U	Undivided	40	D	1,080	EB WB	2%	7 4	NO	0.6% 0.4%	NO
CR 561 to Ranch Rd	1260	2	U	Undivided	40	D	840	EB WB	3%	6 10	NO	0.7% 1.2%	NO
Ranch Rd to CR 448A	1270	2	R	Undivided	40	C	410	EB WB	3%	6 10	NO	1.5% 2.4%	NO
<b>CR 561</b>													
CR 448 to CR 48	1410	2	U	Undivided	50	D	1,080	NB SB	0%	0 0	NO	0.0% 0.0%	NO
CR 48 to South Astatula City Limit	1420	2	U	Undivided	40	D	620	NB SB	3%	10 6	NO	1.6% 1.0%	NO
South Astatula City Limit to CR 455	1430	2	U	Undivided	40	D	1,080	NB SB	3%	10 6	NO	0.9% 0.6%	NO
CR 455 to Howey Cross Rd	1440	2	R	Undivided	35	C	470	NB SB	2%	7 4	NO	1.5% 0.9%	NO
Howey CRoss Rd to Turnpike Rd / CR 561A	1450	2	R	Undivided	40	C	640	NB SB	2%	7 4	NO	1.1% 0.6%	NO
<b>SR 19</b>													
Lane Park Rd to CR 48	3040	2	U	Undivided	55	D	920	NB SB	23%	45 77	NO	4.9% 8.4%	YES
CR 48 to Central Ave	3050	2	U	Undivided	40	D	700	NB SB	25%	49 83	NO	7.0% 11.9%	YES
Central Ave to CR 455	3060	2	U	Undivided	35	D	1,200	NB SB	50%	167 98	YES	13.9% 8.2%	YES
CR 455 to US 27 / SR 25	3070	2	R	Undivided	55	C	450	NB SB	35%	117 69	NO	26.0% 15.3%	YES
US 27 / SR 25 to CR 478	3080	2	R	Undivided	55	C	450	NB SB	20%	67 39	NO	14.9% 8.7%	YES
<b>SR 91 (Florida Turnpike)</b>													
US 27/SR 25 to US 27/SR 25/SR 19 Interchange	3566	4	U	Freeway	70	B	2,230	EB WB	10%	20 33	NO	0.9% 1.5%	NO
<b>US 27/SR 25</b>													
SR 19 to CR 561	3830	4	U	Divided	55	D	3,280	EB WB	15%	29 50	NO	0.9% 1.5%	NO
<b>Central Ave</b>													
SR 19 to Mare Ave	N/A	2	U	Undivided	30	D	770 *	EB WB	25%	49 83	YES	6.4% 10.8%	YES
<b>Number 2 Rd</b>													
Mare Ave to Silverwood Ln	N/A	2	U	Undivided	30	D	730 *	EB WB	35%	69 117	YES	9.5% 16.0%	YES
Silverwood Ln to CR 48	N/A	2	U	Undivided	45	D	730 *	EB WB	15%	29 50	YES	4.0% 6.8%	YES

Source: 2022 Lake County CMP Database

\* 2023 FDOT Multimodal Quality/Level of Service Handbook, Appendix B: Florida's Generalized Service Volume Tables

Bold numbers represent capacity equal or higher than 5%.

## **Mission Rise**

Traffic Impact Analysis Methodology, v1.1

Project № 23017.1

May 23, 2023

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Based on the study area analysis, the following roadway segments will be analyzed for the PM peak hour:

- SR 19
  - Lane Park Road to CR 48
  - CR 48 to Central Avenue
  - Central Avenue to CR 455
  - CR 455 to US 27 / SR 25
  - US 27 / SR 25 to CR 478
- Central Avenue
  - SR 19 to Mare Avenue
- Number 2 Road
  - Mare Avenue to Silverwood Lane
  - Silverwood Lane to CR 48

The following intersections will be analyzed for the AM and PM peak hours:

- SR 19 and CR 48 (Signalized)
- SR 19 and Central Avenue (Unsignalized)
- SR 19 and South Florida Avenue (Unsignalized)
- SR 19 and Revels Road (Unsignalized)
- SR 19 and CR 455 (Unsignalized)
- Spine Road and Interconnect Road (Proposed)
- Number 2 Road and Spine Road (North Project Access) (Proposed)
- Revels Road and Spine Road (South Project Access) (Proposed)

## Mission Rise

Traffic Impact Analysis Methodology, v1.1

Project № 23017.1

May 23, 2023

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### Projected Traffic

Projected traffic includes background traffic volumes, the project trips, and committed trips. Projected background traffic will be calculated using the historical growth rates obtained from the *Lake County CMP* database and *FDOT Florida Traffic Online* web-based database. A 2% minimum growth rate will be applied if the calculated growth rates are lower than 2%. The committed trips for the following approved developments within the study area will be added to the background traffic:

- The Reserve (traffic study obtained)
- Talichet Phase 2 (traffic study obtained)
- Whispering Hills (traffic study obtained)
- Lake Hills (City to provide traffic study)
- Watermark (City to provide traffic study)

### Planned and Programmed Improvements

The *Lake-Sumter Metropolitan Planning Organization (LSMPO) 2023-2027 Transportation Improvement Program (TIP)*, as well as *LSMPO 2022 List of Priority Projects (LOPP)* were reviewed to identify any planned or programmed improvements to the transportation facilities in this area. As shown in **Table 3**, construction is not planned to be completed within the next three (3) years for either improvement. Excerpts from the *LSMPO TIP* and *LSMPO LOPP* are provided in the **Attachments**.

**Table 3**  
**Planned and Programmed Improvements**

FM #	Project Name	From	To	Proposed Phase	Proposed Phase FY	Description of Improvement
2383191	SR 19 *	CR 48	CR 561	PDE-PE-ENV	2023	Add Lanes & Reconstruct
238319-1	SR 19 **	Howey Bridge	CR 561	-	-	Road Widening

\* LSMPO TIP Fiscal Year 2023-2027

\*\* LSMPO 2022 LOPP Tier 2 project

### Capacity Analysis

The traffic study will include existing and 2033 buildout conditions for the roadway segment and intersection capacity analyses. A capacity analysis of the study roadway segments will be conducted for the PM peak hour under existing and projected conditions. The capacity analysis will be based on service volumes, capacities, and existing volumes, as documented in *2022 Lake County CMP Database* and the *FDOT's 2023 Multimodal Quality/Level of Service (MQ/LOS) Handbook*, included in the **Attachments**.



## **Mission Rise**

Traffic Impact Analysis Methodology, v1.1

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The intersection turning movement counts will be seasonally adjusted, if needed, using the *2022 FDOT Peak Season Factor Category Report* obtained from the *Florida Traffic Online (FTO)* website.

Right and left turn lane warrant reviews will be performed at the Spine Road accesses on Number 2 Road and at SR 19 and Revels Road in accordance with the Lake County requirements for turn lanes.

In cases where projected conditions require mitigation as a result of the proposed development, an analysis including the recommended mitigation will be conducted.

### Alternative Mode Analysis

A review of transit, pedestrian, and bicycle facilities will be conducted in accordance with the LSMPO requirements.

### Report

A TIA report detailing the methods and findings of the study, including all associated graphics, tables, calculations, and supporting information will be prepared for submittal to the Town of Howey-In-The-Hills.

## **ATTACHMENTS**



May 23, 2023

Mr. John Brock  
Town Clerk  
PO Box 125  
Howey-In-The-Hills, Florida 34737  
[jbrock@howey.org](mailto:jbrock@howey.org)

Re: Mission Rise  
Response to Methodology Comments  
TMC Project № 23017.1  
Town Howey-In-The-Hills, Florida

Dear Mr. Brock,

Please find below our responses to the review comments prepared on behalf of The Town of Howey-In-The-Hills by TMH Consulting Inc dated May 8, 2023, regarding the above referenced Methodology dated April 28, 2023. The comments are listed in **bold** typeface and the TMC responses follow in *italic* typeface. Additionally, a revised Methodology is provided under cover reflecting the changes resulting from these comments.

- 1. The Revels Road access to the south cannot be limited to emergency access as this is a public road now. Since we have received comments from residents to the south, it will be very useful to get some type of prediction about how many trips are likely to use this access point as opposed to SR 19 and Number 2 Road.**

*TMC Response: The emergency access on Orange Blossom Road will be restricted to emergency vehicles only; therefore, no trips were assigned to that access.*

- 2. There is an interconnect between the Mission Rise parcel and The Reserve parcel. Is the model sensitive enough to determine if this interconnect will impact trip assignments? The Reserve has an approved connecting road which is discussed in the TMC methodology. The Reserve also includes a future commercial development area that might be an attractor.**

*TMC Response: Noted. The Reserve Subdivision includes a future commercial development, therefore, 10% of the trips are assumed to originate from The Reserve's commercial development and use the interconnect road to access the project site.*

- 3. The study needs to include those projects that have some level of approval. TMC has done the traffic studies for several of these and been provided with traffic studies from others. The projects that need to be included are:**

- **The Reserve**
- **Watermark**
- **Talichet Phase 2 (Phase 1 is mostly in the background traffic by now.)**
- **Whispering Heights**
- **Lake Hills**

*TMC Response: Noted. The vested trips from The Reserve, Watermark, Talichet Phase 2, Whispering Heights [Whispering Hills], and Lake Hills will be included in the traffic study as indicated in the revised methodology (attached).*

- 4. The study needs to include CFRPM distributions that show the percentages of future background through traffic that will use the new roads in Mission Rise and The Reserve that link No 2 Road to SR 19. Use that data to project future background traffic volumes on those links.**

*TMC Response: Noted. As reflected in Figure 2, the future Spine Road, which transverses the project site from north to south and connects Number 2 Road with Revels Road, and the future Connector Road, which connects SR 19 and Number 2 Road are included in the project trip distribution Figure 2 in the revised methodology (attached).*

- 5. The project trip distribution map is basically unreadable. They need to provide a graphic that someone can review and understand.**

*TMC Response: Noted. The distribution map has been revised to show an inset with the detail project distribution within the project site. See Figure 2 in the revised methodology (attached).*

- 6. SR 19 at Central Avenue is listed as signalized, but it is only a flashing light. The analysis cannot assume it is a true signal.**

*TMC Response: Noted. SR 19 at Central Avenue intersection is listed as an unsignalized intersection in the revised methodology (attached).*

- 7. The ITE land use, code 210, shows traffic generation as 9.43 trips per unit with 0.70% for the AM Peak and 0.94% for the PM Peak. Why did they use 8.75, 0.63 and 0.89 respectively for the project traffic generation?**

*TMC Response: Per the Trip Generation Handbook, 3rd Edition Figure 4.2 (Process for selecting average rate or equation in trip generation manual data) linear curve equations should be used for the weekday, AM, and PM peak period trip generation calculation. The linear curve equations have an  $R^2$  equal to 0.75 or greater, therefore, the fitted curve equations were used instead of average rate.*

*The linear curve equations used for the 592 dwelling residential units corresponding to the weekday, AM, and PM trips are as follows:*

*Weekday:  $\ln(T)=0.92 \ln(X)+2.68$  which is equivalent to an average rate of 8.75 (5,181/592).  
AM:  $\ln(T)=0.91 \ln(X)+0.12$  which is equivalent to an average rate of 0.63 (376/592).  
PM:  $\ln(T)=0.94 \ln(X)+0.27$  which is equivalent to an average rate of 0.89 (529/592).*

Mr. John Brock  
Mission Rise  
Response to Methodology Comments  
TMC Project № 23017.1  
May 23, 2023  
Page 3 of 3

**END OF COMMENTS**

We trust these responses and the revised Methodology adequately address the review comments. We remain available to discuss this matter further or to answer any questions you may have.

Kind regards,

TRAFFIC & MOBILITY CONSULTANTS LLC



Charlotte N. Davidson, PE  
Senior Transportation Engineer



October 17, 2023

Mr. J. Brock  
Town Clerk  
Howey-in-the-Hills/Development Review Committee  
101 North Palm Avenue  
Howey-in-the-Hills, FL 34737  
[jbrock@howey.prg](mailto:jbrock@howey.prg)

Re: Mission Rise  
Response to Traffic Impact Analysis Comments  
TMC Project № 23017.1  
Howey-in-the-Hills, Florida

Dear Mr. Brock,

Please find below our responses to the review comments prepared by Griffey Engineering Inc. on behalf of The Town of Howey-in-the-Hills, dated October 9, 2023, regarding the above referenced Traffic Impact Analysis dated August 2023. The comments are listed in **bold** typeface and the TMC responses follow in *italic* typeface. Additionally, a revised Traffic Impact Analysis is provided under cover reflecting the changes resulting from these comments.

### **Traffic Study**

- 1. Figures in the report are missing. They need to be included.**

*TMC Response: Figures have been included in the report.*

- 2. For the future condition analysis of the intersection of SR 19 & CR 48, evaluate for a roundabout as well as signal timing adjustment.**

*TMC Response: A roundabout at the intersection of SR19 & CR 48 has been evaluated and the results of the analysis have been included in the TIA v1.3 report.*

### **Recommended Improvements**

- 3. The traffic study identifies three intersections along SR 19 that will need to be signalized in the future (SR 19 & Central Ave., SR 19 & Revels Rd., and SR 19 & CR 455). The Development Agreement has a section that addresses proportionate share payment for off-site impacts. In the study's mitigation analysis it states: "In lieu of contributing a proportionate share to the three (3) intersections needing new traffic signals, the developer is recommending to construct the new traffic signal at SR 19 and Revels Road, which serves as the main access to the project." This is a reasonable mitigation alternative provided that there is a binding commitment for the developer to construct (or fund) the signal when it is deemed warranted by FDOT. This would be in addition to the turn lanes that the development will need to install at the intersection (right & left on SR 19, and right & through/left on EB Revels).**

*TMC Response: Acknowledged.*

### **END OF COMMENTS**

We trust these responses and the revised Traffic Impact Analysis adequately address the review comments. We remain available to discuss this matter further or to answer any questions you may have.

Kind regards,

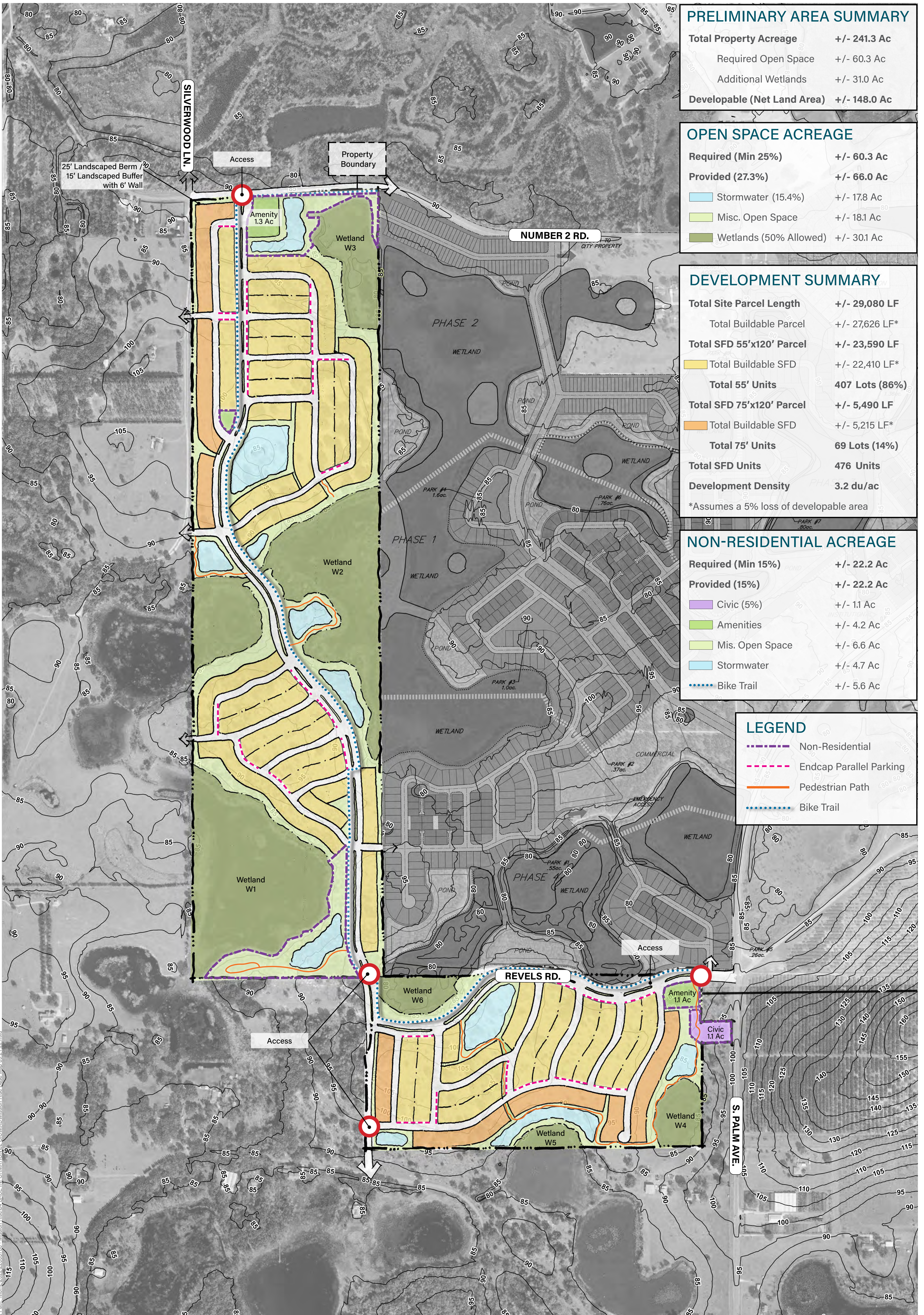
TRAFFIC & MOBILITY CONSULTANTS LLC



Charlotte N. Davidson, PE  
Senior Transportation Engineer

**Appendix B**  
Preliminary Development Plan





### PRELIMINARY AREA SUMMARY

Total Property Acreage	+/- 241.3 Ac
Required Open Space	+/- 60.3 Ac
Additional Wetlands	+/- 31.0 Ac
<b>Developable (Net Land Area)</b>	<b>+/- 148.0 Ac</b>

### OPEN SPACE ACREAGE

Required (Min 25%)	+/- 60.3 Ac
Provided (27.3%)	+/- 66.0 Ac
Stormwater (15.4%)	+/- 17.8 Ac
Misc. Open Space	+/- 18.1 Ac
Wetlands (50% Allowed)	+/- 30.1 Ac

### DEVELOPMENT SUMMARY

Total Site Parcel Length	+/- 29,080 LF
Total Buildable Parcel	+/- 27,626 LF*
Total SFD 55'x120' Parcel	+/- 23,590 LF
Total Buildable SFD	+/- 22,410 LF*
Total 55' Units	407 Lots (86%)
Total SFD 75'x120' Parcel	+/- 5,490 LF
Total Buildable SFD	+/- 5,215 LF*
Total 75' Units	69 Lots (14%)
Total SFD Units	476 Units
Development Density	3.2 du/ac

\*Assumes a 5% loss of developable area

### NON-RESIDENTIAL ACREAGE

Required (Min 15%)	+/- 22.2 Ac
Provided (15%)	+/- 22.2 Ac
Civic (5%)	+/- 1.1 Ac
Amenities	+/- 4.2 Ac
Mis. Open Space	+/- 6.6 Ac
Stormwater	+/- 4.7 Ac
Bike Trail	+/- 5.6 Ac

### LEGEND

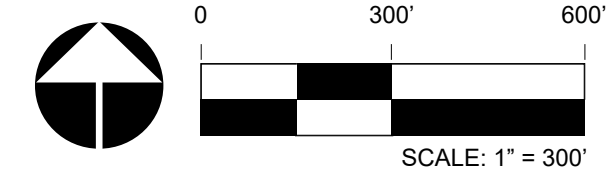
- Non-Residential
- Endcap Parallel Parking
- Pedestrian Path
- Bike Trail

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## MISSION RISE • CONCEPTUAL PLAN

Town of Howey Hills, FL  
 December 22, 2022  
 # 22003786  
 Turnstone Group



The plan is conceptual in nature. Final contours, layout, development parameters, calculations, and site conditions may change upon further development of the Preliminary and/or Master Site Plan, and upon evaluation of topographic survey, water management and existing historic and specimen trees to remain.

**Appendix C**  
Lake County CMP Database and 2023 FDOT Q/LOS

Lake County CMP Database

SEGMENT ID	COUNTY STATION	FOOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2022)	LANES (2027)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2022 AADT	2022 DAILY V.C.	2022 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2022 PEAK HOUR NB/EB VOLUME	2022 PEAK HOUR SB/WB VOLUME	2022 PEAK HOUR V.C.	2022 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2027)	2027 AADT	2027 DAILY V.C.	2027 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2027)	2027 PEAK HOUR NB/EB VOLUME	2027 PEAK HOUR SB/WB VOLUME	2027 PEAK HOUR V.C.	2027 PEAK HOUR LOS
1100	497		County	35	1.75	C.R. 466B	EAGLE NEST ROAD	CR 466A	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	10,360	5,060	0.49	C	530	193	233	0.44	C	1.25%	10,360	5,385	0.52	D	530	205	248	0.47	C
1110	490		County	35	0.55	C.R. 468	CR 466A	PINE RIDGE DAIRY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	10,360	4,719	0.46	C	530	190	213	0.40	C	1.25%	10,360	5,021	0.48	D	530	202	227	0.43	C
1120	480		County	35	1.80	C.R. 468	PINE RIDGE DAIRY ROAD	GRIFFIN ROAD	2	2	URBAN	UNDIVIDED	COUNTY	FRUITLAND PARK	D	13,320	7,736	0.58	D	680	343	384	0.56	D	3.00%	13,320	8,968	0.67	D	680	398	445	0.65	D
1130	436		County	45	1.13	C.R. 468	GRIFFIN ROAD	SR 44	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	9,173	0.74	C	620	440	404	0.71	C	1.75%	12,390	10,005	0.81	C	620	480	440	0.77	C
1145	612		County	55	3.65	C.R. 46A REALIGNMENT	SR 44	SR 46	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,740	16,576	2.14	E	410	663	857	2.09	E	3.50%	7,740	19,687	2.54	E	410	788	1,018	2.48	E
1150	267		County	55	0.94	C.R. 470	SUMTER COUNTY LINE	FLORIDA TURNPIKE	2	4	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	13,300	11,303	0.85	D	690	530	376	0.77	D	8.50%	28,880	16,996	0.99	C	1,500	797	566	0.53	C
1155	266		County	55	2.39	C.R. 470	FLORIDA TURNPIKE	BAY AVENUE	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,600	8,826	0.70	D	660	436	278	0.66	D	1.00%	12,600	9,276	0.74	D	660	458	292	0.69	D
1160	266		ADJACENT	55	0.54	C.R. 470	BAY AVENUE	CR 33	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	12,390	8,826	0.71	C	620	436	278	0.70	C	1.00%	12,390	9,276	0.75	C	620	458	292	0.74	C
1170	499		County	35	2.99	C.R. 473	CR 44	FOUNTAIN LAKE BOULEVARD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	14,060	6,957	0.49	D	710	322	242	0.45	C	1.00%	14,060	7,312	0.52	D	710	338	255	0.48	C
1180	443		County	40	1.03	C.R. 473	FOUNTAIN LAKE BOULEVARD	US 41	4	4	URBAN	DIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	35,820	14,713	0.41	C	1,800	811	461	0.45	C	1.00%	35,820	15,464	0.43	C	1,800	852	485	0.47	C
1190	4		County	55	5.21	C.R. 474	SR 33	GREEN SWAMP ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	7,740	5,062	0.77	C	410	151	240	0.59	C	2.50%	7,740	6,745	0.87	C	410	171	212	0.66	C
1200	3		County	55	3.35	C.R. 474	GREEN SWAMP ROAD	US 27	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,740	5,436	0.70	C	410	173	202	0.49	B	1.00%	7,740	5,713	0.74	C	410	182	272	0.52	B
1210	222		County	45	5.99	C.R. 478	SR 19	JAMARLY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF GROVELAND	D	21,780	2,244	0.10	B	1,080	112	93	0.10	B	7.75%	21,780	3,259	0.15	B	1,080	162	135	0.15	B
1220	259		County	55	3.17	C.R. 48	SUMTER COUNTY LINE	CLEARWATER LAKE RD	2	2	RURAL	UNDIVIDED	COUNTY	CITY OF LEEBSBURG	D	7,740	3,504	0.45	B	410	112	180	0.44	B	4.25%	7,740	4,315	0.56	C	410	138	222	0.54	C
1225	248		County	55	2.41	C.R. 48	CLEARWATER LAKE RD	CR 33	2	2	RURAL	UNDIVIDED	COUNTY	CITY OF LEEBSBURG	D	7,740	3,327	0.43	B	410	123	206	0.50	B	1.75%	7,740	3,629	0.47	B	410	134	224	0.55	C
1230	263		County	45	0.46	C.R. 48	CR 33	HAYWOOD WORM FARM RD	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	15,930	8,836	0.55	C	790	370	297	0.47	C	2.75%	15,930	10,120	0.64	C	790	424	340	0.54	C
1235	262		County	45	0.68	C.R. 48	HAYWOOD WORM FARM RD	US 27	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	9,073	0.54	C	840	401	375	0.48	C	1.00%	16,820	9,536	0.57	C	840	421	394	0.50	C
1240	264		County	40	4.89	C.R. 48	US 27	LIME AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	9,821	0.45	B	1,080	420	380	0.39	B	4.00%	21,780	11,949	0.55	C	1,080	511	462	0.47	B
1250	255		County	40	2.04	C.R. 48	US 27	LIME AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	HOWEY-IN-THE-HILLS	D	21,780	9,962	0.46	B	1,080	429	404	0.40	B	1.50%	21,780	10,754	0.49	C	1,080	462	435	0.43	B
1260	253		County	40	1.14	C.R. 48	CR 561	RANCH ROAD	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF ASTATULA	D	16,820	6,515	0.39	C	840	310	292	0.37	C	1.00%	16,820	6,847	0.41	C	840	327	307	0.39	C
1270	253		ADJACENT	40	3.17	C.R. 48	CR 448A	RANCH ROAD	2	2	RURAL	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	C	7,740	6,515	0.84	C	410	310	292	0.76	C	1.00%	7,740	6,847	0.68	C	410	327	307	0.68	C
1280	217		County	30	0.71	C.R. 50 (SUNSET AVENUE)	CR 50	CR 50	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MASCOTTE	D	10,360	1,592	0.15	C	530	96	95	0.16	C	1.75%	10,360	1,736	0.17	C	530	77	104	0.20	C
1290	210		County	45	1.74	C.R. 50	US 27	N HANCOCK ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MINNEOLA	D	16,820	6,981	0.42	C	840	285	348	0.41	C	1.00%	16,820	7,337	0.44	C	840	299	303	0.43	C
1300	202		County	45	2.47	C.R. 50	N HANCOCK ROAD	CR 455	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	21,780	6,977	0.32	B	1,080	228	491	0.45	B	2.00%	21,780	7,593	0.35	B	1,080	251	542	0.50	C
1310	42		County	45	1.92	C.R. 50	ORANGE COUNTY LINE	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	UNINCORPORATED LAKE COUNTY	D	16,820	6,828	0.41	C	840	195	557	0.66	C	1.00%	16,820	7,176	0.43	C	840	205	585	0.70	C
1320	417		County	35	1.08	C.R. 500A/OLD 441	SR 19	DORA AVENUE	2	2	URBAN	DIVIDED	COUNTY	CITY OF TAVARES	D	8,390	9,907	1.18	F	870	367	450	0.52	D	1.00%	8,390	10,412	1.24	F	870	396	473	0.54	D
1325	417		County	35	1.08	C.R. 500A/OLD 441	DORA AVENUE	SR 19	2	2	URBAN	DIVIDED	COUNTY	CITY OF TAVARES	D	8,390	9,907	1.18	F	870	367	450	0.52	D	1.00%	8,390	10,412	1.24	F	870	396	473	0.54	D
1330	413	115084	County	45	1.94	C.R. 500A/OLD 441/ALFRED ST	DORA AVENUE	BAY ROAD	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	16,820	9,558	0.57	C	840	489	424	0.58	C	1.00%	16,820	10,045	0.60	C	840	514	446	0.61	C
1340	420		County	35	0.79	C.R. 500A/OLD 441	BAY ROAD	CR 44C / EUDORA AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	9,917	0.96	D	530	465	458	0.88	D	2.50%	10,360	11,200	1.08	F	530	526	518	0.99	D
1350	421		County	35	1.06	C.R. 500A/OLD 441	CR 44C / EUDORA DRIVE	LAKESHORE DRIVE	2	2	URBAN	DIVIDED	COUNTY	CITY OF MOUNT DORA	D	14,760	16,591	1.12	F	750	725	761	1.01	E	4.25%	14,760	20,430	1.38	F	750	893	937	1.25	F
1360	415		County	35	0.79	C.R. 500A/OLD 441	LAKESHORE DRIVE	5TH AVENUE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	11,207	1.08	F	530	469	505	0.95	D	4.25%	10,360	13,800	1.33	F	530	577	621	1.17	F
1370	415		ADJACENT	25	0.63	C.R. 500A/5TH AVENUE	OLD 441	N HIGHLAND STREET	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	11,207	1.08	F	530	469	505	0.95	D	4.25%	10,360	13,800	1.33	F	530	577	621	1.17	F
1380	605		ADJACENT	30	0.26	C.R. 500A (HIGHLAND STREET)	SR 46	SR 46	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	13,320	2,792	0.21	C	680	179	127	0.26	C	3.50%	13,320	3,316	0.25	C	680	213	150	0.31	C
1390	602	115004	County	35	0.75	C.R. 500A/OLD 441	SR 46	ORANGE COUNTY LINE	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF MOUNT DORA	D	10,360	5,849	0.56	D	530	325	244	0.61	D	5.25%	10,360	7,555	0.73	D	530	419	316	0.79	D
1400	401		County	45	1.62	C.R. 561	SR 19	CR 448	2	2	URBAN	UNDIVIDED	COUNTY	CITY OF TAVARES	D	16,820	16,583	0.99	D	840	622	825	0.98	D	4.75%	16,820	20,914	1.24	F	840	784	1,041	1.24	F
1410	257		County	50	3.93	C.R. 561	CR 448	CR 48	2	2	URBAN	UNDIVIDED	COUNTY	ASTATULA/TAVARES	D	21,780	10,160	0.47	B	1,080	507	590	0.55	C	1.00%	21,780	10,678	0.49	C	1,080	533	620	0.57	C
1420	252		County	40	0.63	C.R. 561	CR 48	SOUTH ASTATULA CITY LIMIT	2	2	URBAN	UNDIVIDED	COUNTY	TOWN OF ASTATULA	D	12,390	11,847	0.96																

Lake County CMP Database

SEGMENT ID	COUNTY STATION	FOOT STATION	DATA SOURCE	SPEED LIMIT	SEGMENT LENGTH (MI)	ROAD NAME	FROM	TO	LANES (2022)	LANES (2027)	URBAN / RURAL	DIVIDED / UNDIVIDED	MAINTAINING AGENCY	JURISDICTION	ADOPTED LOS STANDARD	DAILY SERVICE VOLUME	2022 AADT	2022 DAILY VIC	2022 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME	2022 PEAK HOUR NB/EB VOLUME	2022 PEAK HOUR SB/WB VOLUME	2022 PEAK HOUR VIC	2022 PEAK HOUR LOS	GROWTH RATE	DAILY SERVICE VOLUME (2027)	2027 AADT	2027 DAILY VIC	2027 DAILY LOS	PEAK HOUR DIRECTIONAL SERVICE VOLUME (2027)	2027 PEAK HOUR NB/EB VOLUME	2027 PEAK HOUR SB/WB VOLUME	2027 PEAK HOUR VIC	2027 PEAK HOUR LOS
3020	11049	11049	State	45	1.38	SR 19	CR 452 (MAIN STREET)	CR 561	4	4	URBAN	DIVIDED	STATE	CITY OF TAVARES	D	41,790	45,500	1.09	F	2,100	2,203	1,892	1.05	F	4.50%	41,790	56,701	1.36	F	2,100	2,745	2,358	1.31	F
3030	11049	11049	ADJACENT	45	0.90	SR 19	CR 561	LANE PARK ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF TAVARES	D	18,590	45,500	2.45	F	920	2,203	1,892	2.39	F	4.50%	18,590	56,701	3.05	F	920	2,745	2,358	2.98	F
3040	11049	11049	State	55	3.87	SR 19	LANE PARK ROAD	CR 48	2	2	URBAN	UNDIVIDED	STATE	HOWEY-IN-THE-HILLS/TAVARES	D	18,590	15,980	0.86	C	920	810	656	0.71	C	1.00%	18,590	16,795	0.90	C	920	641	689	0.75	C
3050	11049	11049	State	40	0.84	SR 19	CR 48	CENTRAL AVENUE	2	2	URBAN	UNDIVIDED	STATE	HOWEY-IN-THE-HILLS	D	14,160	8,950	0.63	C	700	433	372	0.62	C	1.00%	14,160	9,407	0.66	C	700	455	391	0.65	C
3060	11049	11049	ADJACENT	35	3.09	SR 19	CENTRAL AVENUE	CR 455	2	2	URBAN	UNDIVIDED	STATE	HOWEY-IN-THE-HILLS	D	24,200	8,950	0.37	B	1,200	433	372	0.36	B	1.00%	24,200	9,407	0.39	B	1,200	455	391	0.38	B
3070	11025	11025	State	55	2.72	SR 19	CR 455	US 27 / SR 25	2	2	RURAL	UNDIVIDED	STATE	CITY OF GROVELAND	C	8,600	9,910	1.15	D	450	507	435	1.13	D	1.00%	8,600	10,416	1.21	D	450	533	457	1.18	D
3080	110376	110376	State	55	4.73	SR 19	US 27 / SR 25	CR 478	2	2	RURAL	UNDIVIDED	STATE	CITY OF GROVELAND	C	8,600	9,350	1.09	D	450	466	519	1.15	D	1.00%	8,600	9,827	1.14	D	450	490	545	1.21	D
3090	110376	110376	ADJACENT	55	1.22	SR 19	CR 478	LAKE CATHERINE ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF GROVELAND	D	17,700	9,350	0.53	C	880	466	519	0.59	C	1.00%	17,700	9,827	0.56	C	880	490	545	0.62	C
3100	110097	110097	State	45	0.70	SR 19	LAKE CATHERINE ROAD	SR 50 / SR 33	2	2	URBAN	UNDIVIDED	STATE	CITY OF GROVELAND	D	17,700	12,950	0.73	C	880	449	533	0.61	C	1.50%	17,700	13,951	0.79	C	880	484	574	0.65	C
3110	115072	115072	State	40	0.52	SR 33	SR 50 / SR 33	ANDERSON ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF GROVELAND	D	18,590	14,760	0.79	C	920	470	667	0.73	C	4.25%	18,590	18,175	0.98	D	920	579	821	0.89	C
3120	110497	110497	State	60	3.16	SR 33	ANDERSON ROAD	CR 565B	2	2	RURAL	UNDIVIDED	STATE	CITY OF GROVELAND	C	8,600	10,428	1.21	D	450	533	458	1.18	D	3.75%	8,600	12,535	1.46	D	450	641	551	1.42	D
3130	111002	111002	State	60	6.76	SR 33	CR 565B	CR 561	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,600	8,242	0.96	C	450	421	362	0.94	C	1.75%	8,600	8,988	1.05	D	450	459	395	1.02	D
3140	5		County	60	2.33	SR 33	CR 561	CR 474	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,600	13,084	1.52	D	450	452	415	1.00	D	1.25%	8,600	13,923	1.62	D	450	480	441	1.07	D
3150	2		County	60	1.04	SR 33	CR 474	POLK COUNTY LINE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	10,320	10,821	1.05	D	540	352	544	1.01	D	4.50%	10,320	13,485	1.31	F	540	438	678	1.26	F
3160	808		County	45	4.71	SR 40	MARION COUNTY LINE	CR 445A	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,600	5,068	0.59	C	450	169	217	0.48	B	2.75%	8,600	5,805	0.68	C	450	193	248	0.55	C
3170	110503	110503	State	55	1.61	SR 40	CR 445A	RIVER ROAD	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	10,320	5,370	0.52	C	540	274	236	0.51	C	1.00%	10,320	5,644	0.55	C	540	288	248	0.53	C
3180	110050	110050	State	45	1.43	SR 40	RIVER ROAD	VOLUISIA COUNTY LINE	2	2	RURAL	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	14,220	10,180	0.72	C	740	401	406	0.55	C	4.75%	14,220	12,839	0.90	C	740	506	512	0.69	C
3190	110496	110496	State	55	2.38	SR 44	SUMTER COUNTY LINE	CR 468	4	4	URBAN	DIVIDED	STATE	CITY OF LEESSBURG	D	39,800	21,800	0.55	C	2,000	1,071	964	0.54	C	1.00%	39,800	22,912	0.58	C	2,000	1,126	1,013	0.56	C
3200	110487	110487	State	45	1.54	SR 44	CR 468	S LONE OAK DRIVE	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	39,800	16,540	0.42	C	2,000	610	720	0.36	C	1.00%	39,800	17,384	0.44	C	2,000	641	757	0.38	C
3210	115147	115147	State	35	0.76	SR 44	S LONE OAK DRIVE	US 27	4	4	URBAN	DIVIDED	STATE	CITY OF LEESSBURG	D	32,400	19,480	0.60	D	1,630	835	769	0.51	D	1.00%	32,400	20,474	0.63	D	1,630	878	808	0.54	D
3220	115179	115179	State	35	0.57	SR 44 (DNIE AVENUE)	US 27	S 97TH STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESSBURG	D	32,400	27,300	0.84	D	1,630	1,322	1,135	0.81	D	1.25%	32,400	29,049	0.90	D	1,630	1,407	1,208	0.86	D
3230	115143	115143	ADJACENT	35	0.34	SR 44 (DNIE AVENUE)	US 27	G 97TH STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESSBURG	D	32,400	23,200	0.72	D	1,630	922	929	0.57	D	1.00%	32,400	24,383	0.75	D	1,630	969	975	0.60	D
3240	115143	115143	State	40	0.41	SR 44 (DNIE AVENUE)	US 27	CANAL STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESSBURG	D	39,800	23,200	0.58	C	2,000	922	929	0.46	C	1.00%	39,800	24,383	0.61	C	2,000	969	975	0.69	C
3250	115142	115142	State	40	0.79	SR 44 (DNIE AVENUE)	US 27	S LAKE STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESSBURG	D	39,800	18,760	0.47	C	2,000	928	780	0.45	C	1.00%	39,800	19,717	0.50	C	2,000	954	820	0.48	C
3260	115183	115183	State	40	0.11	SR 44 (DNIE AVENUE)	US 27	E MAIN STREET	4	4	URBAN	DIVIDED	STATE	CITY OF LEESSBURG	D	41,790	18,760	0.45	C	2,100	928	780	0.43	C	1.00%	41,790	19,717	0.47	C	2,100	954	820	0.45	C
3262	110005	110005	State	45	0.45	SR 44 (OLD C.R. 44B)	US 441	WAYCROSS AVENUE	2	2	URBAN	DIVIDED	STATE	CITY OF MOUNT DORA	D	19,510	25,500	1.31	F	970	1,236	1,060	1.27	F	1.00%	19,510	26,801	1.31	F	970	1,298	1,114	1.14	F
3268	110006	110006	State	45	1.65	SR 44 (OLD C.R. 44B)	US 441	WAYCROSS AVENUE	2	2	URBAN	UNDIVIDED	STATE	EUSTASIMONT DORA	D	18,590	17,880	0.96	D	920	907	637	0.99	D	1.00%	18,590	18,792	1.07	F	920	953	869	1.04	F
3270	110500	110500	ADJACENT	55	2.27	SR 44	US 441	THRILL HILL ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF ELUSTIS	C	18,590	13,810	0.74	C	920	706	698	0.77	C	1.00%	18,590	14,514	0.78	C	920	742	637	0.81	C
3280	110500	110500	ADJACENT	55	1.14	SR 44	US 441	THRILL HILL ROAD	2	2	URBAN	UNDIVIDED	STATE	CITY OF MOUNT DORA	D	17,700	13,810	0.78	C	880	706	698	0.80	C	1.00%	17,700	14,514	0.82	C	880	742	637	0.84	C
3290	110500	110500	State	55	3.03	SR 44	CR 439	CR 437	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	15,700	13,810	0.88	C	820	706	698	0.88	C	1.00%	15,700	14,514	0.92	C	820	742	637	0.90	C
3300	110500	110500	ADJACENT	55	1.15	SR 44	CR 439	CR 437	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	13,550	13,810	1.02	D	700	706	698	1.01	D	1.00%	13,550	14,514	1.07	D	700	742	637	1.06	D
3310	110010	110010	ADJACENT	55	3.43	SR 44	CR 46A	CR 44A	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,600	9,383	1.09	D	450	480	412	1.07	D	1.00%	8,600	9,861	1.15	D	450	504	433	1.12	D
3320	110010	110010	ADJACENT	55	5.34	SR 44	CR 46A	OVERLOOK DRIVE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	8,600	9,383	1.09	D	450	480	412	1.07	D	1.00%	8,600	9,861	1.15	D	450	504	433	1.12	D
3330	110010	110010	State	55	5.64	SR 44	CR 46A	OVERLOOK DRIVE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	15,700	9,383	0.60	B	820	480	412	0.59	B	1.00%	15,700	9,861	0.63	B	820	504	433	0.61	B
3340	110010	110010	ADJACENT	55	0.26	SR 44	CR 42	VOLUISIA COUNTY LINE	2	2	RURAL	UNDIVIDED	STATE	UNINCORPORATED LAKE COUNTY	C	13,550	9,383	0.69	C	700	480	412	0.69	C	1.00%	13,550	9,861	0.73	C	700	504	433	0.72	C
3344	110200	110200	State	-	1.80	SR 429 (WEKIVA PKWY)	ORANGE CL	CR 46A (REALIGNED)	4	4	URBAN	DIVIDED	STATE	UNINCORPORATED LAKE COUNTY	D	66,200	6,200	0.09	B	3,280	422	3												

# C3C & C3R

## Motor Vehicle Arterial Generalized Service Volume Tables

### Peak Hour Directional

### Peak Hour Two-Way

### AADT



(C3C-Suburban Commercial)

	B	C	D	E
1 Lane	*	760	1,070	**
2 Lane	*	1,520	1,810	**
3 Lane	*	2,360	2,680	**
4 Lane	*	3,170	3,180	**

	B	C	D	E
2 Lane	*	1,380	1,950	**
4 Lane	*	2,760	3,290	**
6 Lane	*	4,290	4,870	**
8 Lane	*	5,760	5,780	**

	B	C	D	E
2 Lane	*	15,300	21,700	**
4 Lane	*	30,700	36,600	**
6 Lane	*	47,700	54,100	**
8 Lane	*	64,000	64,200	**



(C3R-Suburban Residential)

	B	C	D	E
1 Lane	*	970	1,110	**
2 Lane	*	1,700	1,850	**
3 Lane	*	2,620	2,730	**

	B	C	D	E
2 Lane	*	1,760	2,020	**
4 Lane	*	3,090	3,360	**
6 Lane	*	4,760	4,960	**

	B	C	D	E
2 Lane	*	19,600	22,400	**
4 Lane	*	34,300	37,300	**
6 Lane	*	52,900	55,100	**

### Adjustment Factors

The peak hour directional service volumes should be adjusted by multiplying by 1.2 for one-way facilities  
 The AADT service volumes should be adjusted by multiplying 0.6 for one way facilities 2 Lane Divided  
 Roadway with an Exclusive Left Turn Lane(s): Multiply by 1.05

2 lane Undivided Roadway with No Exclusive Left Turn Lane(s): Multiply by 0.80

Exclusive right turn lane(s): Multiply by 1.05

Multilane Undivided Roadway with an Exclusive Left Turn Lane(s): Multiply by 0.95

Multilane Roadway with No Exclusive Left Turn Lane(s): Multiply by 0.75

Non-State Signalized Roadway: Multiply by 0.90

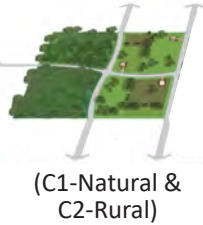
This table does not constitute a standard and should be used only for general planning applications. The table should not be used for corridor or intersection design, where more refined techniques exist.

\* Cannot be achieved using table input value defaults.

\*\* Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached.

# C1 & C2

## Motor Vehicle Highway Generalized Service Volume Tables



(C1-Natural & C2-Rural)

### Peak Hour Directional

	B	C	D	E
1 Lane	240	430	730	1,490
2 Lane	1,670	2,390	2,910	3,340
3 Lane	2,510	3,570	4,370	5,010

### Peak Hour Two-Way

	B	C	D	E
2 Lane	440	780	1,330	2,710
4 Lane	3,040	4,350	5,290	6,070
6 Lane	4,560	6,490	7,950	9,110

### AADT

	B	C	D	E
2 Lane	4,600	8,200	14,000	28,500
4 Lane	32,000	45,800	55,700	63,900
6 Lane	48,000	68,300	83,700	95,900

### Adjustment Factors

- 2 Lane Divided Roadway with Exclusive Left Turn Adjustment: Multiply by 1.05
- Multilane Undivided Highway with Exclusive Left Turn Adjustment: Multiply by 0.95
- Multilane Undivided Highway without Exclusive Left Turn Adjustment: Multiply by 0.75

**Appendix D**  
Turning Movement Counts and Seasonal Factor Data

### TURNING MOVEMENT COUNT ANALYSIS

#### AUTOS & TRUCKS

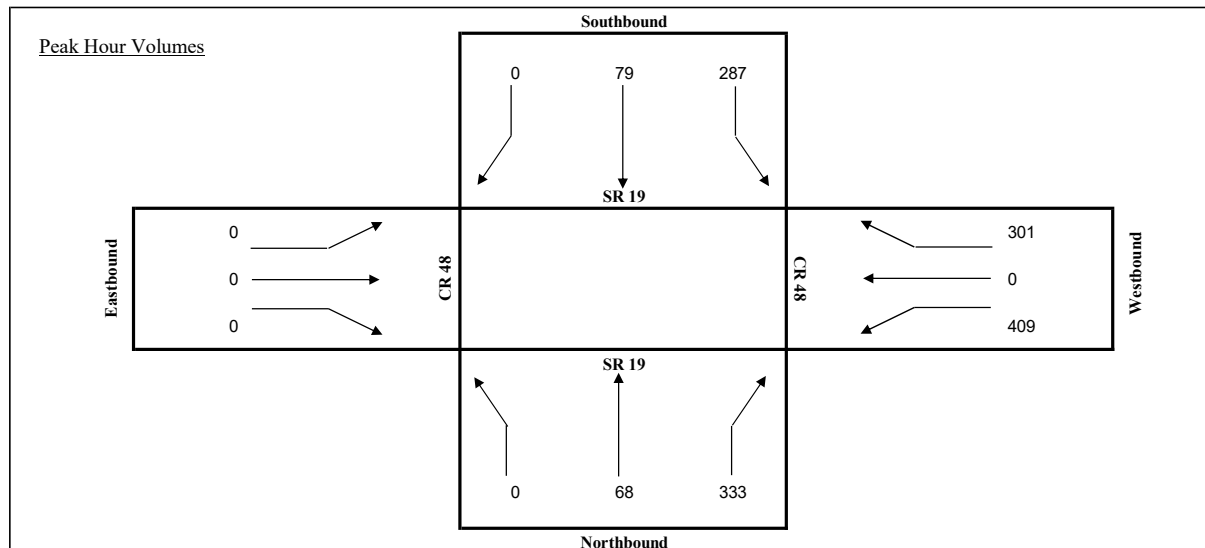
Intersection (N/S): SR 19

Intersection (E/W): CR 48

Date: 7/19/2023

Start	End	SR 19 NB			SR 19 SB			CR 48 EB			CR 48 WB			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM	4:15 PM	0	19	82	68	13	0	0	0	0	84	0	65	331
4:15 PM	4:30 PM	0	24	91	71	13	0	0	0	0	83	0	79	361
4:30 PM	4:45 PM	0	18	72	68	17	0	0	0	0	93	0	76	344
4:45 PM	5:00 PM	0	23	90	85	15	0	0	0	0	92	0	61	366
5:00 PM	5:15 PM	0	18	71	73	23	0	0	0	0	88	0	73	346
5:15 PM	5:30 PM	0	15	80	71	19	0	0	0	0	114	0	80	379
5:30 PM	5:45 PM	0	12	92	58	22	0	0	0	0	115	0	87	386
5:45 PM	6:00 PM	0	16	70	54	14	0	0	0	0	94	0	72	320

<b>Total for:</b>	4:00 PM	5:00 PM	0	84	335	292	58	0	0	0	0	352	0	281	1402
<b>Total for:</b>	5:00 PM	6:00 PM	0	61	313	256	78	0	0	0	0	411	0	312	1431
<b>Tota Peak Hour:</b>	4:45 PM	5:45 PM	0	68	333	287	79	0	0	0	0	409	0	301	1477
<b>Overall PHF:</b>	0.96														



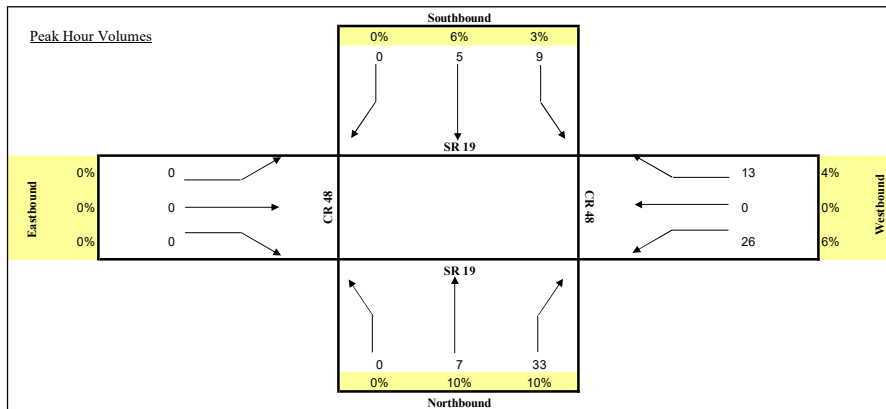


**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): SR 19  
Intersection (E/W): CR 48  
Date: 7/19/2023

Start	End	SR 19			SR 19			CR 48			CR 48			TOTAL
		R	T	L	R	T	L	R	T	L	R	T	L	
4:00 PM	4:15 PM	0	3	10	5	0	0	0	0	0	4	0	6	28
4:15 PM	4:30 PM	0	4	11	1	3	0	0	0	0	8	0	2	29
4:30 PM	4:45 PM	0	0	8	2	1	0	0	0	0	7	0	4	22
4:45 PM	5:00 PM	0	0	4	1	1	0	0	0	0	7	0	1	14
5:00 PM	5:15 PM	0	1	7	2	2	0	0	0	0	6	0	0	18
5:15 PM	5:30 PM	0	0	7	2	0	0	0	0	0	6	0	0	15
5:30 PM	5:45 PM	0	0	2	0	0	0	0	0	0	2	0	1	5
5:45 PM	6:00 PM	0	2	4	2	1	0	0	0	0	5	0	1	15

Total for:	4:00 PM	5:00 PM	0	7	33	9	5	0	0	0	0	0	26	0	13	93
Total for:	5:00 PM	6:00 PM	0	3	20	6	3	0	0	0	0	0	19	0	2	53
Total Peak Hour:	4:00 PM	5:00 PM	0	7	33	9	5	0	0	0	0	0	26	0	13	93
Overall PHF:	0.80															



**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

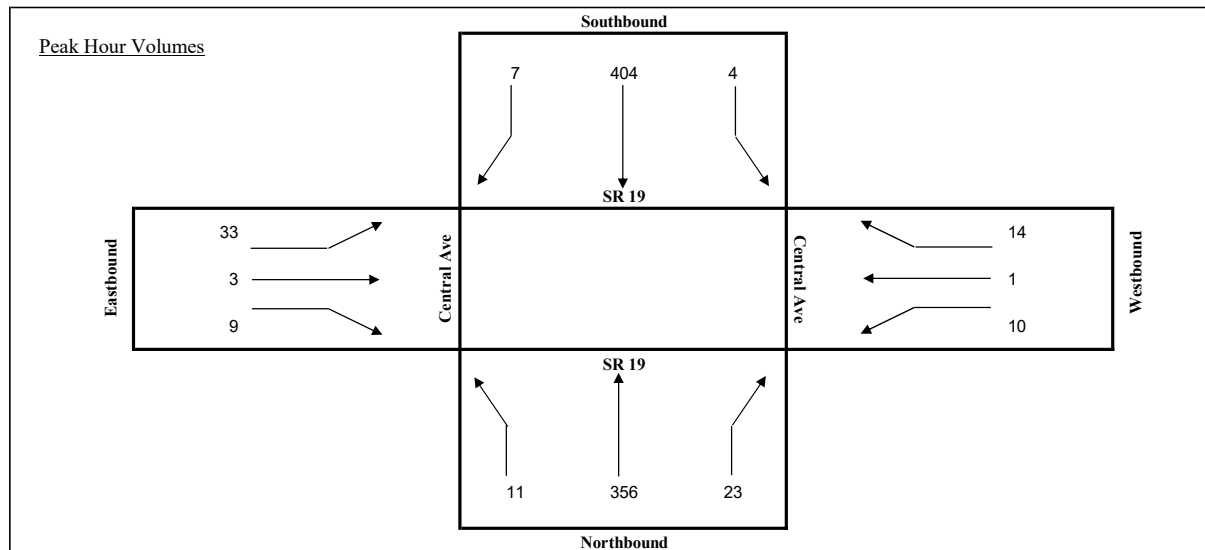
Intersection (N/S): SR 19

Intersection (E/W): Central Ave

Date: 7/19/2023

Start	End	SR 19 NB			SR 19 SB			Central Ave EB			Central Ave WB			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	7	76	6	1	88	3	5	0	4	3	1	3	197
7:15 AM	7:30 AM	3	92	4	1	101	0	15	1	1	1	0	2	221
7:30 AM	7:45 AM	1	96	4	1	106	2	9	0	1	2	0	4	226
7:45 AM	8:00 AM	5	85	4	2	93	2	4	1	4	4	0	3	207
8:00 AM	8:15 AM	2	83	11	0	104	3	5	1	3	3	1	5	221
8:15 AM	8:30 AM	8	70	1	1	91	5	7	2	0	0	0	4	189
8:30 AM	8:45 AM	3	96	5	1	101	5	5	2	6	2	0	1	227
8:45 AM	9:00 AM	3	77	10	4	68	2	13	0	1	2	0	4	184

<b>Total for:</b>	7:00 AM	8:00 AM	16	349	18	5	388	7	33	2	10	10	1	12	851
<b>Total for:</b>	8:00 AM	9:00 AM	16	326	27	6	364	15	30	5	10	7	1	14	821
<b>Tota Peak Hour:</b>	7:15 AM	8:15 AM	11	356	23	4	404	7	33	3	9	10	1	14	875
<b>Overall PHF:</b>	0.97														



**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

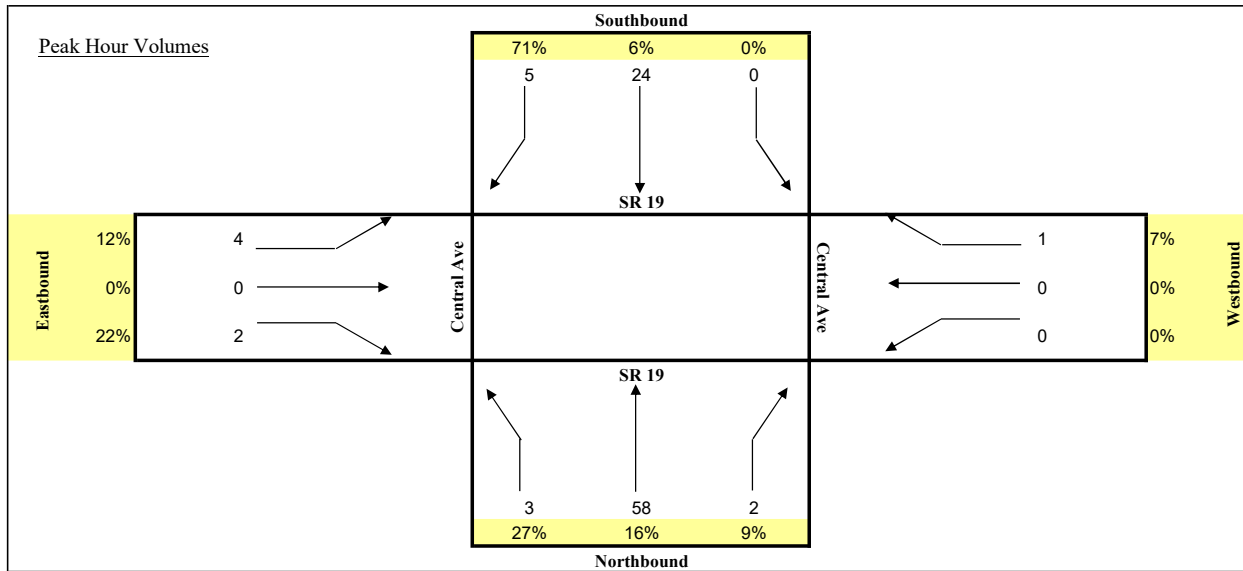
Intersection (N/S): SR 19

Intersection (E/W): Central Ave

Date: 7/19/2023

Start	End	SR 19			SR 19			Central Ave			Central Ave			TOTAL
		NB			SB			EB			WB			
		R	T	L	R	T	L	R	T	L	R	T	L	
7:00 AM	7:15 AM	1	13	0	0	10	0	1	0	0	0	0	0	25
7:15 AM	7:30 AM	1	15	1	1	13	0	1	0	0	0	0	0	32
7:30 AM	7:45 AM	0	9	0	0	7	0	0	0	0	0	0	2	18
7:45 AM	8:00 AM	1	12	1	0	2	0	0	0	0	1	0	0	17
8:00 AM	8:15 AM	0	14	1	0	5	0	0	0	0	0	0	1	21
8:15 AM	8:30 AM	2	7	1	0	8	1	2	0	0	0	0	0	21
8:30 AM	8:45 AM	1	19	0	0	6	2	0	0	2	0	0	0	30
8:45 AM	9:00 AM	0	18	0	0	5	2	2	0	0	0	0	0	27

<b>Total for:</b>	7:00 AM	8:00 AM	3	49	2	1	32	0	2	0	0	1	0	2	92
<b>Total for:</b>	8:00 AM	9:00 AM	3	58	2	0	24	5	4	0	2	0	0	1	99
<b>Tota Peak Hour:</b>	8:00 AM	9:00 AM	3	58	2	0	24	5	4	0	2	0	0	1	99
<b>Overall PHF:</b>	0.83														



**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

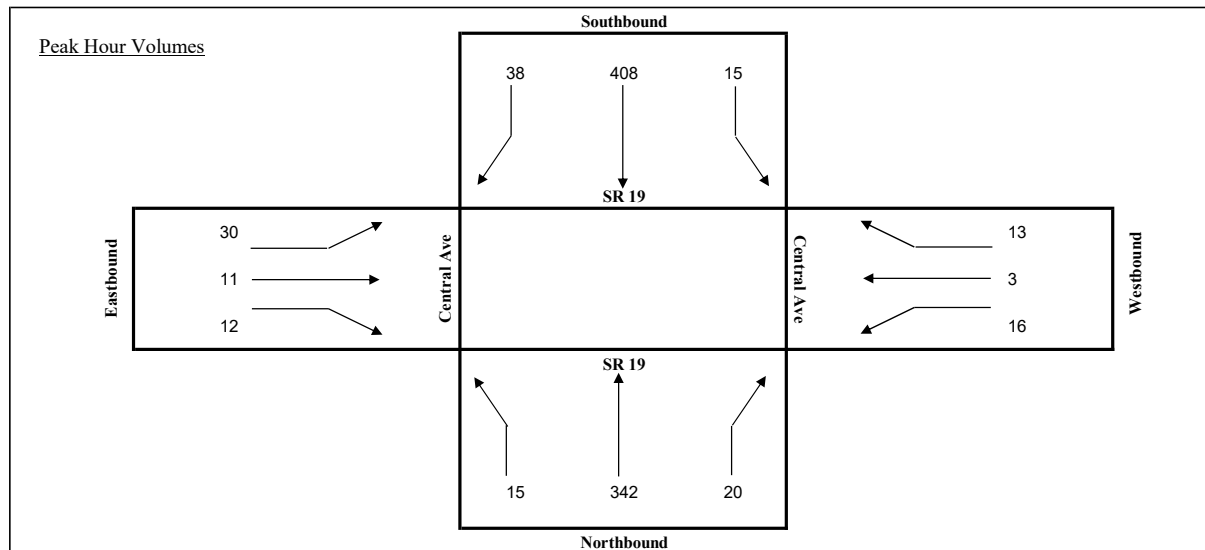
Intersection (N/S): SR 19

Intersection (E/W): Central Ave

Date: 7/19/2023

Start	End	SR 19			SR 19			Central Ave			Central Ave			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM	4:15 PM	2	88	5	3	81	10	7	1	2	1	0	4	204
4:15 PM	4:30 PM	2	98	3	1	79	9	12	0	4	1	3	3	215
4:30 PM	4:45 PM	2	75	7	6	89	10	11	3	4	4	1	1	213
4:45 PM	5:00 PM	2	102	7	4	90	6	6	1	3	1	0	2	224
5:00 PM	5:15 PM	5	66	5	0	96	10	12	5	5	5	0	6	215
5:15 PM	5:30 PM	4	84	4	3	113	8	5	1	1	6	3	2	234
5:30 PM	5:45 PM	4	90	4	8	109	14	7	4	3	4	0	3	250
5:45 PM	6:00 PM	1	71	6	1	86	9	7	1	1	0	2	3	188

<b>Total for:</b>	4:00 PM	5:00 PM	8	363	22	14	339	35	36	5	13	7	4	10	856
<b>Total for:</b>	5:00 PM	6:00 PM	14	311	19	12	404	41	31	11	10	15	5	14	887
<b>Tota Peak Hour:</b>	4:45 PM	5:45 PM	15	342	20	15	408	38	30	11	12	16	3	13	923
<b>Overall PHF:</b>	0.92														

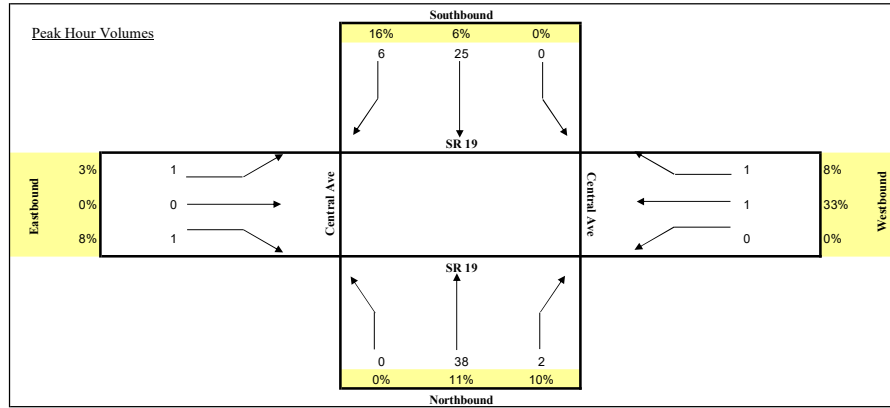


**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): SR 19  
Intersection (E/W): Central Ave  
Date: 7/19/2023

Start	End	SR 19 NB			SR 19 SB			Central Ave EB			Central Ave WB			TOTAL
		R	T	L	R	T	L	R	T	L	R	T	L	
4:00 PM	4:15 PM	0	13	2	0	2	2	0	0	0	0	0	0	19
4:15 PM	4:30 PM	0	14	0	0	9	2	0	0	0	0	1	1	27
4:30 PM	4:45 PM	0	8	0	0	8	0	0	0	0	0	0	0	16
4:45 PM	5:00 PM	0	3	0	0	6	2	1	0	1	0	0	0	13
5:00 PM	5:15 PM	1	7	0	0	8	0	1	0	0	0	0	0	17
5:15 PM	5:30 PM	0	7	0	0	6	0	0	0	1	0	0	0	14
5:30 PM	5:45 PM	1	2	0	1	0	1	0	0	1	1	0	0	7
5:45 PM	6:00 PM	0	6	0	0	6	0	0	0	0	0	1	0	13

Total for:	4:00 PM	5:00 PM	0	38	2	0	25	6	1	0	1	0	1	1	75
Total for:	5:00 PM	6:00 PM	2	22	0	1	20	1	1	0	2	1	1	0	51
<b>Total Peak Hour:</b>	4:00 PM	5:00 PM	0	38	2	0	25	6	1	0	1	0	1	1	75
<b>Overall PHF:</b>	0.69														



### TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

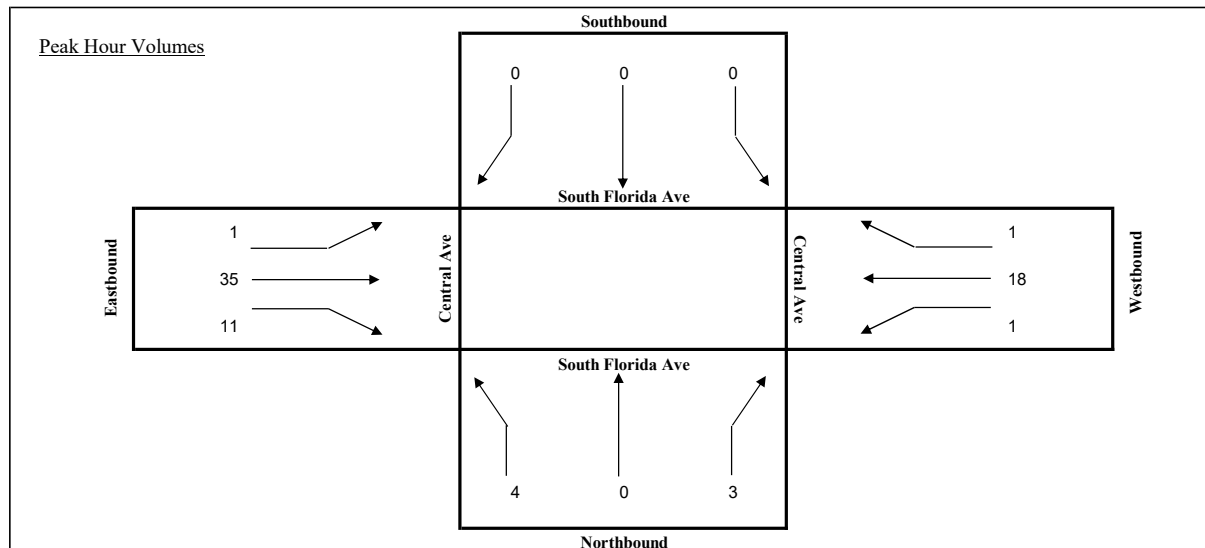
Intersection (N/S): South Florida Ave

Intersection (E/W): Central Ave

Date: 7/19/2023

Start	End	South Florida Ave			South Florida Ave			Central Ave			Central Ave			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	0	0	0	0	0	0	0	6	4	0	8	1	19
7:15 AM	7:30 AM	2	0	1	0	0	0	1	13	2	0	4	0	23
7:30 AM	7:45 AM	2	0	1	0	0	0	0	9	4	1	1	0	18
7:45 AM	8:00 AM	0	0	1	0	0	0	0	7	1	0	5	0	14
8:00 AM	8:15 AM	0	0	2	0	0	0	0	5	0	2	5	0	14
8:15 AM	8:30 AM	0	0	3	0	0	0	0	8	2	1	3	2	19
8:30 AM	8:45 AM	0	0	1	1	0	1	0	3	1	3	7	0	17
8:45 AM	9:00 AM	1	0	2	0	0	0	0	7	2	1	6	1	20

<b>Total for:</b>	7:00 AM	8:00 AM	4	0	3	0	0	0	1	35	11	1	18	1	74
<b>Total for:</b>	8:00 AM	9:00 AM	1	0	8	1	0	1	0	23	5	7	21	3	70
<b>Tota Peak Hour:</b>	7:00 AM	8:00 AM	4	0	3	0	0	0	1	35	11	1	18	1	74
<b>Overall PHF:</b>			0.80												

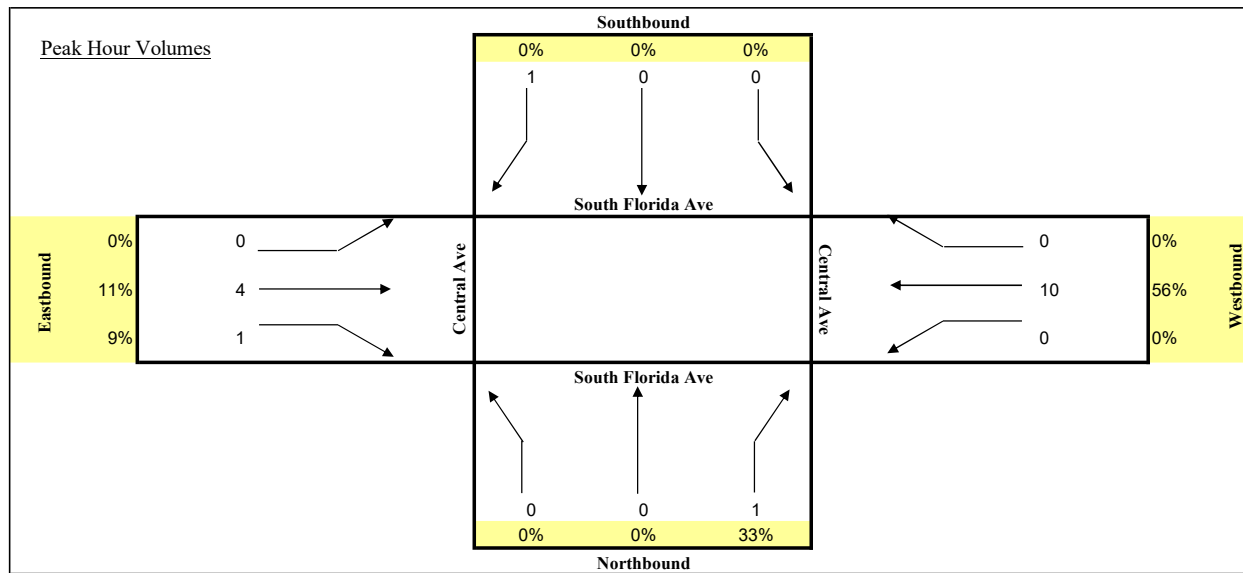


**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): South Florida Ave  
 Intersection (E/W): Central Ave  
 Date: 7/19/2023

		South Florida Ave			South Florida Ave			Central Ave			Central Ave			TOTAL
Start	End	NB			SB			EB			WB			
		R	T	L	R	T	L	R	T	L	R	T	L	
7:00 AM	7:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:15 AM	7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:30 AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	8:30 AM	0	0	1	0	0	0	0	2	0	0	2	0	5
8:30 AM	8:45 AM	0	0	0	0	0	1	0	1	0	0	3	0	5
8:45 AM	9:00 AM	0	0	0	0	0	0	0	1	1	0	5	0	7

<b>Total for:</b>	7:00 AM	8:00 AM	0	0	0	0	0	0	2	0	0	3	0	5
<b>Total for:</b>	8:00 AM	9:00 AM	0	0	1	0	0	1	4	1	0	10	0	17
<b>Tota Peak Hour:</b>	8:00 AM	9:00 AM	0	0	1	0	0	1	4	1	0	10	0	17
<b>Overall PHF:</b>	0.61													



### TURNING MOVEMENT COUNT ANALYSIS

#### AUTOS & TRUCKS

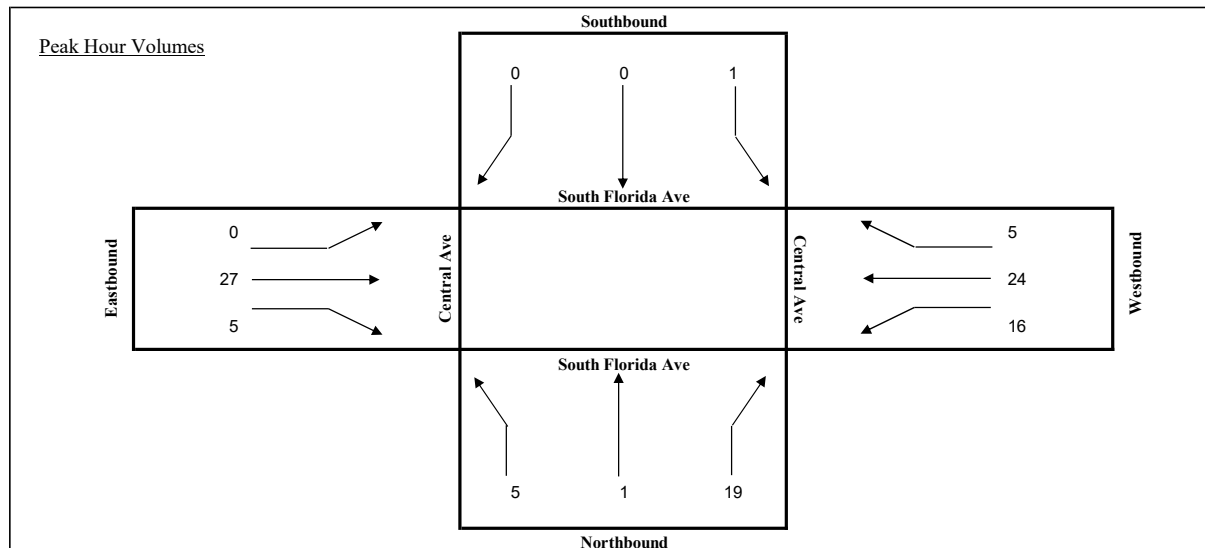
Intersection (N/S): South Florida Ave

Intersection (E/W): Central Ave

Date: 7/19/2023

Start	End	South Florida Ave			South Florida Ave			Central Ave			Central Ave			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM	4:15 PM	3	0	3	0	0	0	0	3	0	4	5	0	18
4:15 PM	4:30 PM	3	0	5	0	0	0	0	6	2	4	8	0	28
4:30 PM	4:45 PM	2	0	6	0	0	0	0	2	3	3	7	0	23
4:45 PM	5:00 PM	1	0	4	0	0	0	0	5	1	1	4	0	16
5:00 PM	5:15 PM	1	1	7	0	0	0	0	10	2	5	6	0	32
5:15 PM	5:30 PM	1	0	4	0	0	0	0	5	1	0	4	4	19
5:30 PM	5:45 PM	1	0	4	1	0	0	0	6	2	5	9	0	28
5:45 PM	6:00 PM	2	0	4	0	0	0	0	6	0	6	5	1	24

<b>Total for:</b>	4:00 PM	5:00 PM	9	0	18	0	0	0	0	16	6	12	24	0	85
<b>Total for:</b>	5:00 PM	6:00 PM	5	1	19	1	0	0	0	27	5	16	24	5	103
<b>Tota Peak Hour:</b>	5:00 PM	6:00 PM	5	1	19	1	0	0	0	27	5	16	24	5	103
<b>Overall PHF:</b>	0.80														



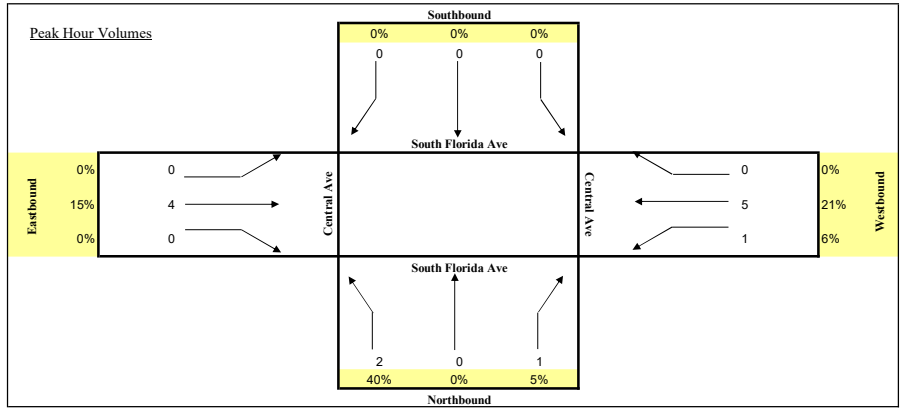


**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): South Florida Ave  
Intersection (E/W): Central Ave  
Date: 7/19/2023

Start	End	South Florida Ave			South Florida Ave			Central Ave			Central Ave			TOTAL
		R	T	L	R	T	L	R	T	L	R	T	L	
4:00 PM	4:15 PM	0	0	0	0	0	0	0	0	0	1	1	0	2
4:15 PM	4:30 PM	1	0	0	0	0	0	0	0	0	1	2	0	4
4:30 PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	5:00 PM	1	0	0	0	0	0	0	2	0	1	1	0	5
5:00 PM	5:15 PM	0	0	1	0	0	0	0	0	0	0	1	0	2
5:15 PM	5:30 PM	1	0	0	0	0	0	0	2	0	0	1	0	4
5:30 PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:45 PM	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

Total for:	4:00 PM	5:00 PM	2	0	0	0	0	0	0	2	0	3	4	0	11
Total for:	5:00 PM	6:00 PM	1	0	1	0	0	0	0	2	0	0	4	0	8
<b>Total Peak Hour:</b>	<b>4:45 PM</b>	<b>5:45 PM</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>13</b>
<b>Overall PHF:</b>	<b>0.65</b>														



### TURNING MOVEMENT COUNT ANALYSIS

#### AUTOS & TRUCKS

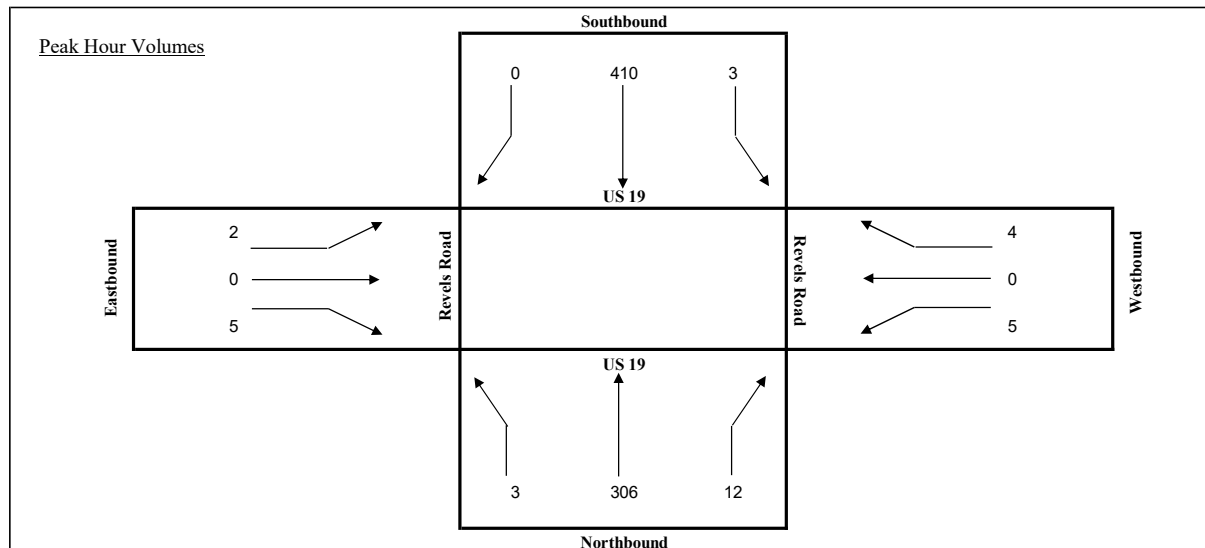
Intersection (N/S): US 19

Intersection (E/W): Revels Road

Date: 7/19/2023

Start	End	US 19 NB			US 19 SB			Revels Road EB			Revels Road WB			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	3	80	1	0	74	2	0	0	0	3	0	2	165
7:15 AM	7:30 AM	2	60	1	1	94	1	1	0	0	0	1	0	161
7:30 AM	7:45 AM	1	72	0	1	107	0	0	0	2	1	0	1	185
7:45 AM	8:00 AM	1	97	5	0	100	0	0	0	2	2	0	1	208
8:00 AM	8:15 AM	0	71	2	2	110	0	2	0	0	2	0	2	191
8:15 AM	8:30 AM	1	66	5	0	93	0	0	0	1	0	0	0	166
8:30 AM	8:45 AM	0	58	1	0	60	1	1	0	2	4	0	2	129
8:45 AM	9:00 AM	0	57	3	1	63	2	0	0	1	1	0	2	130

<b>Total for:</b>	7:00 AM	8:00 AM	7	309	7	2	375	3	1	0	4	6	1	4	719
<b>Total for:</b>	8:00 AM	9:00 AM	1	252	11	3	326	3	3	0	4	7	0	6	616
<b>Tota Peak Hour:</b>	7:30 AM	8:30 AM	3	306	12	3	410	0	2	0	5	5	0	4	750
<b>Overall PHF:</b>	0.90														



**TURNING MOVEMENT COUNT ANALYSIS  
TRUCKS**

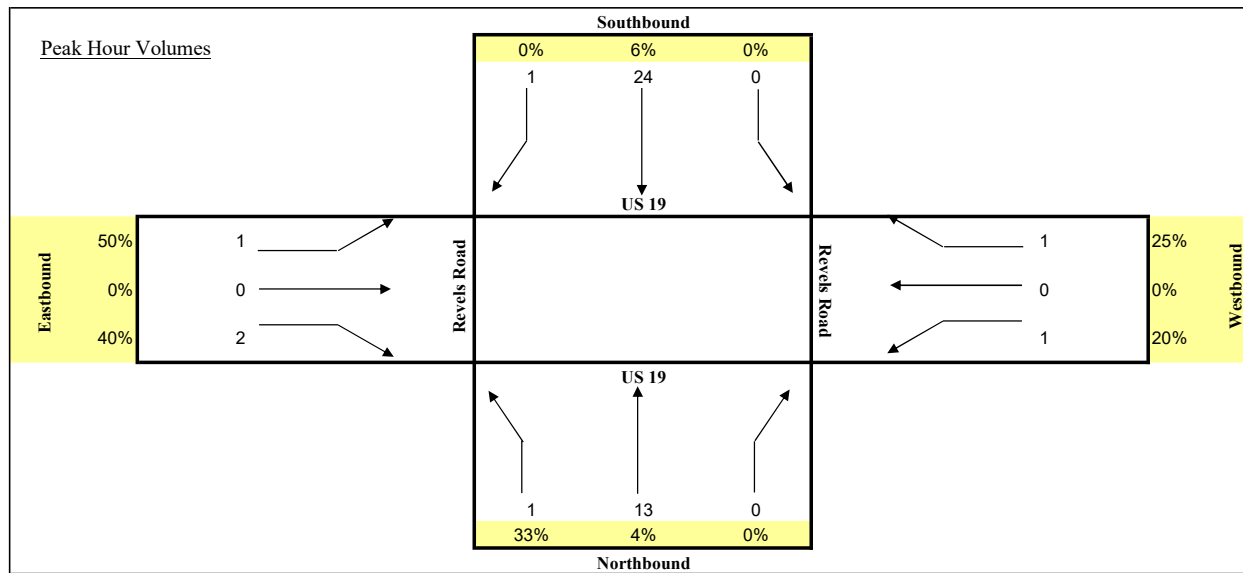
Intersection (N/S): US 19

Intersection (E/W): Revels Road

Date: 7/19/2023

Start	End	US 19			US 19			Revels Road			Revels Road			TOTAL
		NB			SB			EB			WB			
		R	T	L	R	T	L	R	T	L	R	T	L	
7:00 AM	7:15 AM	1	3	0	0	5	0	0	0	0	0	0	0	9
7:15 AM	7:30 AM	0	1	0	0	6	0	0	0	0	0	0	0	7
7:30 AM	7:45 AM	0	2	0	0	5	0	0	0	0	0	0	0	7
7:45 AM	8:00 AM	1	6	0	0	3	0	0	0	0	0	0	1	11
8:00 AM	8:15 AM	0	1	0	0	8	0	0	0	0	0	0	0	9
8:15 AM	8:30 AM	0	3	0	0	6	0	0	0	1	0	0	0	10
8:30 AM	8:45 AM	0	3	0	0	7	1	1	0	1	0	0	0	14
8:45 AM	9:00 AM	0	1	0	0	3	1	0	0	0	0	0	0	5

<b>Total for:</b>	7:00 AM	8:00 AM	2	12	0	0	19	0	0	0	0	0	1	34
<b>Total for:</b>	8:00 AM	9:00 AM	0	8	0	0	24	2	1	0	2	1	0	38
<b>Tota Peak Hour:</b>	7:45 AM	8:45 AM	1	13	0	0	24	1	1	0	2	1	0	44
<b>Overall PHF:</b>	0.79													



**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

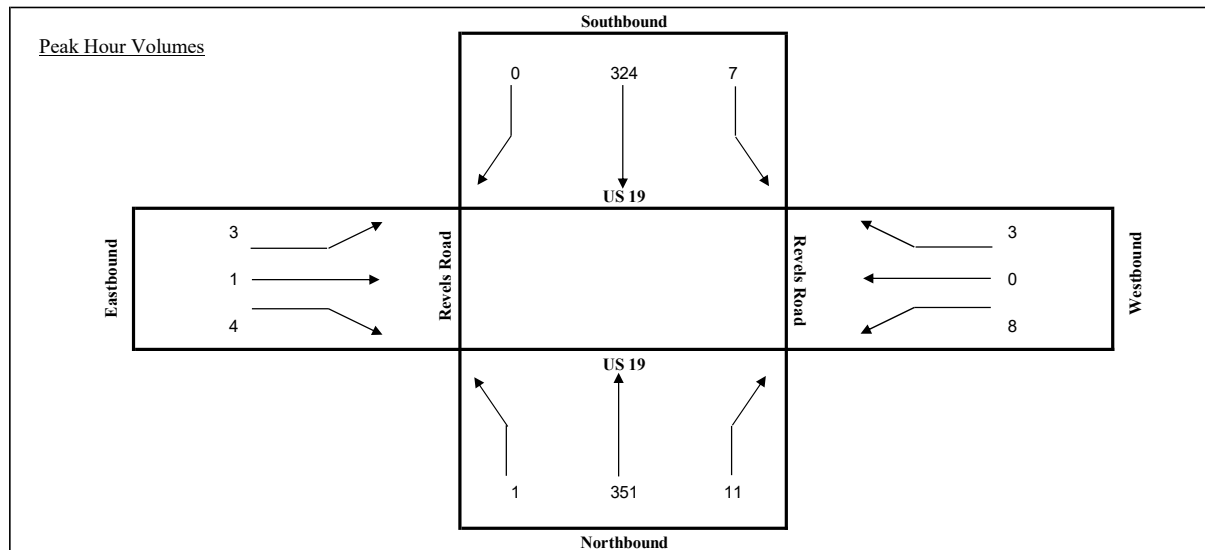
Intersection (N/S): US 19

Intersection (E/W): Revels Road

Date: 7/19/2023

Start	End	US 19 NB			US 19 SB			Revels Road EB			Revels Road WB			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM	4:15 PM	2	89	6	5	61	3	1	0	0	1	1	2	171
4:15 PM	4:30 PM	0	76	3	0	74	1	1	0	1	3	0	1	160
4:30 PM	4:45 PM	1	78	1	2	88	0	0	0	1	2	0	0	173
4:45 PM	5:00 PM	0	93	6	1	91	0	0	0	0	2	0	2	195
5:00 PM	5:15 PM	0	88	3	2	70	0	1	0	2	2	0	0	168
5:15 PM	5:30 PM	0	92	1	2	75	0	2	1	1	2	0	1	177
5:30 PM	5:45 PM	0	92	2	1	70	0	0	0	1	0	0	0	166
5:45 PM	6:00 PM	0	86	3	0	72	0	1	0	0	2	0	1	165

<b>Total for:</b>	4:00 PM	5:00 PM	3	336	16	8	314	4	2	0	2	8	1	5	699
<b>Total for:</b>	5:00 PM	6:00 PM	0	358	9	5	287	0	4	1	4	6	0	2	676
<b>Tota Peak Hour:</b>	4:30 PM	5:30 PM	1	351	11	7	324	0	3	1	4	8	0	3	713
<b>Overall PHF:</b>	0.91														

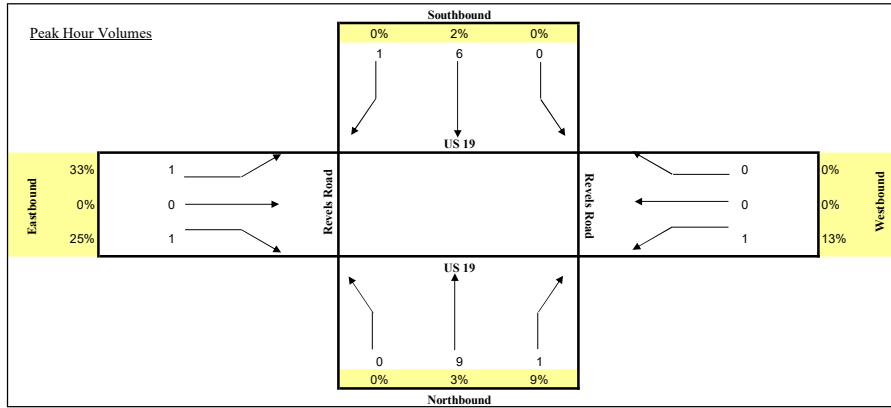


**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): US 19  
Intersection (E/W): Revels Road  
Date: 7/19/2023

Start	End	US 19 NB			US 19 SB			Revels Road EB			Revels Road WB			TOTAL
		R	T	L	R	T	L	R	T	L	R	T	L	
4:00 PM	4:15 PM	0	1	0	0	1	1	0	0	0	0	0	0	3
4:15 PM	4:30 PM	0	4	1	0	2	0	1	0	0	0	0	0	8
4:30 PM	4:45 PM	0	1	0	0	0	0	0	0	1	1	0	0	3
4:45 PM	5:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	6
5:00 PM	5:15 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
5:15 PM	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:30 PM	5:45 PM	0	5	0	0	2	0	0	0	0	0	0	0	7
5:45 PM	6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1

Total for:	4:00 PM	5:00 PM	0	9	1	0	6	1	1	0	1	1	0	0	20
Total for:	5:00 PM	6:00 PM	0	9	0	0	4	0	0	0	0	0	0	0	13
<b>Total Peak Hour:</b>	<b>4:00 PM</b>	<b>5:00 PM</b>	<b>0</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>20</b>
<b>Overall PHF:</b>	<b>0.63</b>														



**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

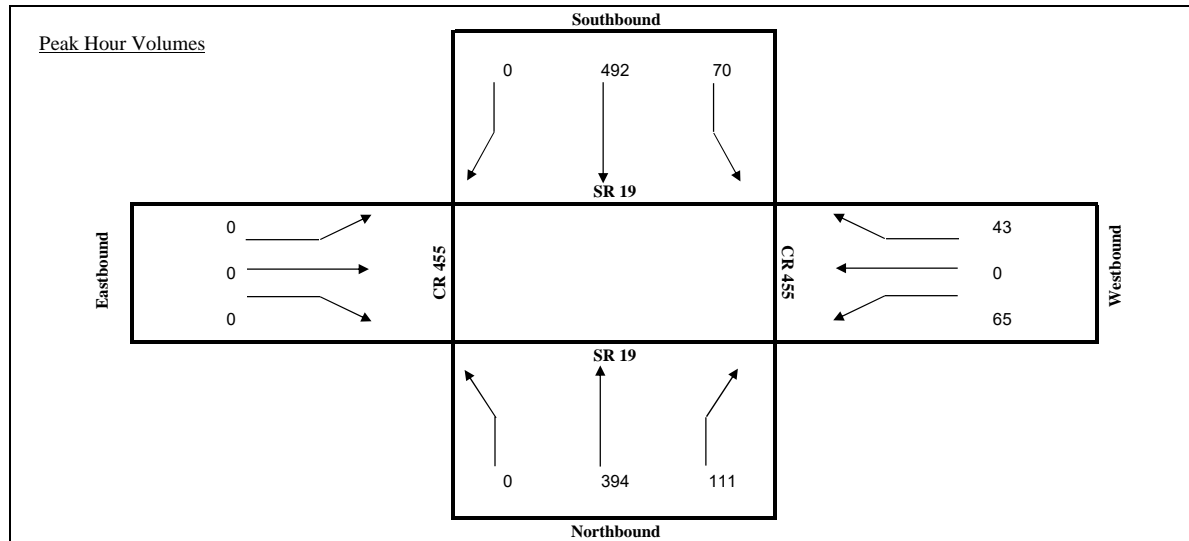
Intersection (N/S): SR 19

Intersection (E/W): CR 455

Date: 1/24/2023

Start	End	SR 19 NB			SR 19 SB			CR 455 EB			CR 455 WB			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	0	92	15	11	131	0	0	0	0	7	0	4	260
7:15 AM	7:30 AM	0	93	23	16	144	0	0	0	0	9	0	6	291
7:30 AM	7:45 AM	0	111	27	21	105	0	0	0	0	13	0	11	288
7:45 AM	8:00 AM	0	91	26	20	124	0	0	0	0	17	0	12	290
8:00 AM	8:15 AM	0	99	35	13	119	0	0	0	0	26	0	14	306
8:15 AM	8:30 AM	0	93	29	18	98	0	0	0	0	22	0	11	271
8:30 AM	8:45 AM	0	74	27	11	94	0	0	0	0	22	0	12	240
8:45 AM	9:00 AM	0	81	22	9	94	0	0	0	0	17	0	9	232

<b>Total for:</b>	7:00 AM	8:00 AM	0	387	91	68	504	0	0	0	0	46	0	33	1129
<b>Total for:</b>	8:00 AM	9:00 AM	0	347	113	51	405	0	0	0	0	87	0	46	1049
<b>Tota Peak Hour:</b>	7:15 AM	8:15 AM	0	394	111	70	492	0	0	0	0	65	0	43	1175
<b>Overall PHF:</b>	0.96														



**TURNING MOVEMENT COUNT ANALYSIS  
TRUCKS**

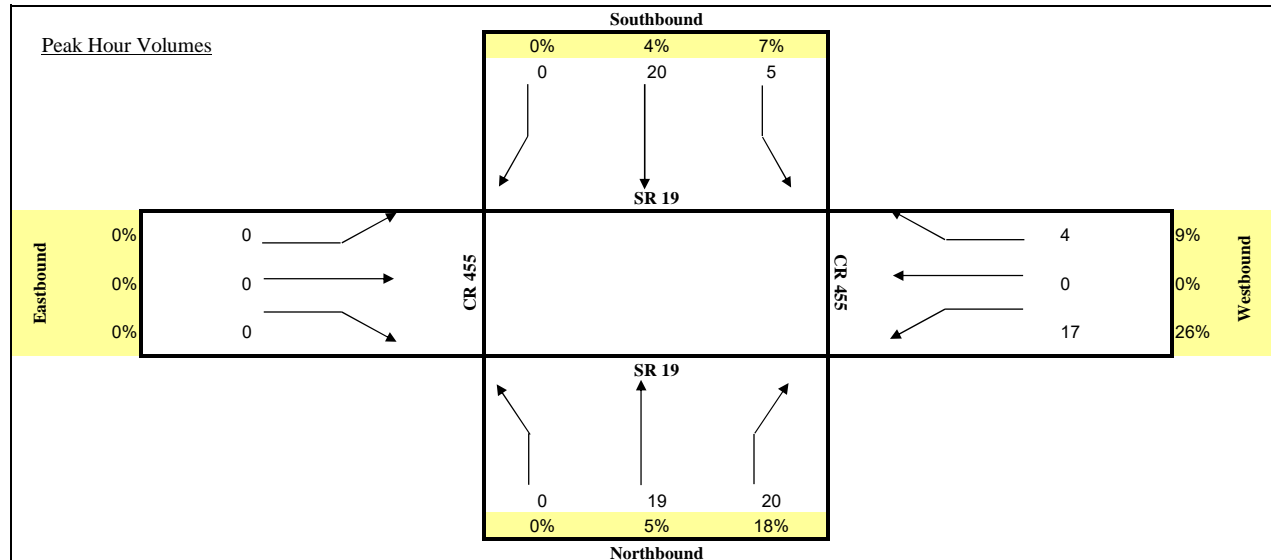
Intersection (N/S): SR 19

Intersection (E/W): CR 455

Date: 1/24/2023

Start	End	SR 19			SR 19			CR 455			CR 455			TOTAL
		NB			SB			EB			WB			
		R	T	L	R	T	L	R	T	L	R	T	L	
7:00 AM	7:15 AM	0	3	3	0	7	0	0	0	0	2	0	1	16
7:15 AM	7:30 AM	0	6	1	1	8	0	0	0	0	2	0	0	18
7:30 AM	7:45 AM	0	7	7	3	5	0	0	0	0	3	0	2	27
7:45 AM	8:00 AM	0	3	2	1	3	0	0	0	0	1	0	0	10
8:00 AM	8:15 AM	0	6	5	0	5	0	0	0	0	5	0	1	22
8:15 AM	8:30 AM	0	3	6	3	6	0	0	0	0	3	0	2	23
8:30 AM	8:45 AM	0	3	6	1	5	0	0	0	0	6	0	0	21
8:45 AM	9:00 AM	0	7	3	1	4	0	0	0	0	3	0	1	19

<b>Total for:</b>	7:00 AM	8:00 AM	0	19	13	5	23	0	0	0	0	8	0	3	71
<b>Total for:</b>	8:00 AM	9:00 AM	0	19	20	5	20	0	0	0	0	17	0	4	85
<b>Tota Peak Hour:</b>	8:00 AM	9:00 AM	0	19	20	5	20	0	0	0	0	17	0	4	85
<b>Overall PHF:</b>	0.92														



### TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

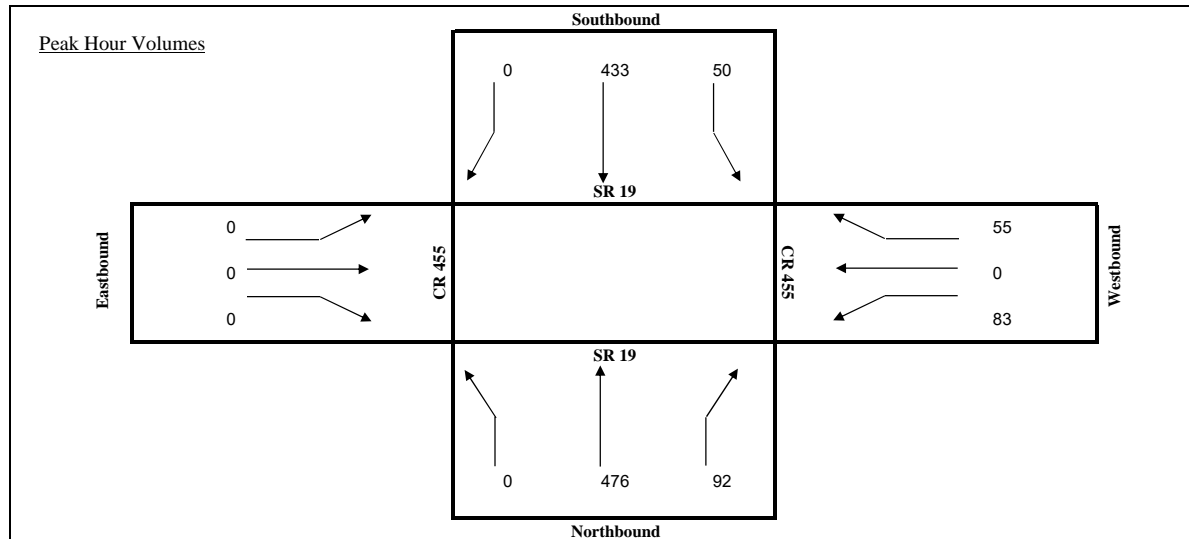
Intersection (N/S): SR 19

Intersection (E/W): CR 455

Date: 1/24/2023

Start	End	SR 19 NB			SR 19 SB			CR 455 EB			CR 455 WB			TOTAL
		L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM	4:15 PM	0	97	20	6	117	0	0	0	0	18	0	14	272
4:15 PM	4:30 PM	0	111	22	9	109	0	0	0	0	22	0	11	284
4:30 PM	4:45 PM	0	114	25	13	108	0	0	0	0	19	0	16	295
4:45 PM	5:00 PM	0	118	22	9	108	0	0	0	0	25	0	13	295
5:00 PM	5:15 PM	0	131	21	14	104	0	0	0	0	18	0	10	298
5:15 PM	5:30 PM	0	113	24	14	113	0	0	0	0	21	0	16	301
5:30 PM	5:45 PM	0	96	28	17	94	0	0	0	0	17	0	19	271
5:45 PM	6:00 PM	0	87	21	10	102	0	0	0	0	21	0	12	253

<b>Total for:</b>	4:00 PM	5:00 PM	0	440	89	37	442	0	0	0	0	84	0	54	1146
<b>Total for:</b>	5:00 PM	6:00 PM	0	427	94	55	413	0	0	0	0	77	0	57	1123
<b>Tota Peak Hour:</b>	4:30 PM	5:30 PM	0	476	92	50	433	0	0	0	0	83	0	55	1189
<b>Overall PHF:</b>	0.99														





### TURNING MOVEMENT COUNT ANALYSIS

#### TRUCKS

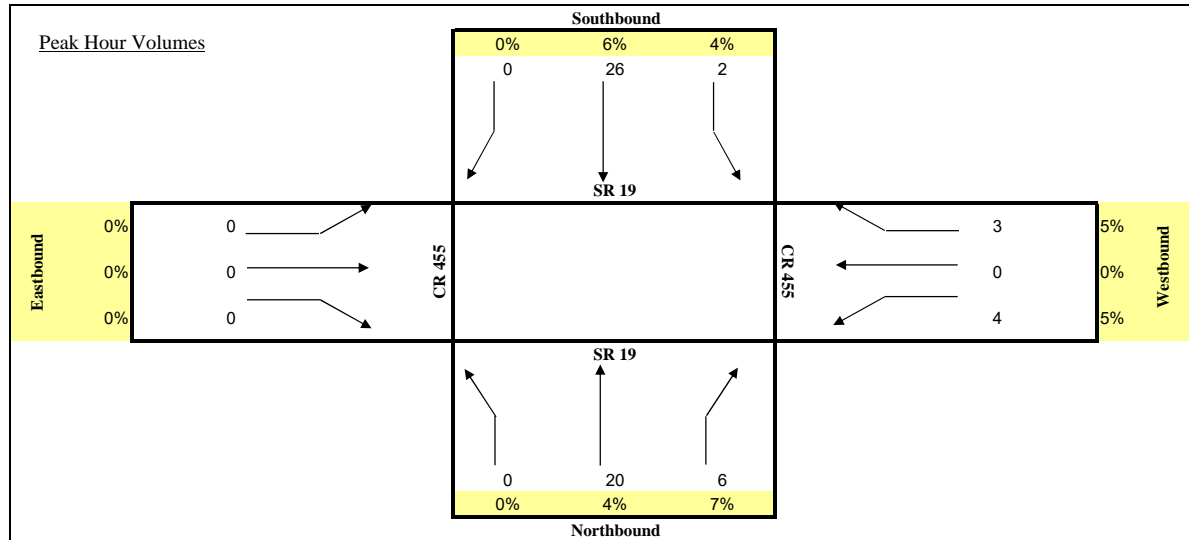
Intersection (N/S): SR 19

Intersection (E/W): CR 455

Date: 1/24/2023

Start	End	SR 19 NB			SR 19 SB			CR 455 EB			CR 455 WB			TOTAL
		R	T	L	R	T	L	R	T	L	R	T	L	
4:00 PM	4:15 PM	0	6	3	0	7	0	0	0	0	1	0	1	18
4:15 PM	4:30 PM	0	5	0	1	7	0	0	0	0	1	0	1	15
4:30 PM	4:45 PM	0	7	2	1	4	0	0	0	0	0	0	0	14
4:45 PM	5:00 PM	0	2	1	0	8	0	0	0	0	2	0	1	14
5:00 PM	5:15 PM	0	4	3	1	2	0	0	0	0	0	0	0	10
5:15 PM	5:30 PM	0	3	1	0	7	0	0	0	0	1	0	0	12
5:30 PM	5:45 PM	0	0	4	1	1	0	0	0	0	0	0	2	8
5:45 PM	6:00 PM	0	0	1	0	5	0	0	0	0	1	0	1	8

<b>Total for:</b>	4:00 PM	5:00 PM	0	20	6	2	26	0	0	0	0	4	0	3	61
<b>Total for:</b>	5:00 PM	6:00 PM	0	7	9	2	15	0	0	0	0	2	0	3	38
<b>Tota Peak Hour:</b>	4:00 PM	5:00 PM	0	20	6	2	26	0	0	0	0	4	0	3	61
<b>Overall PHF:</b>	0.85														



2022 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL  
 CATEGORY: 1100 LAKE COUNTYWIDE

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

\* PEAK SEASON

23-FEB-2023 09:11:22













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**Appendix E**  
HCM Analysis Worksheets - Existing Conditions

# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48













						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	346	229	316	455	277	98
Future Volume (veh/h)	346	229	316	455	277	98
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	357	117	326	0	286	101
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	390	315	751		564	1114
Arrive On Green	0.23	0.23	0.42	0.00	0.12	0.62
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	357	117	326	0	286	101
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	18.9	6.6	11.8	0.0	8.2	2.1
Cycle Q Clear(g_c), s	18.9	6.6	11.8	0.0	8.2	2.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	390	315	751		564	1114
V/C Ratio(X)	0.91	0.37	0.43		0.51	0.09
Avail Cap(c_a), veh/h	417	336	751		705	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	29.2	18.4	0.0	11.8	7.1
Incr Delay (d2), s/veh	23.6	0.7	1.8	0.0	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.8	3.7	8.6	0.0	5.1	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.5	29.9	20.3	0.0	12.6	7.3
LnGrp LOS	E	C	C		B	A
Approach Vol, veh/h	474		326	A		387
Approach Delay, s/veh	50.7		20.3			11.2
Approach LOS	D		C			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.3	45.0		28.6		62.3
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	18.5	38.6		22.7		38.6
Max Q Clear Time (g_c+I1), s	10.2	13.8		20.9		4.1
Green Ext Time (p_c), s	0.5	1.9		0.3		0.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			29.5			
HCM 6th LOS			C			

### Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	434	319	72	353	304	84
Future Volume (veh/h)	434	319	72	353	304	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	447	210	74	0	313	87
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	405	327	729		767	1107
Arrive On Green	0.24	0.24	0.41	0.00	0.13	0.61
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	447	210	74	0	313	87
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	22.7	13.1	2.4	0.0	9.5	1.8
Cycle Q Clear(g_c), s	22.7	13.1	2.4	0.0	9.5	1.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	405	327	729		767	1107
V/C Ratio(X)	1.10	0.64	0.10		0.41	0.08
Avail Cap(c_a), veh/h	405	327	729		880	1107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	31.8	16.9	0.0	11.2	7.4
Incr Delay (d2), s/veh	76.1	4.3	0.3	0.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.4	7.8	1.8	0.0	5.8	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	111.6	36.1	17.1	0.0	11.5	7.6
LnGrp LOS	F	D	B		B	A
Approach Vol, veh/h	657		74	A		400
Approach Delay, s/veh	87.5		17.1			10.7
Approach LOS	F		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.6	45.0		30.0		63.6
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	18.5	38.6		22.7		38.6
Max Q Clear Time (g_c+I1), s	11.5	4.4		24.7		3.8
Green Ext Time (p_c), s	0.6	0.4		0.0		0.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			55.7			
HCM 6th LOS			E			
<b>Notes</b>						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 6th TWSC  
 2: SR 19 & W Central Ave/E Central Ave

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	3	10	11	1	15	12	377	24	4	428	7
Future Vol, veh/h	35	3	10	11	1	15	12	377	24	4	428	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	33	2	2	2	2	38	10	2	42	2	11
Mvmt Flow	36	3	10	11	1	15	12	389	25	4	441	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	887	891	445	885	882	402	448	0	0	414	0	0
Stage 1	453	453	-	426	426	-	-	-	-	-	-	-
Stage 2	434	438	-	459	456	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.83	6.22	7.12	6.52	6.22	4.48	-	-	4.52	-	-
Critical Hdwy Stg 1	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.297	3.318	3.518	4.018	3.318	2.542	-	-	2.578	-	-
Pot Cap-1 Maneuver	254	251	613	266	285	648	946	-	-	960	-	-
Stage 1	568	521	-	606	586	-	-	-	-	-	-	-
Stage 2	581	529	-	582	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	243	245	613	255	278	648	946	-	-	960	-	-
Mov Cap-2 Maneuver	243	245	-	255	278	-	-	-	-	-	-	-
Stage 1	558	518	-	596	576	-	-	-	-	-	-	-
Stage 2	556	520	-	565	565	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20.7		15.1		0.3		0.1	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	946	-	-	278	386	960	-
HCM Lane V/C Ratio	0.013	-	-	0.178	0.072	0.004	-
HCM Control Delay (s)	8.9	0	-	20.7	15.1	8.8	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.6	0.2	0	-

HCM 6th TWSC  
 2: SR 19 & W Central Ave/E Central Ave

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	32	12	13	17	3	14	16	363	21	16	432	40
Future Vol, veh/h	32	12	13	17	3	14	16	363	21	16	432	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	33	2	2	2	2	38	10	2	42	2	11
Mvmt Flow	33	12	13	18	3	14	16	374	22	16	445	41

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	924	926	466	927	935	385	486	0	0	396	0	0
Stage 1	498	498	-	417	417	-	-	-	-	-	-	-
Stage 2	426	428	-	510	518	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.83	6.22	7.12	6.52	6.22	4.48	-	-	4.52	-	-
Critical Hdwy Stg 1	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.297	3.318	3.518	4.018	3.318	2.542	-	-	2.578	-	-
Pot Cap-1 Maneuver	240	239	597	249	265	663	914	-	-	975	-	-
Stage 1	536	496	-	613	591	-	-	-	-	-	-	-
Stage 2	587	535	-	546	533	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	225	228	597	225	253	663	914	-	-	975	-	-
Mov Cap-2 Maneuver	225	228	-	225	253	-	-	-	-	-	-	-
Stage 1	524	485	-	599	577	-	-	-	-	-	-	-
Stage 2	558	523	-	508	521	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.6		17.9		0.4		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	263	313	975	-	-
HCM Lane V/C Ratio	0.018	-	-	0.223	0.112	0.017	-	-
HCM Control Delay (s)	9	0	-	22.6	17.9	8.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.4	0.1	-	-

HCM 6th TWSC  
 3: S Florida Ave & W Central Ave

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	37	12	1	19	1	4	0	3	0	0	0
Future Vol, veh/h	1	37	12	1	19	1	4	0	3	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	46	15	1	24	1	5	0	4	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	25	0	0	61	0	0	83	83	54	85	90	25
Stage 1	-	-	-	-	-	-	56	56	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	58	63	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1589	-	-	1542	-	-	904	807	1013	901	800	1051
Stage 1	-	-	-	-	-	-	956	848	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	954	842	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1589	-	-	1542	-	-	902	805	1013	896	798	1051
Mov Cap-2 Maneuver	-	-	-	-	-	-	902	805	-	896	798	-
Stage 1	-	-	-	-	-	-	955	847	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	950	841	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			8.8			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	946	1589	-	-	1542	-	-	-
HCM Lane V/C Ratio	0.009	0.001	-	-	0.001	-	-	-
HCM Control Delay (s)	8.8	7.3	0	-	7.3	0	-	0
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-



HCM 6th TWSC  
 3: S Florida Ave & W Central Ave

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	29	5	17	25	5	5	1	20	1	0	0
Future Vol, veh/h	0	29	5	17	25	5	5	1	20	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	36	6	21	31	6	6	1	25	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	37	0	0	42	0	0	115	118	39	128	118	34
Stage 1	-	-	-	-	-	-	39	39	-	76	76	-
Stage 2	-	-	-	-	-	-	76	79	-	52	42	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1574	-	-	1567	-	-	862	772	1033	845	772	1039
Stage 1	-	-	-	-	-	-	976	862	-	933	832	-
Stage 2	-	-	-	-	-	-	933	829	-	961	860	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1574	-	-	1567	-	-	853	761	1033	815	761	1039
Mov Cap-2 Maneuver	-	-	-	-	-	-	853	761	-	815	761	-
Stage 1	-	-	-	-	-	-	976	862	-	933	820	-
Stage 2	-	-	-	-	-	-	920	817	-	936	860	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.7			8.8			9.4		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	980	1574	-	-	1567	-	-	815
HCM Lane V/C Ratio	0.033	-	-	-	0.014	-	-	0.002
HCM Control Delay (s)	8.8	0	-	-	7.3	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

HCM 6th TWSC  
4: SR 19 & Revels Rd

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	5	5	0	4	3	324	13	3	435	0
Future Vol, veh/h	2	0	5	5	0	4	3	324	13	3	435	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	8	12	2	10	2
Mvmt Flow	2	0	6	6	0	4	3	360	14	3	483	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	864	869	483	865	862	367	483	0	0	374	0	0
Stage 1	489	489	-	373	373	-	-	-	-	-	-	-
Stage 2	375	380	-	492	489	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	274	290	584	274	293	678	1080	-	-	1184	-	0
Stage 1	561	549	-	648	618	-	-	-	-	-	-	0
Stage 2	646	614	-	558	549	-	-	-	-	-	-	0
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	271	288	584	270	291	678	1080	-	-	1184	-	-
Mov Cap-2 Maneuver	271	288	-	270	291	-	-	-	-	-	-	-
Stage 1	559	547	-	645	616	-	-	-	-	-	-	-
Stage 2	639	612	-	551	547	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.3		15		0.1		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1080	-	-	439	369	1184	-
HCM Lane V/C Ratio	0.003	-	-	0.018	0.027	0.003	-
HCM Control Delay (s)	8.3	-	-	13.3	15	8	0
HCM Lane LOS	A	-	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

HCM 6th TWSC  
4: SR 19 & Revels Rd

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	1	4	8	0	3	1	372	12	7	343	0
Future Vol, veh/h	3	1	4	8	0	3	1	372	12	7	343	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	8	12	2	10	2
Mvmt Flow	3	1	4	9	0	3	1	413	13	8	381	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	820	825	381	822	819	420	381	0	0	426	0	0
Stage 1	397	397	-	422	422	-	-	-	-	-	-	-
Stage 2	423	428	-	400	397	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	294	308	666	293	310	633	1177	-	-	1133	-	0
Stage 1	629	603	-	609	588	-	-	-	-	-	-	0
Stage 2	609	585	-	626	603	-	-	-	-	-	-	0
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	290	305	666	288	307	633	1177	-	-	1133	-	-
Mov Cap-2 Maneuver	290	305	-	288	307	-	-	-	-	-	-	-
Stage 1	628	598	-	608	587	-	-	-	-	-	-	-
Stage 2	605	584	-	615	598	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14		16.1		0		0.2	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	1177	-	-	408	338	1133	-
HCM Lane V/C Ratio	0.001	-	-	0.022	0.036	0.007	-
HCM Control Delay (s)	8.1	-	-	14	16.1	8.2	0
HCM Lane LOS	A	-	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

HCM 6th TWSC  
5: SR 19 & CR 455

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	43	394	111	70	492
Future Vol, veh/h	65	43	394	111	70	492
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	590	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	38	15	8	22	9	5
Mvmt Flow	68	45	410	116	73	513

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1069	410	0	0	526	0
Stage 1	410	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Critical Hdwy	6.78	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.78	-	-	-	-	-
Critical Hdwy Stg 2	5.78	-	-	-	-	-
Follow-up Hdwy	3.842	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	210	614	-	-	1006	-
Stage 1	599	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	189	614	-	-	1006	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	599	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.1	0	1.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	189	614	1006
HCM Lane V/C Ratio	-	-	0.358	0.073	0.072
HCM Control Delay (s)	-	-	34.3	11.3	8.9
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	1.5	0.2	0.2

HCM 6th TWSC  
5: SR 19 & CR 455

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	55	476	92	50	433
Future Vol, veh/h	83	55	476	92	50	433
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	590	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	38	15	8	22	9	5
Mvmt Flow	86	57	496	96	52	451

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1051	496	0	0	592	0
Stage 1	496	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	6.78	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.78	-	-	-	-	-
Critical Hdwy Stg 2	5.78	-	-	-	-	-
Follow-up Hdwy	3.842	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	215	548	-	-	950	-
Stage 1	544	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	199	548	-	-	950	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	199	548	950	-
HCM Lane V/C Ratio	-	-	0.434	0.105	0.055	-
HCM Control Delay (s)	-	-	36.3	12.3	9	0
HCM Lane LOS	-	-	E	B	A	A
HCM 95th %tile Q(veh)	-	-	2	0.3	0.2	-

**Appendix F**  
ITE Trip Generation Sheets

# Single-Family Detached Housing (210)

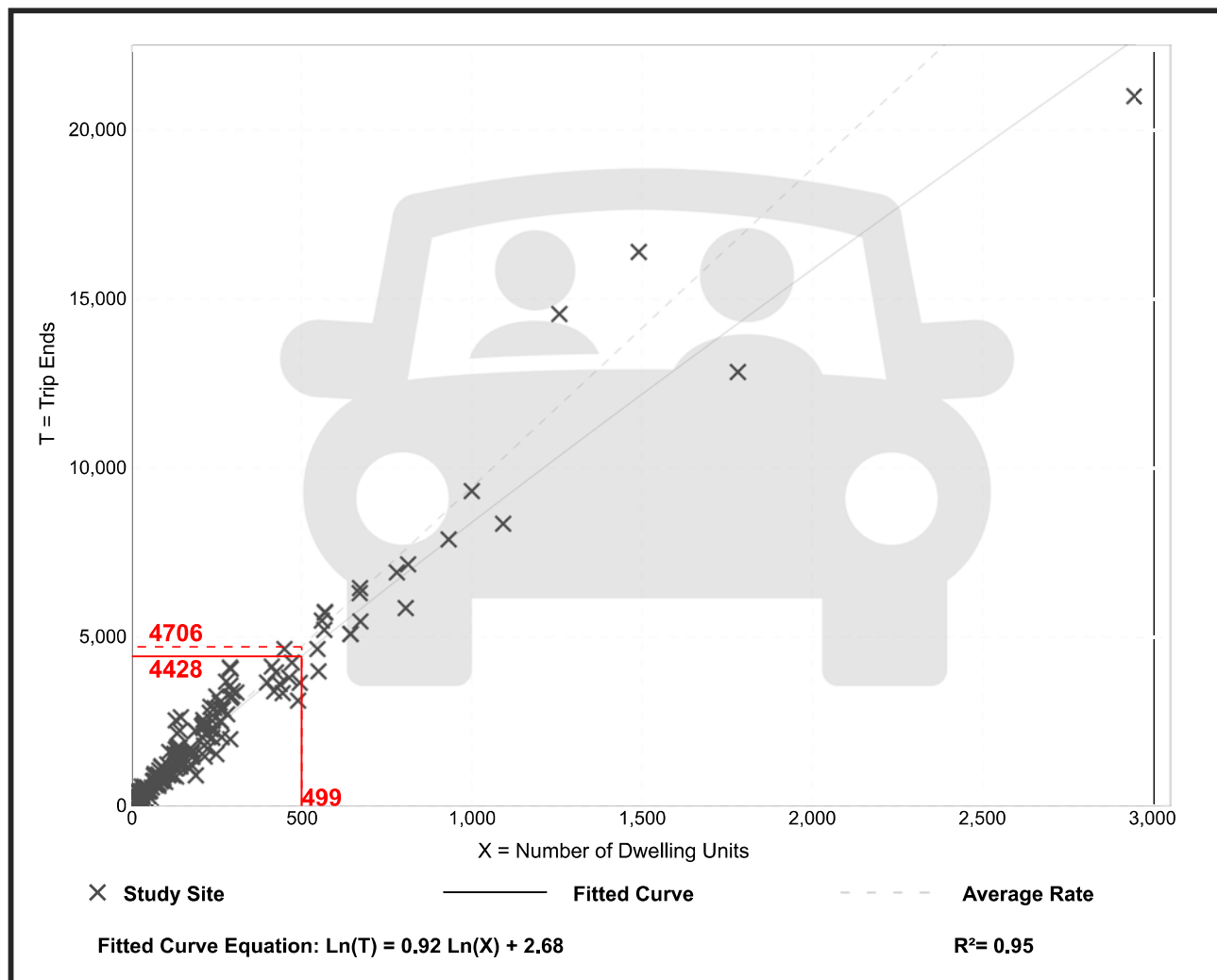
Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 174  
Avg. Num. of Dwelling Units: 246  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

## Data Plot and Equation



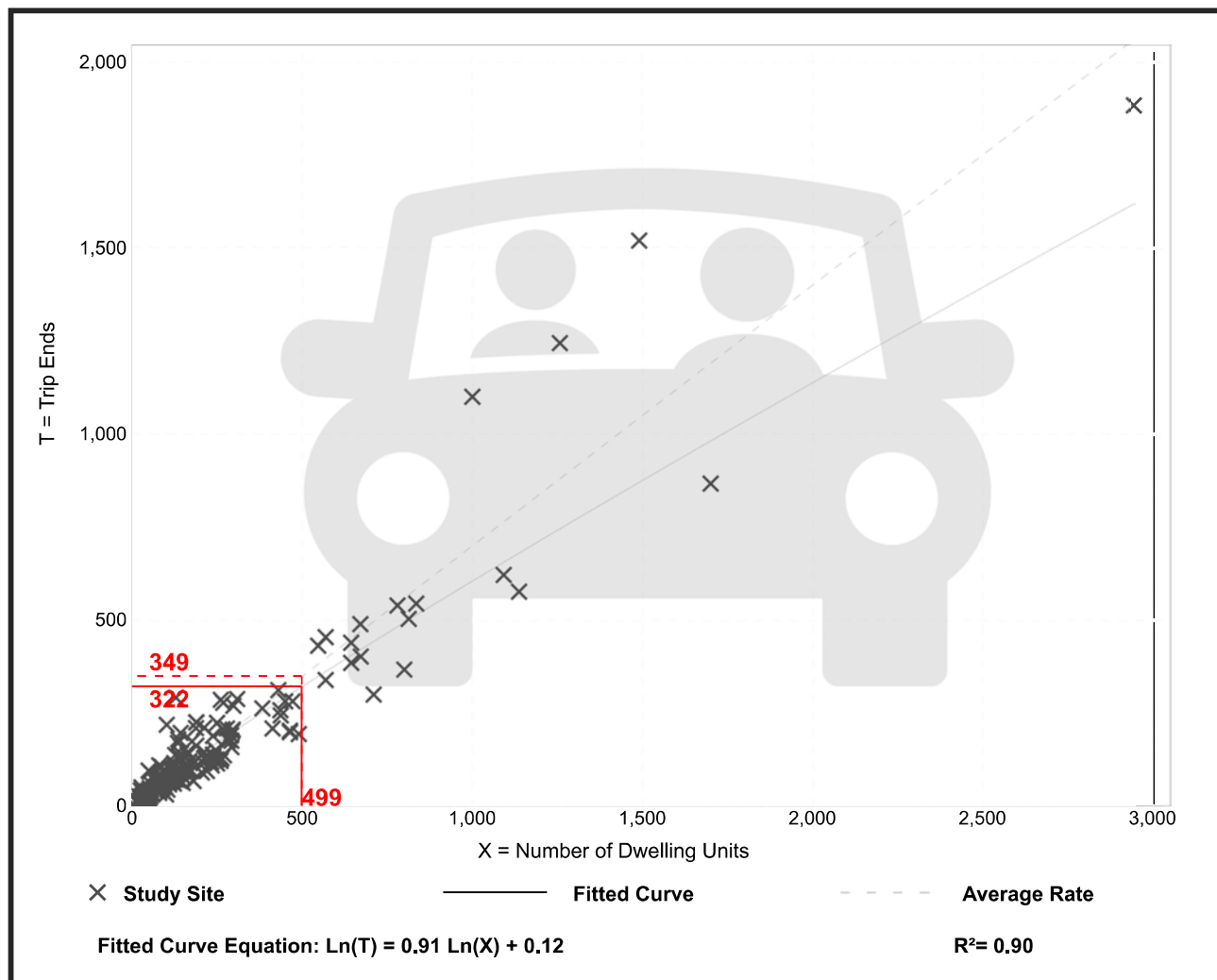
# Single-Family Detached Housing (210)

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: 192  
 Avg. Num. of Dwelling Units: 226  
 Directional Distribution: 25% entering, 75% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

## Data Plot and Equation





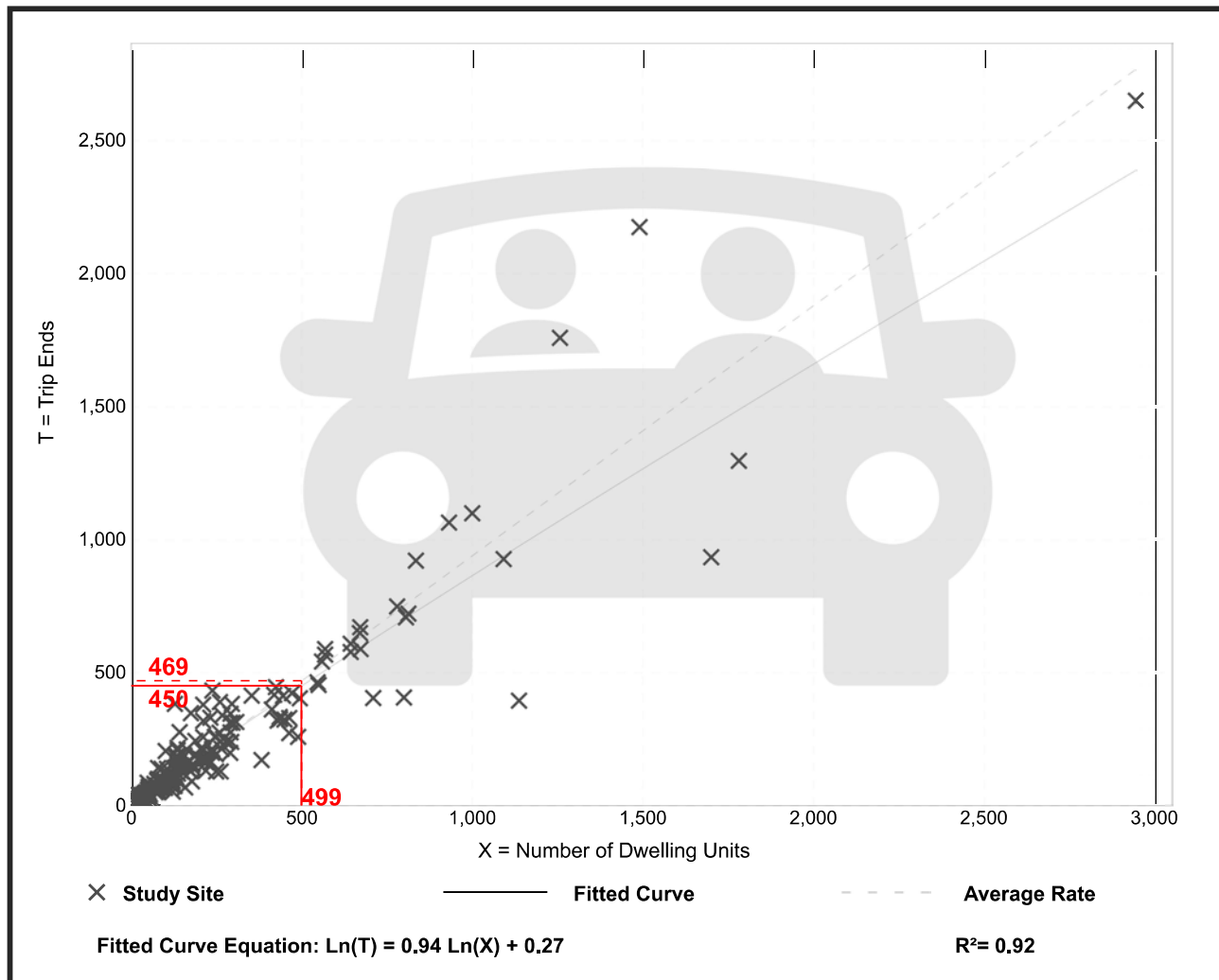
# Single-Family Detached Housing (210)

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: 208  
 Avg. Num. of Dwelling Units: 248  
 Directional Distribution: 63% entering, 37% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

## Data Plot and Equation

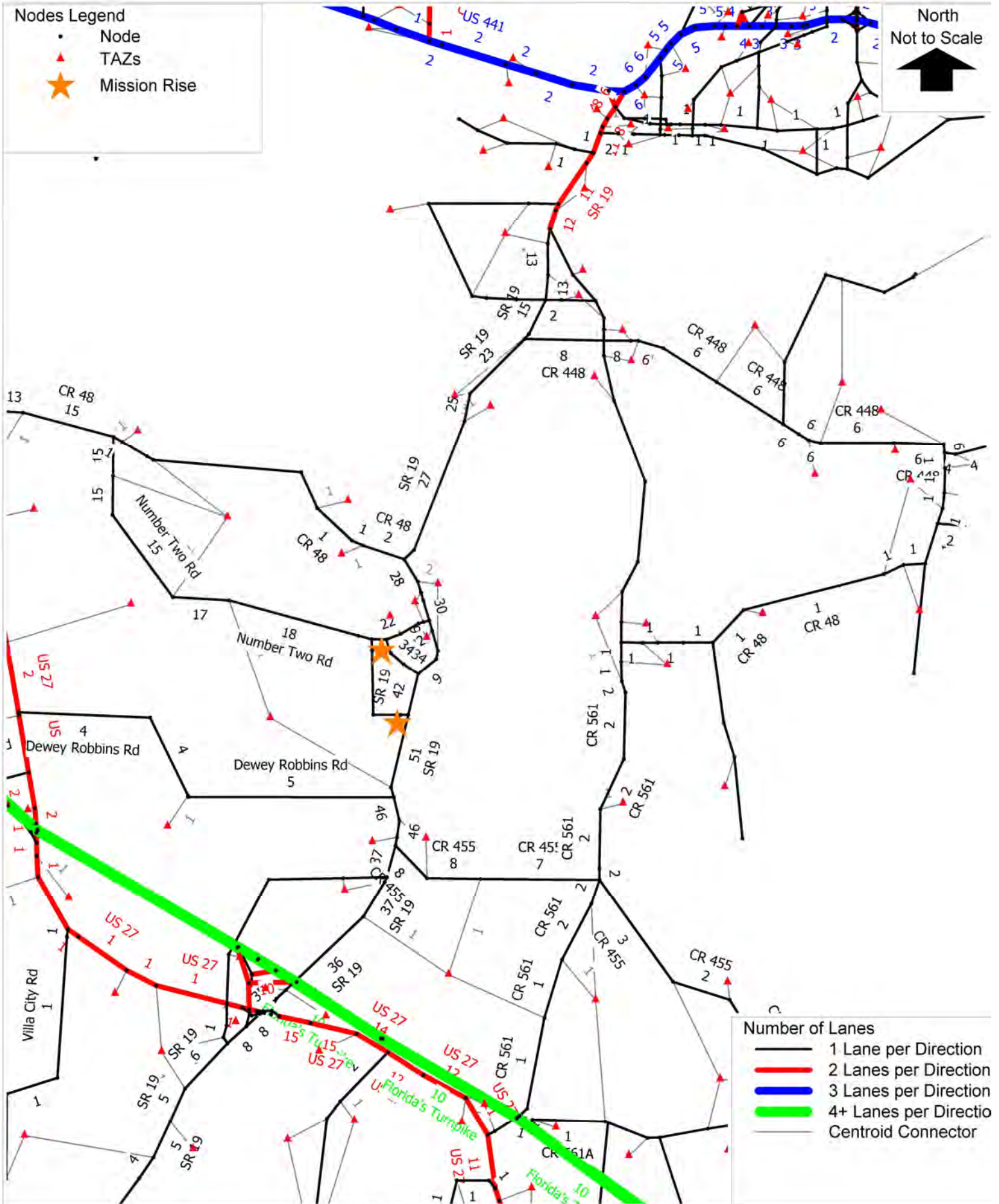


**Appendix G**  
CFRPM Model Output



- Nodes Legend**
- Node
  - ▲ TAZs
  - ★ Mission Rise

North  
Not to Scale

- Number of Lanes**
- 1 Lane per Direction
  - 2 Lanes per Direction
  - 3 Lanes per Direction
  - 4+ Lanes per Direction
  - Centroid Connector

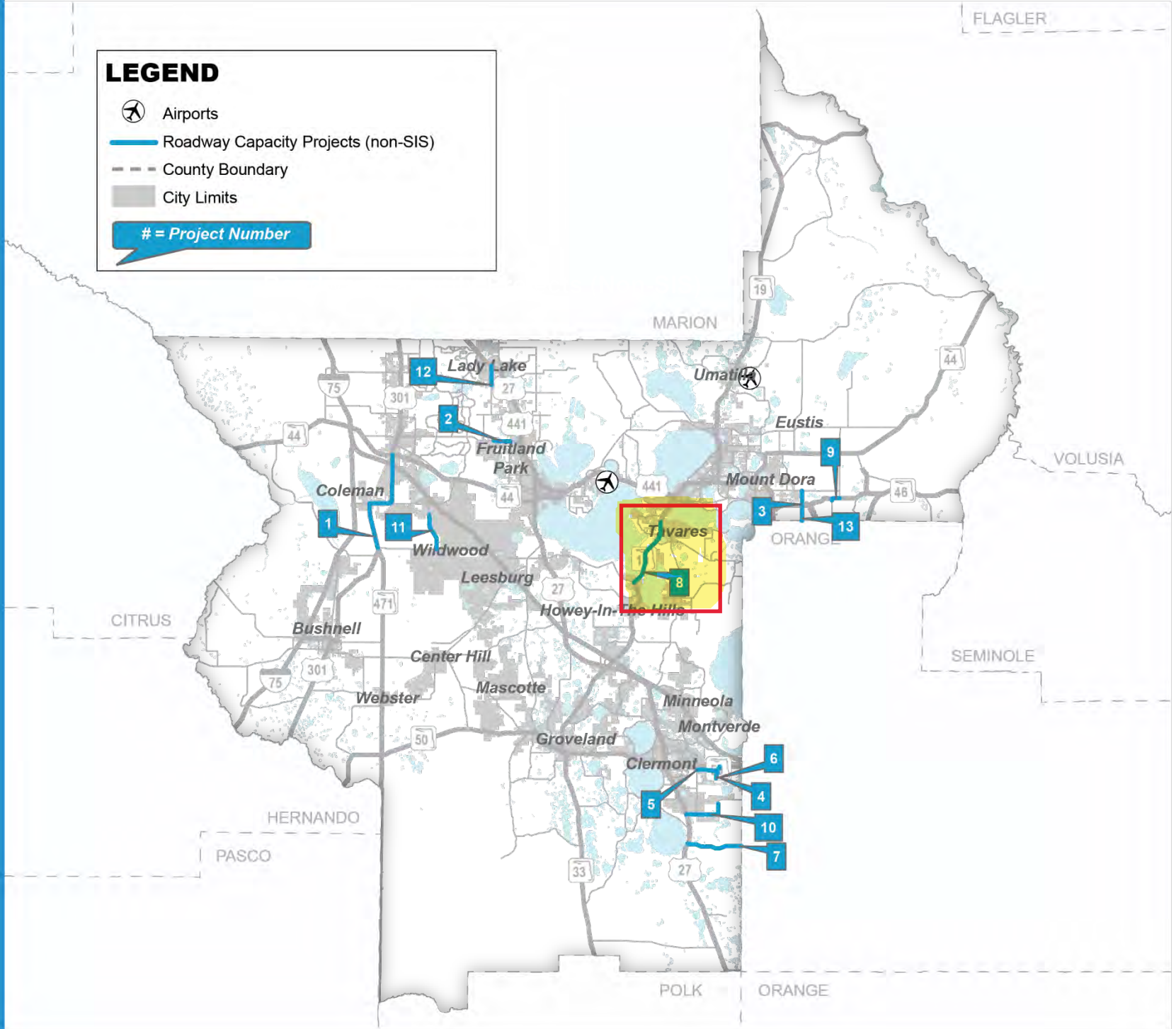
23017 Mission Rise - Osceola County, FL TAZ 7676, 7677

Project Distribution

C:\FSUTMS\D5\CFRPM7\Base\CF\_2030\P23017\OUTPUT\HWYLOAD\_SL\_AllDay\_A30.NET

**Appendix H**  
*LSMPO TIP and LSMPO LOPP*

# ROADWAY CAPACITY PROJECTS (NON-SIS)



7

Project Description: WELLNESS WAY FROM US-27 TO THE LAKE/ORANGE COUNTY LINE

FM#

Funding

Local and State

4487331

Source(s):

Work Description: NEW ROAD CONSTRUCTION

LRTP Page:

PG. 4-12

Phase	<2023	2023	2024	2025	2026	2027	>2027	Amount Funded	
PDE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
PE	\$ -	\$ -	\$ 3,000,000	\$ -	\$ -	\$ -	\$ -	\$ 3,000,000	
ENV	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
ROW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
LAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
RRU	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
CST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Total</b>	\$ -	\$ -	\$ 3,000,000	\$ -	\$ -	\$ -	\$ -	\$ 3,000,000	
Responsible Agency: RESPONSIBLE AGENCY NOT AVAILABLE					County: LAKE		Total Project Cost: \$ 3,000,000		

8

Project Description: SR 19 FROM CR 48 TO CR 561

FM#

Funding

State and Federal

2383191

Source(s):

Work Description: ADD LANES & RECONSTRUCT

LRTP Page:

PG. 4-12

Phase	<2023	2023	2024	2025	2026	2027	>2027	Amount Funded	
PDE	\$ 1,161,015	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,161,015	
PE	\$ 4,141,718	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,141,718	
ENV	\$ 492,196	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 692,196	
ROW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
LAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
RRU	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
CST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Total</b>	\$ 5,794,929	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,994,929	
Responsible Agency: FDOT					County: LAKE		Total Project Cost: \$ 5,994,929		



# 2022 List of Priority Projects

Lake~Sumter Metropolitan Planning Organization

Adopted June 22, 2022



**Table 3 – Roadway Capacity (Non-SIS) Project Priorities**

Capacity Rank	Sponsor/ Location	FM #	Project Name	From	To	Description	Performance Measure(s)	Proposed Phase	Proposed Phase FY	Proposed Phase Cost	Programmed Phase(s)	Programmed Phase FY	CMP Congested Corridors 2021 Analysis (for informational purposes)
1	FDOT/ Sumter County	430132-1	SR 35 (US 301)	SR 44	CR 470	Road Widening	System Performance	ROW	2026/27	\$27,000,000	Design	2022/23 2025/26	Extremely Congested (2021)
2	FDOT/ Lake County	409870-1	SR 44 (CR44B)	US 441	SR44	Road Widening	System Performance; Safety	CST	2024/25	\$23,701,500	ROW		Extremely Congested (2021)
3	Sumter County	447931-1	Marsh Bend Trail (CR 501)	Corbin Trail	Central Parkway	Roadway Improvements	System Performance	CST	2023/24	\$1,275,400	CST	2022/23	Operating at Acceptable Level of Service
4	FDOT/ Lake County	238394-3	SR 500 (US 441)	Perkins Street	SR 44	Road Widening	System Performance	CST	2023/24	\$13,794,537			Congested (2026)
5	FDOT/ Lake County	429356-1	SR 500 (US 441)	SR 44	N of SR 46	Road Widening	System Performance	CST	2023/24	\$22,233,040	ROW	2021/22	Not Congested
6	Lake County/ Lady Lake	439665-1	Rolling Acres Road	West Lady Lake Ave.	Griffin Ave	Road Widening	System Performance	Design	2026/27	\$2,000,000	PD&E	2025/26	Extremely Congested (2026)
7	Lake County	441710-1	Round Lake Road	Wolfbranch Rd	North of SR 44	New Roadway/ Alignment	System Performance	CST	2024/25	\$30,000,000	Design		Operating at Acceptable Level of Service
8	Lake County	441779-1	CR 455 (Hartle Rd)	Lost Lake Rd.	Hartwood Marsh Rd.	Roadway Extension/ Widening	System Performance	CST	2024/25	\$19,800,000	ROW	2022/23	New Roadway, Not on CMP Network
9	Lake County	-	CR 455 (Hartle Rd)	Hartwood Marsh Rd	CFX Lake-Orange Connector	Road Extension	System Performance	Design	2023/24	\$3,000,000	PDE		New Roadway, Not on CMP Network

Capacity Rank	Sponsor/ Location	FM #	Project Name	From	To	Description	Performance Measure(s)	Proposed Phase	Proposed Phase FY	Proposed Phase Cost	Programmed Phase(s)	Programmed Phase FY	CMP Congested Corridors 2021 Analysis (for informational purposes)
10	Lake County	-	Citrus Grove Phase II	West of Scrub Jay Lane	Grassy Lake Rd	New Alignment/Widening	System Performance	CST	2024/25	\$10,000,000	ROW		New Roadway, Not on CMP Network
11	Lake County	-	Citrus Grove Phase V	Turnpike	Blackstill Lake Dr	New Roadway/Alignment	System Performance	CST	2024/25	\$5,000,000	Design		New Roadway, Not on CMP Network
12	Lake County	441393-1	CR 437 Realignment	Oak Tree Dr	SR 46	New Alignment/Widening	System Performance	CST	2024/25	\$4,000,000	Design		New Roadway, Not on CMP Network
13	Lake County	-	Hartwood Marsh	Regency Hills Dr	Innovation Lane	Road Widening	System Performance	Design	2023/24	\$750,000	PDE		Approaching Congestion
14	Lake County	-	CR 455 Paved Shoulder	CR 561	CR 561A	Paved Shoulder	System Performance	Design	2023/24	\$700,000			Operating at Acceptable Level of Service
15	FDOT/Lake County	-	CR 470/CR 48	Meggison Road at The Villages	US 27	Road Widening	System Performance	Design	2023/24	\$4,000,000			Congested (2026)
16	Lake County/ Mount Dora	-	Vista Ridge Drive/Wolf Branch Innovation Boulevard	Niles Rd	Round Lake Road	New Roadway	System Performance	Design	2023/24	\$1,000,000	Study		New Roadway, Not on CMP Network
17	Lake County	-	CR 561A	CR 561	CR 455	Realignment	System Performance; Safety	PDE	2023/24	\$750,000	Study		Operating at Acceptable Level of Service
18	FDOT/ Lake County	-	SR 44	Orange Ave	CR 46A	Road Widening	System Performance	PDE	2023/24	\$TBD			Congested (2021)
19	FDOT	-	SR 19	SR 50	CR 455	Road Widening	System Performance	PDE	2023/24	\$TBD			Congested (2021)

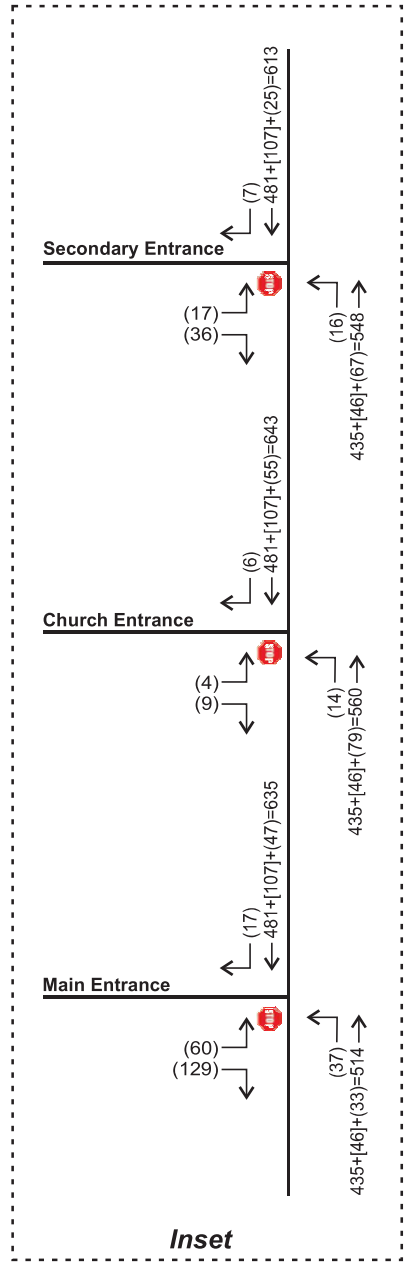
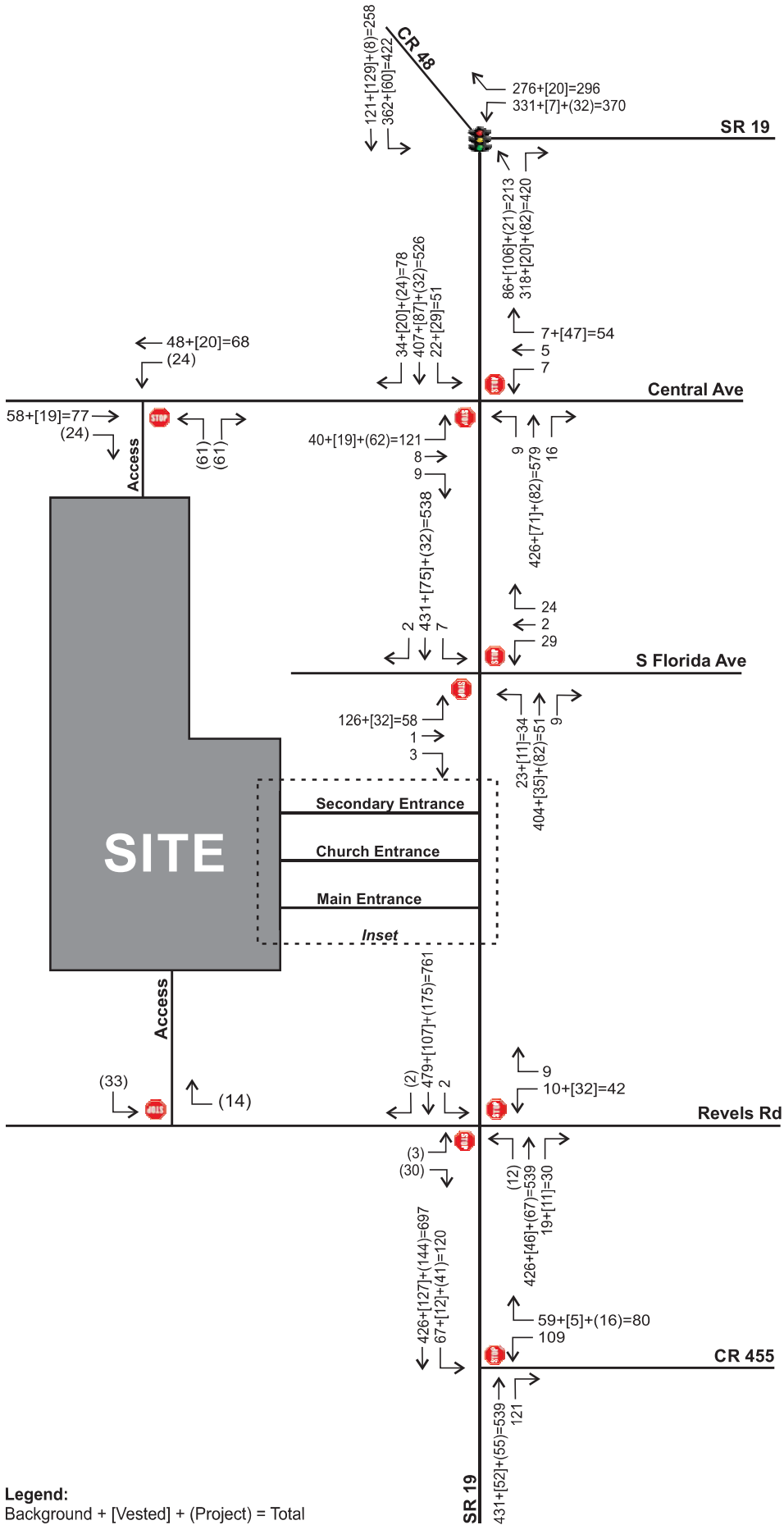
Capacity Rank	Sponsor/ Location	FM #	Project Name	From	To	Description	Performance Measure(s)	Proposed Phase	Proposed Phase FY	Proposed Phase Cost	Programmed Phase(s)	Programmed Phase FY	CMP Congested Corridors 2021 Analysis (for informational purposes)
20	Lake County	-	Woodlea Road	SR 19	End	Road Widening	System Performance	Design Update/ ROW	2023/24	\$3,000,000			Operating at Acceptable Level of Service
21	FDOT/ Lake County	238319-1	SR 19	Howey Bridge	CR 561	Road Widening	System Performance	CST	2023/24	\$35,000,000			Extremely Congested (2021)
22	Lake County	-	Hancock Road	Hartwood Marsh Rd	Wellness Way	New Road	System Performance	CST	2025/26	\$20,000,000			New Roadway, Not on CMP Network
23	Lake County	-	SR 46A	SR 44	SR 46	Road Widening	System Performance	CST	2023/24	\$TBD	Design		Congested (2021)

Top 20 Project

**Appendix I**  
Vested Trips Data



Not to Scale



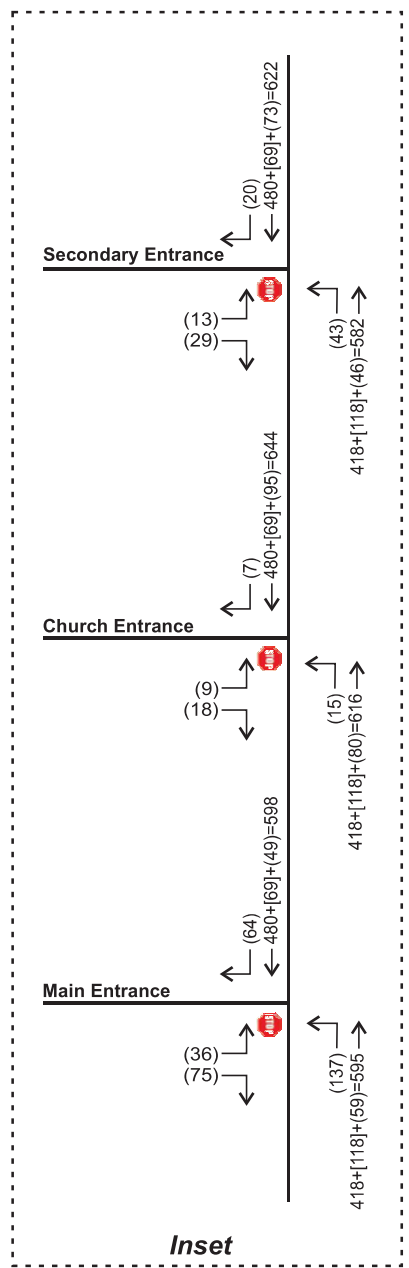
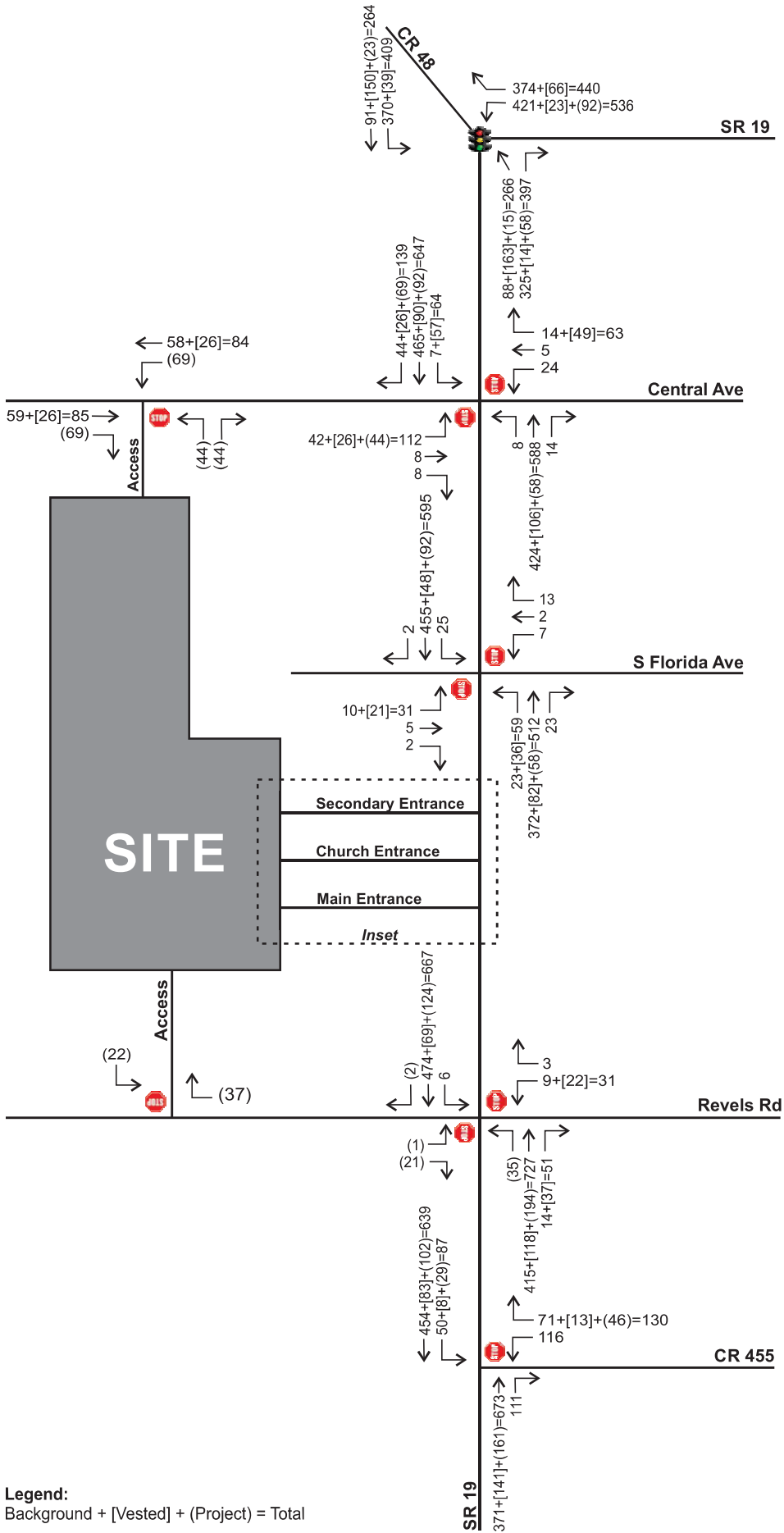
**Legend:**  
 Background + [Vested] + (Project) = Total



**Projected AM Peak Intersection Volumes**  
 The Reserve at Howey in the Hills  
 21082



Not to Scale



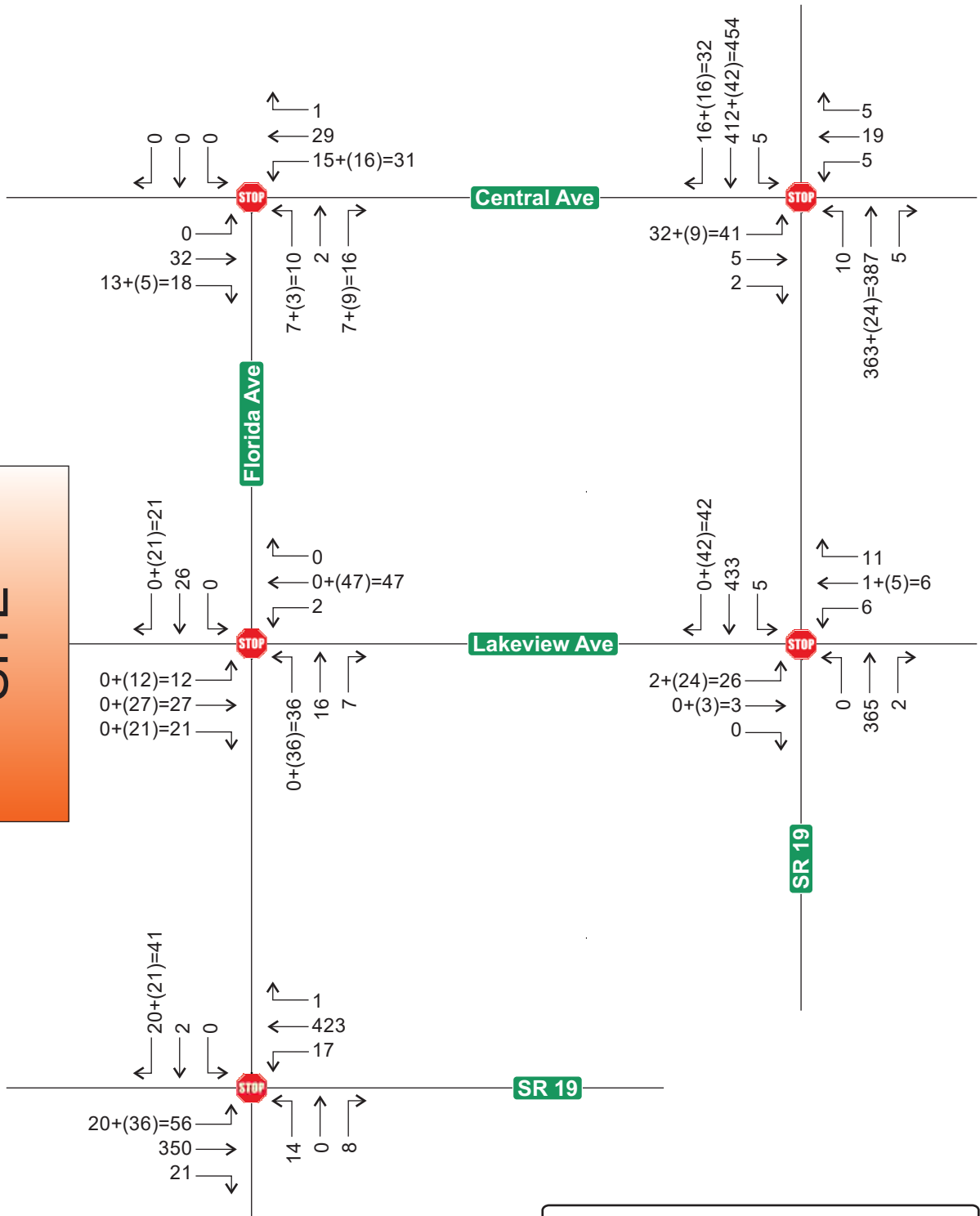
**Legend:**  
 Background + [Vested] + (Project) = Total



**Projected PM Peak Intersection Volumes**  
 The Reserve at Howey in the Hills  
 21082

Figure  
**6**

SITE

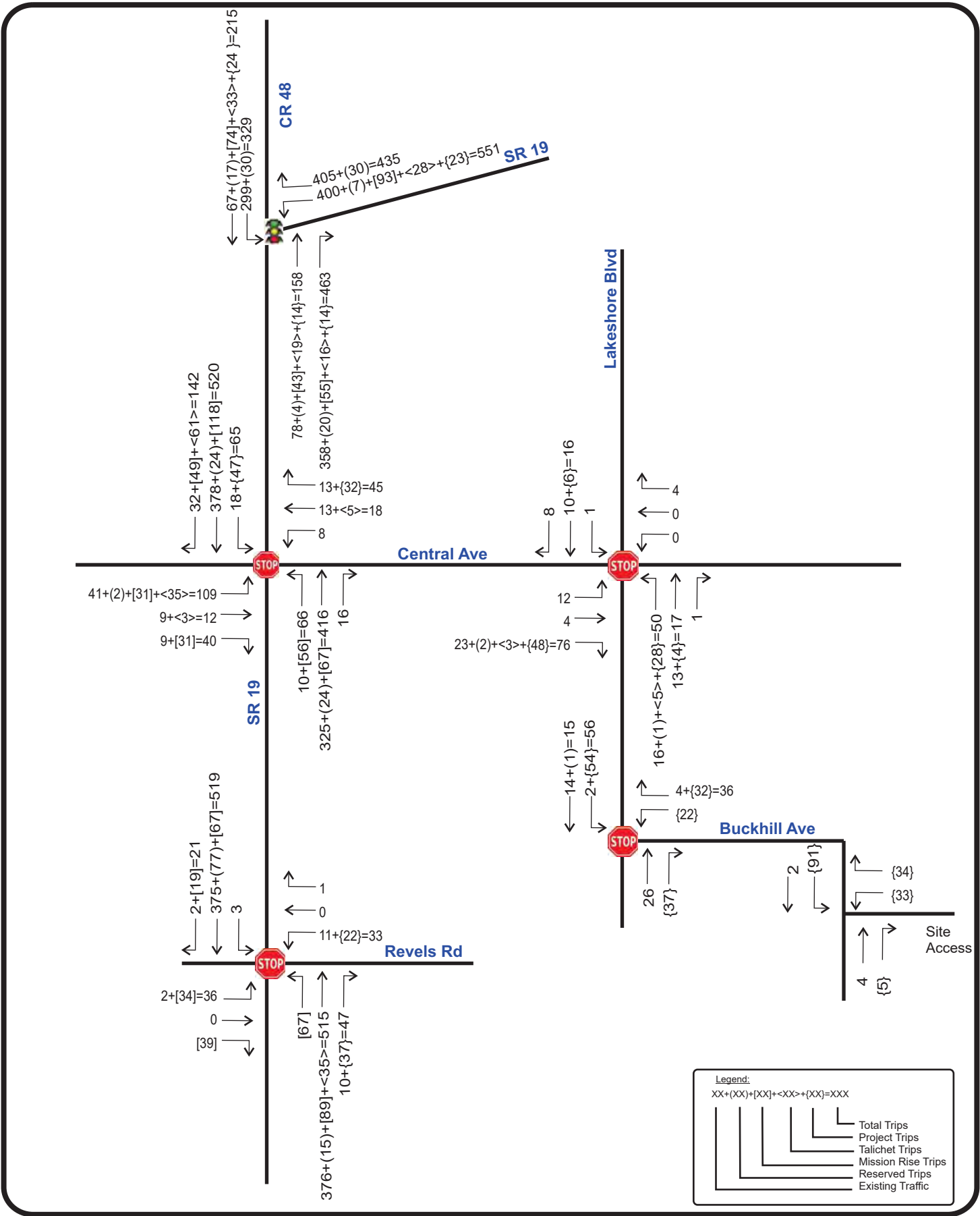


**Legend:**  
 $XX+(XX)=XXX$

Total Traffic  
 Project Trips  
 Background Traffic

\*Schematic drawing. Not to scale.  
 \*\* Any +/- 1 project trip discrepancy is due to rounding



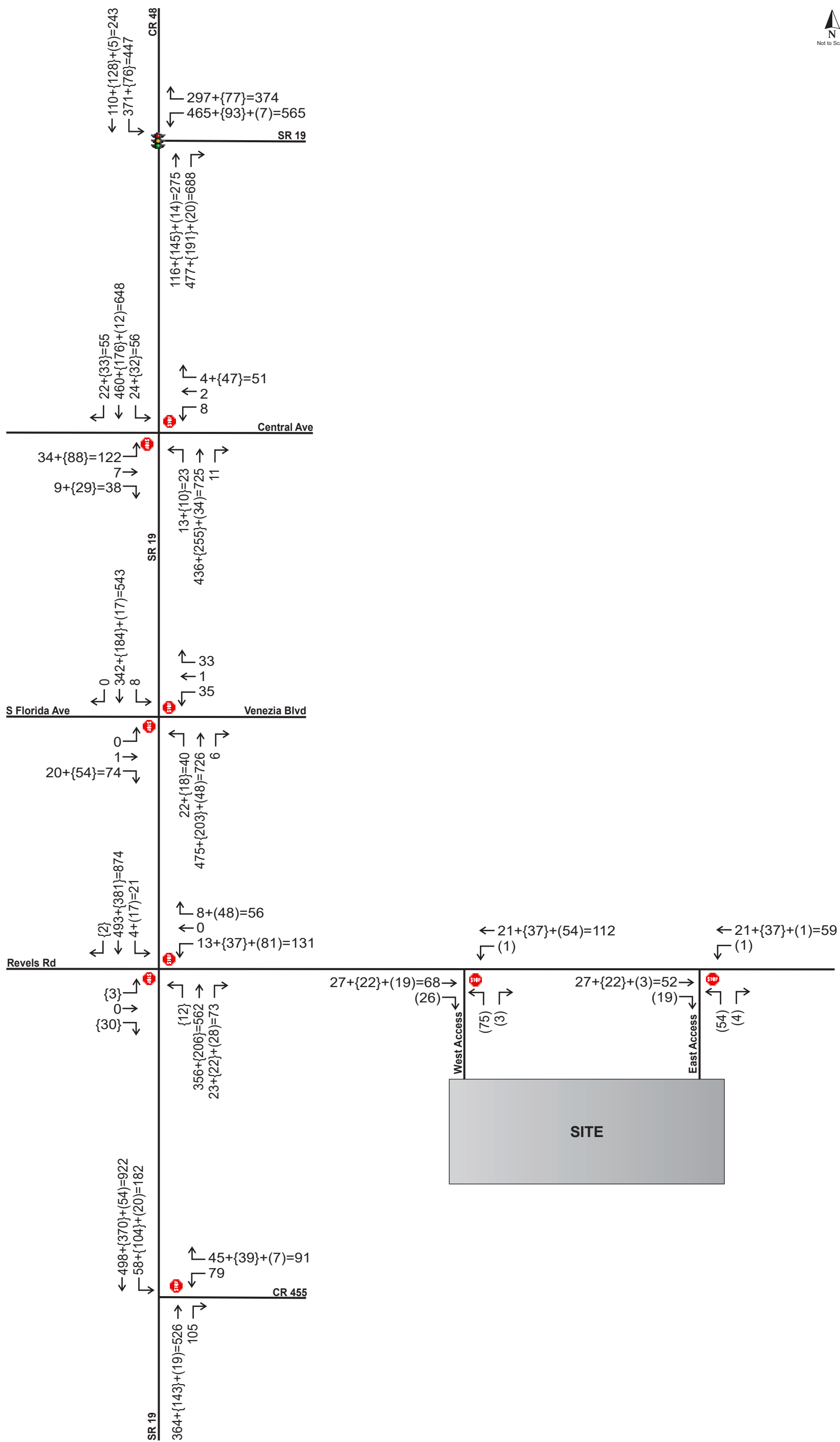


Whispering Hills  
 Project No 5199  
**Figure 5**

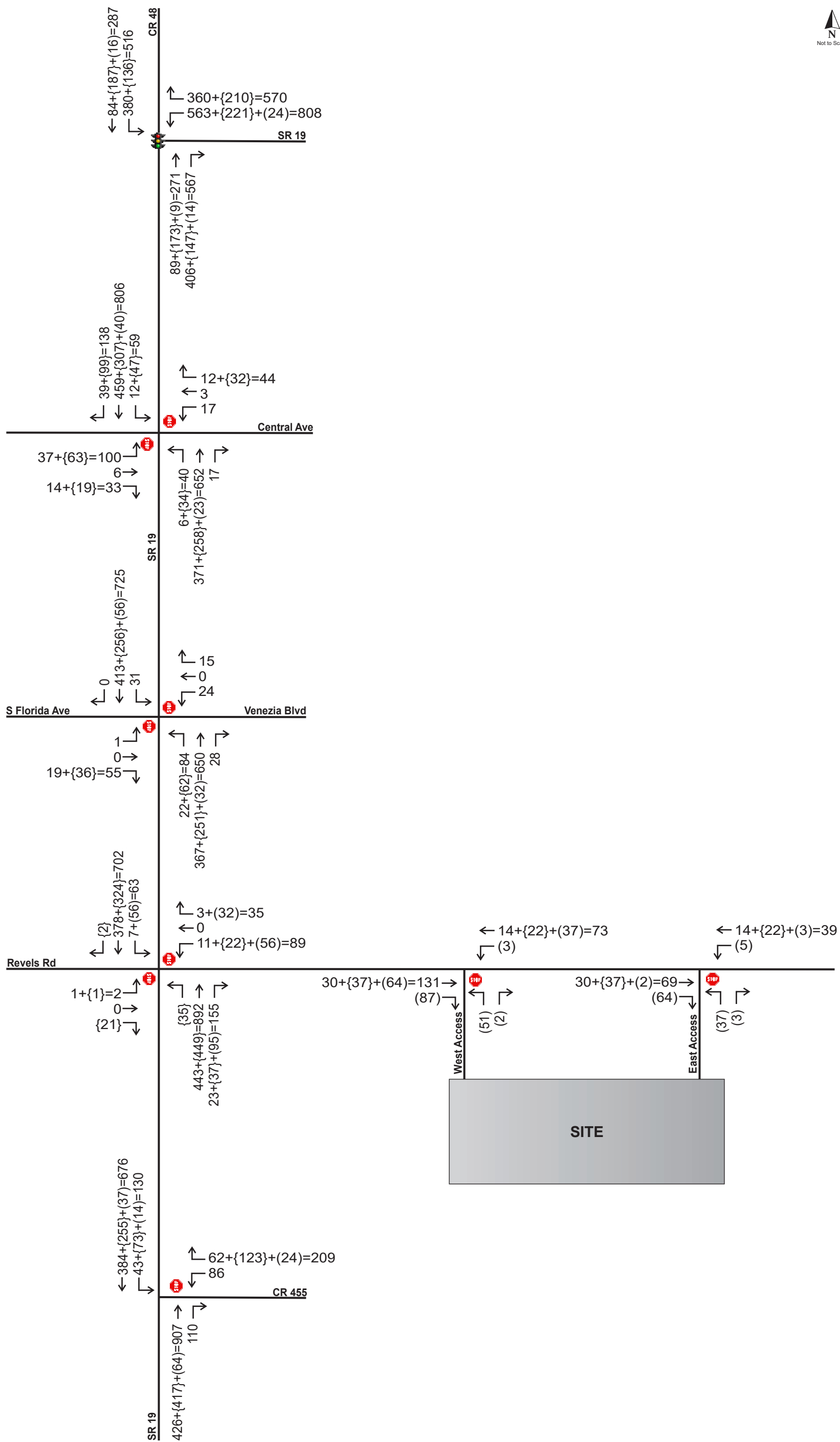
## Projected P.M. Peak Hour Intersection Volumes







Legend:  
Background + {Committed} + (Project) = Total



Legend:  
Background + {Committed} + (Project) = Total

**Table 1**  
**Trip Generation Calculations – Phase 1 (2026)**

ITE Code	Land Use	Size	Daily		AM Peak Hour			PM Peak Hour				
			Rate	Trips	Rate	Total	Enter	Exit	Rate	Total	Enter	Exit
210	Single-Family Detached	184 DU	9.61	1,768	0.71	131	34	97	0.96	177	112	65
215	Single-Family Attached	146 DU	7.27	1,061	0.48	70	22	48	0.57	83	47	36
<b>Total Trip Generation (Phase 1)</b>				2,829		201	56	145		260	159	101

Source: ITE Trip Generation Manual, 11th Edition

ITE equations were used as  $R^2$  were greater than 0.75 and with more than 20 studies

Phase 1 of the proposed development is projected to generate 2,829 new daily trips of which 201 trips occur during the AM peak hour, and 260 trips occur during the PM peak hour.

**Table 2**  
**Trip Generation Calculations – Phase 1 and Phase 2 (2030)**

ITE Code	Land Use	Size	Daily		AM Peak Hour			PM Peak Hour				
			Rate	Trips	Rate	Total	Enter	Exit	Rate	Total	Enter	Exit
210	Single-Family Detached	358 DU	9.11	3,261	0.66	236	61	175	0.92	329	207	122
215	Single-Family Attached	292 DU	7.45	2,175	0.50	146	45	101	0.59	172	98	74
<b>Total Trip Generation Buildout (Phase 1 + Phase 2)</b>				5,436		382	106	276		501	305	196

Source: ITE Trip Generation Manual, 11th Edition

ITE equations were used as  $R^2$  were greater than 0.75 and with more than 20 studies

The proposed development at project buildout is projected to generate 5,436 new daily trips of which 382 trips occur during the AM peak hour, and 501 trips occur during the PM peak hour.

### Trip Distribution

A trip distribution pattern was estimated using the *Central Florida Regional Planning Model, version 7 (CFRPM V7)*. The model distribution was adjusted based on local knowledge, professional engineering judgement, and the location of the development with respect to the study area attractions and activity centers to reflect prevailing travel patterns in the vicinity of the site and the surrounding transportation network. The raw model plots are provided in the **Attachments**, and the adjusted trip distribution is shown in **Figure 2**.

### Study Area

In accordance with the LSMPO requirements for a Tier 2 TIA methodology and the Town of Howey-In-The-Hills Land Development Code, the study area will encompass roadway segments and intersections within a 1-mile radius at minimum. The study will also include segments and intersections within a 4.55-mile radius, ( $\frac{1}{2}$  the trip length for residential land use), where the project's peak hour trips consume five percent (5%) or more of a roadway's two-way peak hour generalized service volume, based on the adopted LOS and committed number of lanes. The total trip length was obtained from the *Lake County Transportation Impact Fee Schedule Table 9-1* (dated 12/21/2001), included in the **Attachments**. The roadway segments identified by the significance test will be analyzed in the Tier 2 TIA. Excerpts from the *2020 Lake County Congestion Management Plan (CMP) Database* are included in the **Attachments**. The study area significance analysis is summarized in **Table 3**.

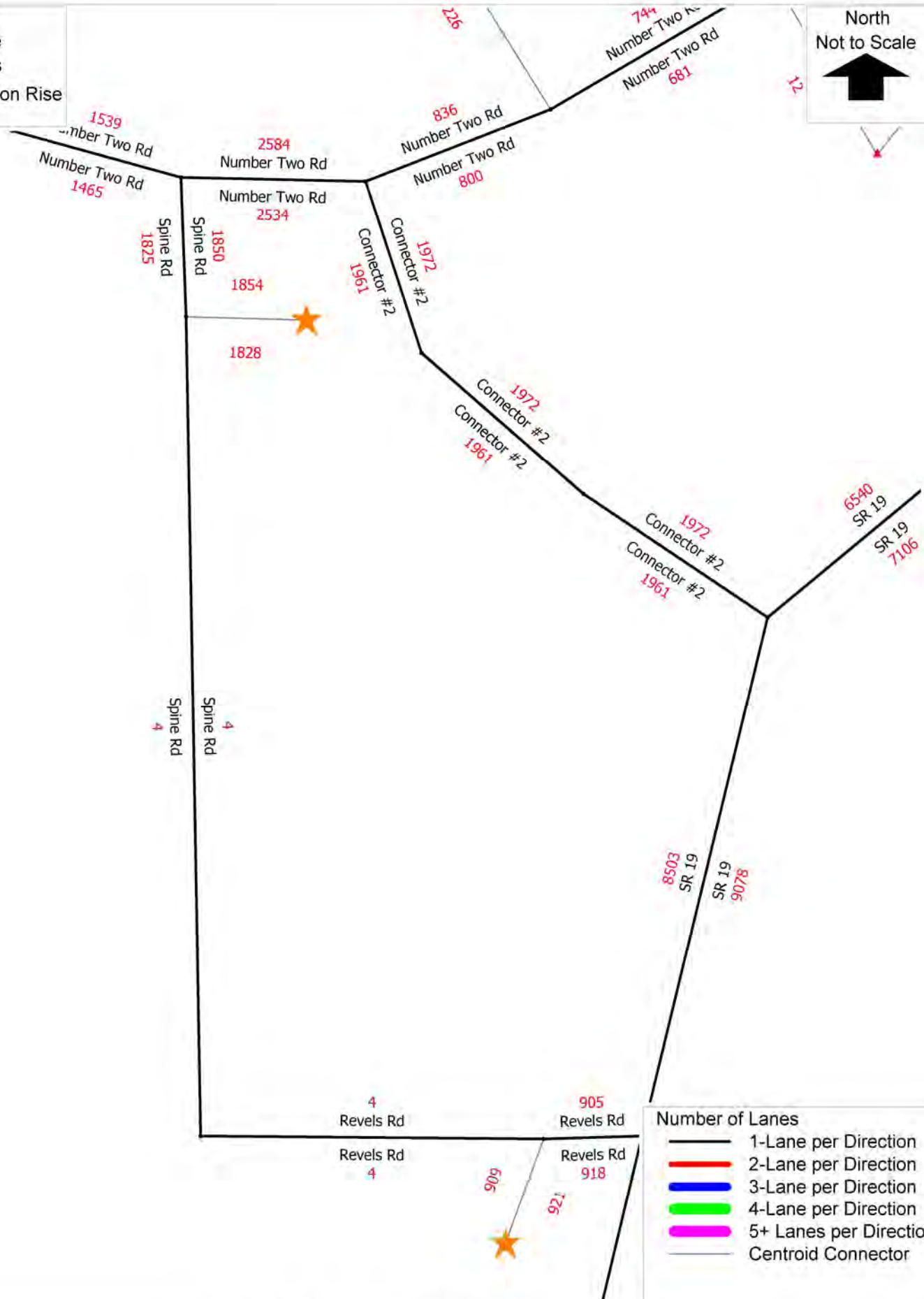


**Appendix J**  
AADT Model Plot



Nodes Legend

- Node
- ▲ TAZs
- ★ Mission Rise















23017.1 Mission Rise - Lake County, FL TAZ 7676, 7677  
 Future AADT  
 C:\FSUTMS\D5\CFRPM7

**Appendix K**  
HCM Worksheets - Projected Conditions



# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48













						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	522	334	455	740	413	180
Future Volume (veh/h)	522	334	455	740	413	180
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	538	205	469	0	426	186
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	386	312	695		502	1139
Arrive On Green	0.23	0.23	0.39	0.00	0.17	0.63
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	538	205	469	0	426	186
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	22.7	13.5	21.5	0.0	14.2	4.2
Cycle Q Clear(g_c), s	22.7	13.5	21.5	0.0	14.2	4.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	386	312	695		502	1139
V/C Ratio(X)	1.39	0.66	0.67		0.85	0.16
Avail Cap(c_a), veh/h	386	312	695		535	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	34.2	24.5	0.0	16.9	7.5
Incr Delay (d2), s/veh	192.0	5.0	5.2	0.0	11.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	44.9	8.2	14.6	0.0	10.5	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	229.7	39.1	29.7	0.0	28.5	7.8
LnGrp LOS	F	D	C		C	A
Approach Vol, veh/h	743		469	A		612
Approach Delay, s/veh	177.1		29.7			22.2
Approach LOS	F		C			C
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	45.0		30.0		68.0
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	18.5	38.6		22.7		38.6
Max Q Clear Time (g_c+I1), s	16.2	23.5		24.7		6.2
Green Ext Time (p_c), s	0.4	2.5		0.0		1.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			87.2			
HCM 6th LOS			F			

### Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	751	483	164	588	451	194
Future Volume (veh/h)	751	483	164	588	451	194
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	774	359	169	0	465	200
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	380	307	685		737	1149
Arrive On Green	0.23	0.23	0.39	0.00	0.18	0.63
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	774	359	169	0	465	200
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	22.7	22.7	6.5	0.0	16.0	4.5
Cycle Q Clear(g_c), s	22.7	22.7	6.5	0.0	16.0	4.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	380	307	685		737	1149
V/C Ratio(X)	2.04	1.17	0.25		0.63	0.17
Avail Cap(c_a), veh/h	380	307	685		744	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	38.4	20.7	0.0	12.3	7.5
Incr Delay (d2), s/veh	475.1	105.6	0.9	0.0	1.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	92.9	24.6	4.9	0.0	9.5	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	513.5	144.1	21.5	0.0	14.0	7.8
LnGrp LOS	F	F	C		B	A
Approach Vol, veh/h	1133		169	A		665
Approach Delay, s/veh	396.4		21.5			12.1
Approach LOS	F		C			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.6	45.0		30.0		69.6
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	18.5	38.6		22.7		38.6
Max Q Clear Time (g_c+I1), s	18.0	8.5		24.7		6.5
Green Ext Time (p_c), s	0.1	0.9		0.0		1.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			234.3			
HCM 6th LOS			F			
<b>Notes</b>						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 6th TWSC  
2: SR 19 & W Central Ave

Intersection												
Int Delay, s/veh	70.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	144	4	12	13	1	65	14	672	29	37	663	49
Future Vol, veh/h	144	4	12	13	1	65	14	672	29	37	663	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	33	2	2	2	2	38	10	2	42	2	11
Mvmt Flow	148	4	12	13	1	67	14	693	30	38	684	51

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1556	1537	710	1530	1547	708	735	0	0	723	0	0
Stage 1	786	786	-	736	736	-	-	-	-	-	-	-
Stage 2	770	751	-	794	811	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.83	6.22	7.12	6.52	6.22	4.48	-	-	4.52	-	-
Critical Hdwy Stg 1	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.297	3.318	3.518	4.018	3.318	2.542	-	-	2.578	-	-
Pot Cap-1 Maneuver	~ 87	99	434	96	114	435	727	-	-	722	-	-
Stage 1	371	362	-	411	425	-	-	-	-	-	-	-
Stage 2	379	376	-	381	393	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 66	87	434	82	100	435	727	-	-	722	-	-
Mov Cap-2 Maneuver	~ 66	87	-	82	100	-	-	-	-	-	-	-
Stage 1	359	329	-	398	411	-	-	-	-	-	-	-
Stage 2	310	364	-	333	358	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	\$ 729.8		26.5		0.2		0.5	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	727	-	-	71	248	722	-	-
HCM Lane V/C Ratio	0.02	-	-	2.323	0.328	0.053	-	-
HCM Control Delay (s)	10.1	0	-	\$ 729.8	26.5	10.3	0	-
HCM Lane LOS	B	A	-	F	D	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	15.7	1.4	0.2	-	-

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

HCM 6th TWSC  
2: SR 19 & W Central Ave

Intersection												
Int Delay, s/veh	83.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	108	14	16	20	4	49	19	642	25	66	784	162
Future Vol, veh/h	108	14	16	20	4	49	19	642	25	66	784	162
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	33	2	2	2	2	38	10	2	42	2	11
Mvmt Flow	111	14	16	21	4	51	20	662	26	68	808	167

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1771	1756	892	1758	1826	675	975	0	0	688	0	0
Stage 1	1028	1028	-	715	715	-	-	-	-	-	-	-
Stage 2	743	728	-	1043	1111	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.83	6.22	7.12	6.52	6.22	4.48	-	-	4.52	-	-
Critical Hdwy Stg 1	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.297	3.318	3.518	4.018	3.318	2.542	-	-	2.578	-	-
Pot Cap-1 Maneuver	~ 61	72	341	66	77	454	582	-	-	746	-	-
Stage 1	271	275	-	422	434	-	-	-	-	-	-	-
Stage 2	392	386	-	277	285	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 41	54	341	41	58	454	582	-	-	746	-	-
Mov Cap-2 Maneuver	~ 41	54	-	41	58	-	-	-	-	-	-	-
Stage 1	256	218	-	398	410	-	-	-	-	-	-	-
Stage 2	326	364	-	195	226	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, \$	1096.5		89.7		0.3		0.7	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	582	-	-	47	110	746	-	-
HCM Lane V/C Ratio	0.034	-	-	3.027	0.684	0.091	-	-
HCM Control Delay (s)	11.4	0		\$ 1096.5	89.7	10.3	0	-
HCM Lane LOS	B	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	15.4	3.6	0.3	-	-

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

HCM 6th TWSC  
 3: S Florida Ave & W Central Ave

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	1	68	17	10	31	1	10	0	20	0	0	0
Future Vol, veh/h	1	68	17	10	31	1	10	0	20	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	85	21	13	39	1	13	0	25	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	40	0	0	106	0	0	164	164	96	176	174	40
Stage 1	-	-	-	-	-	-	98	98	-	66	66	-
Stage 2	-	-	-	-	-	-	66	66	-	110	108	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1570	-	-	1485	-	-	801	729	960	786	719	1031
Stage 1	-	-	-	-	-	-	908	814	-	945	840	-
Stage 2	-	-	-	-	-	-	945	840	-	895	806	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1570	-	-	1485	-	-	795	722	960	760	712	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	795	722	-	760	712	-
Stage 1	-	-	-	-	-	-	907	813	-	944	832	-
Stage 2	-	-	-	-	-	-	936	832	-	871	805	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			1.8			9.2			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	898	1570	-	-	1485	-	-	-
HCM Lane V/C Ratio	0.042	0.001	-	-	0.008	-	-	-
HCM Control Delay (s)	9.2	7.3	0	-	7.4	0	-	0
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

HCM 6th TWSC  
 3: S Florida Ave & W Central Ave

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	52	11	36	59	6	9	1	33	1	0	0
Future Vol, veh/h	0	52	11	36	59	6	9	1	33	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	14	45	74	8	11	1	41	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	79	0	0	240	244	72	261	247	78
Stage 1	-	-	-	-	-	-	72	72	-	168	168	-
Stage 2	-	-	-	-	-	-	168	172	-	93	79	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1515	-	-	1519	-	-	714	658	990	692	655	983
Stage 1	-	-	-	-	-	-	938	835	-	834	759	-
Stage 2	-	-	-	-	-	-	834	756	-	914	829	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1515	-	-	1519	-	-	697	638	990	646	635	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	697	638	-	646	635	-
Stage 1	-	-	-	-	-	-	938	835	-	834	735	-
Stage 2	-	-	-	-	-	-	808	733	-	875	829	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.7			9.3			10.6		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	899	1515	-	-	1519	-	-	646
HCM Lane V/C Ratio	0.06	-	-	-	0.03	-	-	0.002
HCM Control Delay (s)	9.3	0	-	-	7.4	0	-	10.6
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0

HCM 6th TWSC  
 4: SR 19 & Revels Rd/Revels Rd

Intersection												
Int Delay, s/veh	128											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↕		↖	↗			↖	↗
Traffic Vol, veh/h	41	0	120	124	0	53	44	490	66	21	790	14
Future Vol, veh/h	41	0	120	124	0	53	44	490	66	21	790	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	430	-	-	-	-	405
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	8	12	2	10	2
Mvmt Flow	46	0	133	138	0	59	49	544	73	23	878	16

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1632	1639	878	1678	1619	581	894	0	0	617	0	0
Stage 1	924	924	-	679	679	-	-	-	-	-	-	-
Stage 2	708	715	-	999	940	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	81	100	347	~ 75	103	514	759	-	-	963	-	-
Stage 1	323	348	-	441	451	-	-	-	-	-	-	-
Stage 2	426	434	-	293	342	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	66	89	347	~ 42	92	514	759	-	-	963	-	-
Mov Cap-2 Maneuver	66	89	-	~ 42	92	-	-	-	-	-	-	-
Stage 1	302	331	-	412	422	-	-	-	-	-	-	-
Stage 2	353	406	-	172	326	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	51.2	\$ 1224.7	0.7	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	759	-	-	66	347	58	963	-	-
HCM Lane V/C Ratio	0.064	-	-	0.69	0.384	3.391	0.024	-	-
HCM Control Delay (s)	10.1	-	-	137.5	21.	\$ 1224.7	8.8	0	-
HCM Lane LOS	B	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	3	1.8	20.9	0.1	-	-

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

HCM 6th TWSC  
 4: SR 19 & Revels Rd/Revels Rd

Intersection												
Int Delay, s/veh	127.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗		↖	↗	
Traffic Vol, veh/h	30	1	83	88	0	36	135	744	146	64	602	45
Future Vol, veh/h	30	1	83	88	0	36	135	744	146	64	602	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	430	-	-	-	-	405
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	8	12	2	10	2
Mvmt Flow	33	1	92	98	0	40	150	827	162	71	669	50

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	2039	2100	669	2091	2069	908	719	0	0	989	0	0
Stage 1	811	811	-	1208	1208	-	-	-	-	-	-	-
Stage 2	1228	1289	-	883	861	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	42	52	458	~38	54	334	882	-	-	699	-	-
Stage 1	373	393	-	224	256	-	-	-	-	-	-	-
Stage 2	218	234	-	340	372	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~28	36	458	~22	37	334	882	-	-	699	-	-
Mov Cap-2 Maneuver	~28	36	-	~22	37	-	-	-	-	-	-	-
Stage 1	310	326	-	186	212	-	-	-	-	-	-	-
Stage 2	159	194	-	224	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	135.1	\$ 1882.8	1.3	1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	882	-	-	28	458	30	699	-	-
HCM Lane V/C Ratio	0.17	-	-	1.23	0.201	4.593	0.102	-	-
HCM Control Delay (s)	9.9	-	-	\$ 457.1	14.8	\$ 1882.8	10.7	0	-
HCM Lane LOS	A	-	-	F	B	F	B	A	-
HCM 95th %tile Q(veh)	0.6	-	-	4	0.7	16.6	0.3	-	-

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



HCM 6th TWSC  
5: SR 19 & CR 455

Intersection						
Int Delay, s/veh	48.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	78	88	596	133	183	927
Future Vol, veh/h	78	88	596	133	183	927
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	590	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	38	15	8	22	9	5
Mvmt Flow	81	92	621	139	191	966

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1969	621	0	0	760	0
Stage 1	621	-	-	-	-	-
Stage 2	1348	-	-	-	-	-
Critical Hdwy	6.78	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.78	-	-	-	-	-
Critical Hdwy Stg 2	5.78	-	-	-	-	-
Follow-up Hdwy	3.842	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	~ 55	465	-	-	821	-
Stage 1	473	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	~ 27	465	-	-	821	-
Mov Cap-2 Maneuver	~ 27	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	101	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	576.7	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	27	465	821	-
HCM Lane V/C Ratio	-	-	3.009	0.197	0.232	-
HCM Control Delay (s)	-	\$	1210.8	14.6	10.7	0
HCM Lane LOS	-	-	F	B	B	A
HCM 95th %tile Q(veh)	-	-	9.9	0.7	0.9	-

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

HCM 6th TWSC  
5: SR 19 & CR 455

Intersection						
Int Delay, s/veh	68.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	179	956	110	130	756
Future Vol, veh/h	100	179	956	110	130	756
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	590	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	38	15	8	22	9	5
Mvmt Flow	104	186	996	115	135	788

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2054	996	0	0	1111	0
Stage 1	996	-	-	-	-	-
Stage 2	1058	-	-	-	-	-
Critical Hdwy	6.78	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.78	-	-	-	-	-
Critical Hdwy Stg 2	5.78	-	-	-	-	-
Follow-up Hdwy	3.842	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	~ 48	280	-	-	603	-
Stage 1	307	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	~ 29	280	-	-	603	-
Mov Cap-2 Maneuver	~ 29	-	-	-	-	-
Stage 1	307	-	-	-	-	-
Stage 2	172	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	544.7	0	1.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	29	280	603	-
HCM Lane V/C Ratio	-	-	3.592	0.666	0.225	-
HCM Control Delay (s)	-	\$	1447.7	40.2	12.7	0
HCM Lane LOS	-	-	F	E	B	A
HCM 95th %tile Q(veh)	-	-	12.5	4.4	0.9	-

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

HCM 6th TWSC  
 6: Spine Road & Interconnect Road

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	33	71	0	44	42
Future Vol, veh/h	0	33	71	0	44	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	36	77	0	48	46

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	219	77	0	0	77
Stage 1	77	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	769	984	-	-	1522
Stage 1	946	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	744	984	-	-	1522
Mov Cap-2 Maneuver	744	-	-	-	-
Stage 1	946	-	-	-	-
Stage 2	857	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	3.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	984	1522
HCM Lane V/C Ratio	-	-	0.036	0.031
HCM Control Delay (s)	-	-	8.8	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

HCM 6th TWSC  
 6: Spine Road & Interconnect Road

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	48	60	0	42	80
Future Vol, veh/h	0	48	60	0	42	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	52	65	0	46	87

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	244	65	0	0	65	0
Stage 1	65	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	744	999	-	-	1537	-
Stage 1	958	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	721	999	-	-	1537	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	826	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	2.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	999	1537
HCM Lane V/C Ratio	-	-	0.052	0.03
HCM Control Delay (s)	-	-	8.8	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

HCM 6th TWSC  
 7: Spine Road & Number 2 Road

Intersection						
Int Delay, s/veh	5.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↙
Traffic Vol, veh/h	62	26	46	33	52	78
Future Vol, veh/h	62	26	46	33	52	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	-	420	655	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	28	50	36	57	85

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	95	0	203
Stage 1	-	-	-	-	67
Stage 2	-	-	-	-	136
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1499	-	786
Stage 1	-	-	-	-	956
Stage 2	-	-	-	-	890
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1499	-	760
Mov Cap-2 Maneuver	-	-	-	-	760
Stage 1	-	-	-	-	956
Stage 2	-	-	-	-	861

Approach	EB	WB	NB
HCM Control Delay, s	0	4.4	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	886	-	-	1499	-
HCM Lane V/C Ratio	0.159	-	-	0.033	-
HCM Control Delay (s)	9.8	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

HCM 6th TWSC  
7: Spine Road & Number 2 Road

Intersection						
Int Delay, s/veh	5.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↙
Traffic Vol, veh/h	46	59	87	39	41	64
Future Vol, veh/h	46	59	87	39	41	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	420	655	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	64	95	42	45	70

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	114	0	282	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	232	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1475	-	708	1018
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1475	-	663	1018
Mov Cap-2 Maneuver	-	-	-	-	663	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.3	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	842	-	-	1475	-
HCM Lane V/C Ratio	0.136	-	-	0.064	-
HCM Control Delay (s)	9.9	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

HCM 6th TWSC  
 8: Revels Road & Spine Road

Intersection						
Int Delay, s/veh	7.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	108	6	5	142	9
Future Vol, veh/h	10	108	6	5	142	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	117	7	5	154	10

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	328	10	0	0	12	0
Stage 1	10	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	666	1071	-	-	1607	-
Stage 1	1013	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	602	1071	-	-	1607	-
Mov Cap-2 Maneuver	602	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1005	1607
HCM Lane V/C Ratio	-	-	0.128	0.096
HCM Control Delay (s)	-	-	9.1	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.3

HCM 6th TWSC  
 8: Revels Road & Spine Road

Intersection						
Int Delay, s/veh	7.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	10	163	9	12	134	5
Future Vol, veh/h	10	163	9	12	134	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	177	10	13	146	5

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	314	17	0	0	23
Stage 1	17	-	-	-	-
Stage 2	297	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	679	1062	-	-	1592
Stage 1	1006	-	-	-	-
Stage 2	754	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	617	1062	-	-	1592
Mov Cap-2 Maneuver	617	-	-	-	-
Stage 1	1006	-	-	-	-
Stage 2	685	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	7.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1019	1592
HCM Lane V/C Ratio	-	-	0.185	0.091
HCM Control Delay (s)	-	-	9.3	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.3



HCM 6th TWSC  
 9: Orange Blossom Road & Revels Road

Intersection						
Int Delay, s/veh	7.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	7	0	0	4	12	7
Future Vol, veh/h	7	0	0	4	12	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	0	4	13	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	4	0	-	0	18
Stage 1	-	-	-	-	2
Stage 2	-	-	-	-	16
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1618	-	-	-	1000
Stage 1	-	-	-	-	1021
Stage 2	-	-	-	-	1007
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1618	-	-	-	995
Mov Cap-2 Maneuver	-	-	-	-	995
Stage 1	-	-	-	-	1016
Stage 2	-	-	-	-	1007

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1618	-	-	-	1025
HCM Lane V/C Ratio	0.005	-	-	-	0.02
HCM Control Delay (s)	7.2	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC  
 9: Orange Blossom Road & Revels Road

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	7	0	0	13	8	7
Future Vol, veh/h	7	0	0	13	8	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	0	14	9	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	14	0	-	0	23
Stage 1	-	-	-	-	7
Stage 2	-	-	-	-	16
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1604	-	-	-	993
Stage 1	-	-	-	-	1016
Stage 2	-	-	-	-	1007
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1604	-	-	-	988
Mov Cap-2 Maneuver	-	-	-	-	988
Stage 1	-	-	-	-	1011
Stage 2	-	-	-	-	1007

Approach	EB	WB	SB
HCM Control Delay, s	7.3	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1604	-	-	-	1027
HCM Lane V/C Ratio	0.005	-	-	-	0.016
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

**Appendix L**  
Intersection Volume Projections

Intersection Volumes

Period	Tgen	Enter	Exit	SF	AGR	Years	Legend
AM Peak		81	241	1.06	2.00%	10	Backg'd + {Vested} + (Project) =

Intersection= SR 19 & CR 48 <span style="float: right;">1</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.06	0	1.20		0						0			0	0	
	T	0	1.06	0	1.20		0						0			0	0	
	R	0	1.06	0	1.20		0						0			0	0	
WB	L	326	1.06	346	1.20		415	32	14		36	7	89	23%		18	522	415 + {89} + (18) = 522
	T	0	1.06	0	1.20		0						0			0	0	
	R	216	1.06	229	1.20		275				59		59			0	334	275 + {59} = 334
NB	L	0	1.06	0	1.20		0						0			0	0	
	T	298	1.06	316	1.20		379	21	24		12	14	71		2%	5	455	379 + {71} + (5) = 455
	R	429	1.06	455	1.20		546	82	23		14	20	139		23%	55	740	546 + {139} + (55) = 740
SB	L	261	1.06	277	1.20		332				81		81			0	413	332 + {81} = 413
	T	92	1.06	98	1.20		118	8	14		33	5	60	2%		2	180	118 + {60} + (2) = 180
	R	0	1.06	0	1.20		0						0			0	0	

Intersection= SR 19 & Central Ave <span style="float: right;">2</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	33	1.06	35	1.20		42	62		16			78		10%	24	144	42 + {78} + (24) = 144
	T	3	1.06	3	1.20		4						0			0	4	4
	R	9	1.06	10	1.20		12						0			0	12	12
WB	L	10	1.06	11	1.20		13						0			0	13	13
	T	1	1.06	1	1.20		1						0			0	1	1
	R	14	1.06	15	1.20		18		47				47			0	65	18 + {47} = 65
NB	L	11	1.06	12	1.20		14						0			0	14	14
	T	356	1.06	377	1.20		452	82		42	26	34	184		15%	36	672	452 + {184} + (36) = 672
	R	23	1.06	24	1.20		29						0			0	29	29
SB	L	4	1.06	4	1.20		5		32				32			0	37	5 + {32} = 37
	T	404	1.06	428	1.20		514	32		24	69	12	137	15%		12	663	514 + {137} + (12) = 663
	R	7	1.06	7	1.20		8	24		9			33	10%		8	49	8 + {33} + (8) = 49

Intersection= Central Ave & S. Florida Ave <span style="float: right;">3</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	1	1.06	1	1.20		1						0			0	1	1
	T	35	1.06	37	1.20		44						0		10%	24	68	44 + (24) = 68
	R	11	1.06	12	1.20		14			3			3			0	17	14 + {3} = 17
WB	L	1	1.06	1	1.20		1			9			9			0	10	1 + {9} = 10
	T	18	1.06	19	1.20		23						0	10%		8	31	23 + (8) = 31
	R	1	1.06	1	1.20		1						0			0	1	1
NB	L	4	1.06	4	1.20		5			5			5			0	10	5 + {5} = 10
	T	0	1.06	0	1.20		0						0			0	0	0
	R	3	1.06	3	1.20		4			16			16			0	20	4 + {16} = 20
SB	L	0	1.06	0	1.20		0						0			0	0	0
	T	0	1.06	0	1.20		0						0			0	0	0
	R	0	1.06	0	1.20		0						0			0	0	0

Intersection= SR 19 & Revels Rd <span style="float: right;">4</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	2	1.06	2	1.20		2	3					3		15%	36	41	2 + {3} + (36) = 41
	T	0	1.06	0	1.20		0						0			0	0	0
	R	5	1.06	5	1.20		6	30					30		35%	84	120	6 + {30} + (84) = 120
WB	L	5	1.06	5	1.20		6		37			81	118			0	124	6 + {118} = 124
	T	0	1.06	0	1.20		0						0			0	0	0
	R	4	1.06	4	1.20		5					48	48			0	53	5 + {48} = 53
NB	L	3	1.06	3	1.20		4	12					12	35%		28	44	4 + {12} + (28) = 44
	T	306	1.06	324	1.20		389	67			26		93	10%		8	490	389 + {93} + (8) = 490
	R	12	1.06	13	1.20		16		22			28	50			0	66	16 + {50} = 66
SB	L	3	1.06	3	1.20		4					17	17			0	21	4 + {17} = 21
	T	410	1.06	435	1.20		522	175			69		244		10%	24	790	522 + {244} + (24) = 790
	R	0	1.06	0	1.20		0	2					2	15%		12	14	{2} + (12) = 14

Intersection= SR 19 & CR 455 <span style="float: right;">5</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.00	0	1.20		0						0			0	0	0
	T	0	1.00	0	1.20		0						0			0	0	0
	R	0	1.00	0	1.20		0						0			0	0	0
WB	L	65	1.00	65	1.20		78						0			0	78	78
	T	0	1.00	0	1.20		0						0			0	0	0
	R	43	1.00	43	1.20		52	16			5	7	28	10%		8	88	52 + {28} + (8) = 88
NB	L	0	1.00	0	1.20		0						0			0	0	0
	T	394	1.00	394	1.20		473	55			21	19	95	35%		28	596	473 + {95} + (28) = 596
	R	111	1.00	111	1.20		133						0			0	133	133
SB	L	70	1.00	70	1.20		84	41			14	20	75		10%	24	183	84 + {75} + (24) = 183
	T	492	1.00	492	1.20		590	144			55	54	253		35%	84	927	590 + {253} + (84) = 927
	R	0	1.00	0	1.20		0						0			0	0	0

Intersection= Interconnect Rd & Spine Rd (Proposed) <span style="float: right;">6</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	
WB	L						0										0	0	
	T						0										0	0	
	R						25							10%			8	33	25 + (8) = 33
NB	L						0										0	0	
	T						20										51	71	20 + (51) = 71
	R						0										0	0	
SB	L						20										24	44	20 + (24) = 44
	T						25								10%		16	41	25 + (16) = 41
	R						0										0	0	

Intersection= Number 2 Rd & Spine Road / North Access <span style="float: right;">7</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						0										0	0	
	T						59										0	62	59 + (3) = 62
	R						15										11	26	15 + (11) = 26
WB	L						30										16	46	30 + (16) = 46
	T						28										0	33	28 + (5) = 33
	R						0										0	0	
NB	L						15										37	52	15 + (37) = 52
	T						0								15%		0	0	
	R						30										48	78	30 + (48) = 78
SB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	

Intersection= Revels Rd & Spine Rd / Proposed <span style="float: right;">8</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	
WB	L						3										7	10	3 + (7) = 10
	T						0										0	0	
	R						62										46	108	62 + (46) = 108
NB	L						0										0	0	
	T						4										2	6	4 + (2) = 6
	R						3										2	5	3 + (2) = 5
SB	L						74										68	142	74 + (68) = 142
	T						4										5	9	4 + (5) = 9
	R						0										0	0	

Intersection= Revels Rd & Orange Blossom Rd / South Access <span style="float: right;">9</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						7										0	7	7
	T						0										0	0	
	R						0										0	0	
WB	L						0										0	0	
	T						0										0	0	
	R						0										4	4	(4)
NB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	
SB	L						0										12	12	(12)
	T						0										0	0	
	R						7										0	7	7

Intersection Volumes

Period	Tgen	Enter	Exit	SF	AGR	Years	Legend
PM Peak		284	167	1.06	2.00%	10	Backg'd + {Vested} + (Project) =

Intersection= SR 19 & CR 48 <span style="float: right;">1</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.06	0	1.20		0						0			0	0	
	T	0	1.06	0	1.20		0						0			0	0	
	R	0	1.06	0	1.20		0						0			0	0	
WB	L	409	1.06	434	1.20		521	92	23		25	24	164	23%		66	751	521 + {164} + (66) = 751
	T	0	1.06	0	1.20		0						0			0	0	
	R	301	1.06	319	1.20		383				100		100			0	483	383 + {100} = 483
NB	L	0	1.06	0	1.20		0						0			0	0	
	T	68	1.06	72	1.20		86	15	14		37	9	75		2%	3	164	86 + {75} + (3) = 164
	R	333	1.06	353	1.20		424	58	14		39	14	125		23%	39	588	424 + {125} + (39) = 588
SB	L	287	1.06	304	1.20		365				86		86			0	451	365 + {86} = 451
	T	79	1.06	84	1.20		101	23	24		24	16	87	2%		6	194	101 + {87} + (6) = 194
	R	0	1.06	0	1.20		0						0			0	0	

Intersection= SR 19 & Central Ave <span style="float: right;">2</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	30	1.06	32	1.20		38	44		9			53		10%	17	108	38 + {53} + (17) = 108
	T	11	1.06	12	1.20		14						0			0	14	14
	R	12	1.06	13	1.20		16						0			0	16	16
WB	L	16	1.06	17	1.20		20						0			0	20	20
	T	3	1.06	3	1.20		4						0			0	4	4
	R	13	1.06	14	1.20		17		32				32			0	49	17 + {32} = 49
NB	L	15	1.06	16	1.20		19						0			0	19	19
	T	342	1.06	363	1.20		436	58		24	76	23	181		15%	25	642	436 + {181} + (25) = 642
	R	20	1.06	21	1.20		25						0			0	25	25
SB	L	15	1.06	16	1.20		19		47				47			0	66	19 + {47} = 66
	T	408	1.06	432	1.20		518	92		42	49	40	223	15%		43	784	518 + {223} + (43) = 784
	R	38	1.06	40	1.20		48	69		16			85	10%		29	162	48 + {85} + (29) = 162

Intersection= Central Ave & S. Florida Ave <span style="float: right;">3</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.06	0	1.20		0						0			0	0	
	T	27	1.06	29	1.20		35						0		10%	17	52	35 + (17) = 52
	R	5	1.06	5	1.20		6			5			5			0	11	6 + {5} = 11
WB	L	16	1.06	17	1.20		20			16			16			0	36	20 + {16} = 36
	T	24	1.06	25	1.20		30						0	10%		29	59	30 + (29) = 59
	R	5	1.06	5	1.20		6						0			0	6	6
NB	L	5	1.06	5	1.20		6			3			3			0	9	6 + {3} = 9
	T	1	1.06	1	1.20		1						0			0	1	1
	R	19	1.06	20	1.20		24			9			9			0	33	24 + {9} = 33
SB	L	1	1.06	1	1.20		1						0			0	1	1
	T	0	1.06	0	1.20		0						0			0	0	0
	R	0	1.06	0	1.20		0						0			0	0	0

Intersection= SR 19 & Revels Rd <span style="float: right;">4</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	3	1.06	3	1.20		4	1					1		15%	25	30	4 + {1} + (25) = 30
	T	1	1.06	1	1.20		1						0			0	1	1
	R	4	1.06	4	1.20		5	21					21		35%	57	83	5 + {21} + (57) = 83
WB	L	8	1.06	8	1.20		10		22			56	78			0	88	10 + {78} = 88
	T	0	1.06	0	1.20		0						0			0	0	0
	R	3	1.06	3	1.20		4					32	32			0	36	4 + {32} = 36
NB	L	1	1.06	1	1.20		1	35					35	35%		99	135	1 + {35} + (99) = 135
	T	351	1.06	372	1.20		446	194			76		270	10%		28	744	446 + {270} + (28) = 744
	R	11	1.06	12	1.20		14		37			95	132			0	146	14 + {132} = 146
SB	L	7	1.06	7	1.20		8					56	56			0	64	8 + {56} = 64
	T	324	1.06	343	1.20		412	124			49		173		10%	17	602	412 + {173} + (17) = 602
	R	0	1.06	0	1.20		0	2					2	15%		43	45	{2} + (43) = 45

Intersection= SR 19 & CR 455 <span style="float: right;">5</span>																		
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.00	0	1.20		0						0			0	0	
	T	0	1.00	0	1.20		0						0			0	0	0
	R	0	1.00	0	1.20		0						0			0	0	0
WB	L	83	1.00	83	1.20		100						0			0	100	100
	T	0	1.00	0	1.20		0						0			0	0	0
	R	55	1.00	55	1.20		66	46			15	24	85	10%		28	179	66 + {85} + (28) = 179
NB	L	0	1.00	0	1.20		0						0			0	0	0
	T	476	1.00	476	1.20		571	161			61	64	286	35%		99	956	571 + {286} + (99) = 956
	R	92	1.00	92	1.20		110						0			0	110	110
SB	L	50	1.00	50	1.20		60	29			10	14	53		10%	17	130	60 + {53} + (17) = 130
	T	433	1.00	433	1.20		520	102			39	37	178		35%	58	756	520 + {178} + (58) = 756
	R	0	1.00	0	1.20		0						0			0	0	0

Intersection= Interconnect Rd & Spine Rd (Proposed) <span style="float: right;">6</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	
WB	L						0										0	0	
	T						0										0	0	
	R						20							10%			28	48	20 + (28) = 48
NB	L						0										0	0	
	T						25										36	61	25 + (36) = 61
	R						0										0	0	
SB	L						25										17	42	25 + (17) = 42
	T						20								10%		61	81	20 + (61) = 81
	R						0										0	0	

Intersection= Number 2 Rd & Spine Road / North Access <span style="float: right;">7</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						0										0	0	
	T						41										5	46	41 + (5) = 46
	R						15							15%			44	59	15 + (44) = 59
WB	L						30							20%			57	87	30 + (57) = 87
	T						36									3	0	39	36 + (3) = 39
	R						0										0	0	
NB	L						15										26	41	15 + (26) = 41
	T						0								15%		0	0	
	R						30								20%		34	64	30 + (34) = 64
SB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	

Intersection= Revels Rd & Spine Rd / Proposed <span style="float: right;">8</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	
WB	L						4										6	10	4 + (6) = 10
	T						0										0	0	
	R						74							25%			89	163	74 + (89) = 163
NB	L						0										0	0	
	T						3										6	9	3 + (6) = 9
	R						4										8	12	4 + (8) = 12
SB	L						62										72	134	62 + (72) = 134
	T						3										2	5	3 + (2) = 5
	R						0										0	0	













Intersection= Revels Rd & Orange Blossom Rd / South Access <span style="float: right;">9</span>																			
Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	The Reserve	Whisp. Hills	Talichet	Lake Hills	Watermark	Vested	%Proj Ent	%Proj Ext	Project	Total	Formula	
EB	L						7										0	7	7
	T						0										0	0	
	R						0										0	0	
WB	L						0										0	0	
	T						0										0	0	
	R						0							5%			13	13	(13)
NB	L						0										0	0	
	T						0										0	0	
	R						0										0	0	
SB	L						0										8	8	(8)
	T						0										0	0	
	R						7										0	7	7

**Appendix M**  
Background Conditions / Buildout Conditions with Mitigation















# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	504	334	450	685	413	178
Future Volume (veh/h)	504	334	450	685	413	178
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	520	203	464	0	426	184
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	386	312	695		506	1139
Arrive On Green	0.23	0.23	0.39	0.00	0.17	0.63
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	520	203	464	0	426	184
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	22.7	13.4	21.2	0.0	14.2	4.1
Cycle Q Clear(g_c), s	22.7	13.4	21.2	0.0	14.2	4.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	386	312	695		506	1139
V/C Ratio(X)	1.35	0.65	0.67		0.84	0.16
Avail Cap(c_a), veh/h	386	312	695		539	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	34.1	24.4	0.0	16.8	7.5
Incr Delay (d2), s/veh	172.2	4.7	5.0	0.0	11.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	41.4	8.1	14.4	0.0	10.4	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	209.9	38.8	29.5	0.0	27.8	7.8
LnGrp LOS	F	D	C		C	A
Approach Vol, veh/h	723		464	A		610
Approach Delay, s/veh	161.9		29.5			21.8
Approach LOS	F		C			C
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	45.0		30.0		68.0
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	18.5	38.6		22.7		38.6
Max Q Clear Time (g_c+I1), s	16.2	23.2		24.7		6.1
Green Ext Time (p_c), s	0.4	2.5		0.0		1.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			80.1			
HCM 6th LOS			F			
<b>Notes</b>						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	685	483	161	549	451	188
Future Volume (veh/h)	685	483	161	549	451	188
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	706	302	166	0	465	194
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	380	307	685		740	1149
Arrive On Green	0.23	0.23	0.39	0.00	0.18	0.63
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	706	302	166	0	465	194
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	22.7	22.2	6.3	0.0	16.0	4.4
Cycle Q Clear(g_c), s	22.7	22.2	6.3	0.0	16.0	4.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	380	307	685		740	1149
V/C Ratio(X)	1.86	0.98	0.24		0.63	0.17
Avail Cap(c_a), veh/h	380	307	685		747	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	38.3	20.6	0.0	12.3	7.4
Incr Delay (d2), s/veh	395.5	46.9	0.8	0.0	1.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	79.4	16.3	4.8	0.0	9.5	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	433.9	85.1	21.5	0.0	13.9	7.8
LnGrp LOS	F	F	C		B	A
Approach Vol, veh/h	1008		166	A		659
Approach Delay, s/veh	329.4		21.5			12.1
Approach LOS	F		C			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.6	45.0		30.0		69.6
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	18.5	38.6		22.7		38.6
Max Q Clear Time (g_c+I1), s	18.0	8.3		24.7		6.4
Green Ext Time (p_c), s	0.1	0.9		0.0		1.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			187.5			
HCM 6th LOS			F			
<b>Notes</b>						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 6th TWSC  
 2: SR 19 & W Central Ave/E Central Ave

Intersection												
Int Delay, s/veh	41.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	120	4	12	13	1	65	14	636	29	37	651	41
Future Vol, veh/h	120	4	12	13	1	65	14	636	29	37	651	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	33	2	2	2	2	38	10	2	42	2	11
Mvmt Flow	124	4	12	13	1	67	14	656	30	38	671	42

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1501	1482	692	1475	1488	671	713	0	0	686	0	0
Stage 1	768	768	-	699	699	-	-	-	-	-	-	-
Stage 2	733	714	-	776	789	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.83	6.22	7.12	6.52	6.22	4.48	-	-	4.52	-	-
Critical Hdwy Stg 1	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.297	3.318	3.518	4.018	3.318	2.542	-	-	2.578	-	-
Pot Cap-1 Maneuver	~ 95	107	444	104	124	456	742	-	-	747	-	-
Stage 1	380	369	-	430	442	-	-	-	-	-	-	-
Stage 2	397	392	-	390	402	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 74	95	444	89	110	456	742	-	-	747	-	-
Mov Cap-2 Maneuver	~ 74	95	-	89	110	-	-	-	-	-	-	-
Stage 1	368	338	-	417	428	-	-	-	-	-	-	-
Stage 2	327	380	-	343	368	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	472.6		24.5		0.2		0.5	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	742	-	-	80	265	747	-	-
HCM Lane V/C Ratio	0.019	-	-	1.753	0.307	0.051	-	-
HCM Control Delay (s)	9.9	0	-	472.6	24.5	10.1	0	-
HCM Lane LOS	A	A	-	F	C	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	11.9	1.3	0.2	-	-

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

HCM 6th TWSC  
 2: SR 19 & W Central Ave/E Central Ave

Intersection												
Int Delay, s/veh	50.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	91	14	16	20	4	49	19	617	25	66	741	133
Future Vol, veh/h	91	14	16	20	4	49	19	617	25	66	741	133
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	12	33	2	2	2	2	38	10	2	42	2	11
Mvmt Flow	94	14	16	21	4	51	20	636	26	68	764	137

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1686	1671	833	1673	1726	649	901	0	0	662	0	0
Stage 1	969	969	-	689	689	-	-	-	-	-	-	-
Stage 2	717	702	-	984	1037	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.83	6.22	7.12	6.52	6.22	4.48	-	-	4.52	-	-
Critical Hdwy Stg 1	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.83	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.297	3.318	3.518	4.018	3.318	2.542	-	-	2.578	-	-
Pot Cap-1 Maneuver	~ 70	81	369	76	89	470	624	-	-	764	-	-
Stage 1	292	294	-	436	446	-	-	-	-	-	-	-
Stage 2	405	397	-	299	308	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 49	63	369	50	69	470	624	-	-	764	-	-
Mov Cap-2 Maneuver	~ 49	63	-	50	69	-	-	-	-	-	-	-
Stage 1	277	240	-	414	423	-	-	-	-	-	-	-
Stage 2	340	377	-	219	251	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	701.2		65.2		0.3		0.7	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	624	-	-	57	130	764	-	-
HCM Lane V/C Ratio	0.031	-	-	2.188	0.579	0.089	-	-
HCM Control Delay (s)	11	0	-	701.2	65.2	10.2	0	-
HCM Lane LOS	B	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	12.3	2.9	0.3	-	-

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

HCM 6th TWSC  
 3: S Florida Ave & W Central Ave

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	44	17	10	23	1	10	0	20	0	0	0
Future Vol, veh/h	1	44	17	10	23	1	10	0	20	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	55	21	13	29	1	13	0	25	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	30	0	0	76	0	0	124	124	66	136	134	30
Stage 1	-	-	-	-	-	-	68	68	-	56	56	-
Stage 2	-	-	-	-	-	-	56	56	-	80	78	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1583	-	-	1523	-	-	850	766	998	835	757	1044
Stage 1	-	-	-	-	-	-	942	838	-	956	848	-
Stage 2	-	-	-	-	-	-	956	848	-	929	830	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1583	-	-	1523	-	-	843	758	998	808	749	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	843	758	-	808	749	-
Stage 1	-	-	-	-	-	-	941	837	-	955	840	-
Stage 2	-	-	-	-	-	-	947	840	-	905	829	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			2.2			9			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	940	1583	-	-	1523	-	-	-
HCM Lane V/C Ratio	0.04	0.001	-	-	0.008	-	-	-
HCM Control Delay (s)	9	7.3	0	-	7.4	0	-	0
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

HCM 6th TWSC  
 3: S Florida Ave & W Central Ave

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	35	11	36	30	6	9	1	33	1	0	0
Future Vol, veh/h	0	35	11	36	30	6	9	1	33	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	44	14	45	38	8	11	1	41	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	46	0	0	58	0	0	183	187	51	204	190	42
Stage 1	-	-	-	-	-	-	51	51	-	132	132	-
Stage 2	-	-	-	-	-	-	132	136	-	72	58	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1562	-	-	1546	-	-	778	708	1017	754	705	1029
Stage 1	-	-	-	-	-	-	962	852	-	871	787	-
Stage 2	-	-	-	-	-	-	871	784	-	938	847	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1562	-	-	1546	-	-	760	687	1017	706	684	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	760	687	-	706	684	-
Stage 1	-	-	-	-	-	-	962	852	-	871	763	-
Stage 2	-	-	-	-	-	-	845	760	-	899	847	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			3.7			9.1			10.1		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	940	1562	-	-	1546	-	-	706
HCM Lane V/C Ratio	0.057	-	-	-	0.029	-	-	0.002
HCM Control Delay (s)	9.1	0	-	-	7.4	0	-	10.1
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0

HCM 6th TWSC  
4: SR 19 & Revels Rd

Intersection												
Int Delay, s/veh	54.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	36	124	0	53	16	482	66	21	766	2
Future Vol, veh/h	5	0	36	124	0	53	16	482	66	21	766	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	8	12	2	10	2
Mvmt Flow	6	0	40	138	0	59	18	536	73	23	851	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1536	1543	852	1527	1508	573	853	0	0	609	0	0
Stage 1	898	898	-	609	609	-	-	-	-	-	-	-
Stage 2	638	645	-	918	899	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	95	115	359	~96	121	519	786	-	-	970	-	-
Stage 1	334	358	-	482	485	-	-	-	-	-	-	-
Stage 2	465	467	-	326	358	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	79	106	359	~80	112	519	786	-	-	970	-	-
Mov Cap-2 Maneuver	79	106	-	~80	112	-	-	-	-	-	-	-
Stage 1	322	342	-	465	468	-	-	-	-	-	-	-
Stage 2	398	451	-	277	342	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	22.5		\$ 478.9		0.3			0.2		
HCM LOS	C		F							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	786	-	-	251	107	970	-	-
HCM Lane V/C Ratio	0.023	-	-	0.181	1.838	0.024	-	-
HCM Control Delay (s)	9.7	-	-	22.5	\$ 478.9	8.8	0	-
HCM Lane LOS	A	-	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	15.9	0.1	-	-

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

HCM 6th TWSC  
4: SR 19 & Revels Rd

Intersection												
Int Delay, s/veh	48.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔			↕	
Traffic Vol, veh/h	5	1	26	88	0	36	36	716	146	64	585	2
Future Vol, veh/h	5	1	26	88	0	36	36	716	146	64	585	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	8	12	2	10	2
Mvmt Flow	6	1	29	98	0	40	40	796	162	71	650	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1770	1831	651	1765	1751	877	652	0	0	958	0	0
Stage 1	793	793	-	957	957	-	-	-	-	-	-	-
Stage 2	977	1038	-	808	794	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	65	76	469	~ 65	86	348	935	-	-	718	-	-
Stage 1	382	400	-	310	336	-	-	-	-	-	-	-
Stage 2	302	308	-	375	400	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	47	58	469	~ 49	66	348	935	-	-	718	-	-
Mov Cap-2 Maneuver	47	58	-	~ 49	66	-	-	-	-	-	-	-
Stage 1	346	338	-	281	304	-	-	-	-	-	-	-
Stage 2	242	279	-	296	338	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30	\$ 653.3	0.4	1
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	179	65	718	-
HCM Lane V/C Ratio	0.043	-	-	0.199	2.12	0.099	-
HCM Control Delay (s)	9	-	-	30\$ 653.3	10.6	0	-
HCM Lane LOS	A	-	-	D	F	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0.7	13.1	0.3	-

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



HCM 6th TWSC  
5: SR 19 & CR 455

Intersection						
Int Delay, s/veh	26.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	78	80	568	133	159	843
Future Vol, veh/h	78	80	568	133	159	843
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	590	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	38	15	8	22	9	5
Mvmt Flow	81	83	592	139	166	878

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1802	592	0	0	731
Stage 1	592	-	-	-	-
Stage 2	1210	-	-	-	-
Critical Hdwy	6.78	6.35	-	-	4.19
Critical Hdwy Stg 1	5.78	-	-	-	-
Critical Hdwy Stg 2	5.78	-	-	-	-
Follow-up Hdwy	3.842	3.435	-	-	2.281
Pot Cap-1 Maneuver	~ 71	483	-	-	842
Stage 1	489	-	-	-	-
Stage 2	239	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 44	483	-	-	842
Mov Cap-2 Maneuver	~ 44	-	-	-	-
Stage 1	489	-	-	-	-
Stage 2	147	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	303.4	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	44	483	842	-
HCM Lane V/C Ratio	-	-	1.847	0.173	0.197	-
HCM Control Delay (s)	-	-	\$ 600.2	14	10.3	0
HCM Lane LOS	-	-	F	B	B	A
HCM 95th %tile Q(veh)	-	-	8.3	0.6	0.7	-

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

HCM 6th TWSC  
5: SR 19 & CR 455

Intersection						
Int Delay, s/veh	40.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	151	857	110	113	698
Future Vol, veh/h	100	151	857	110	113	698
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	590	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	38	15	8	22	9	5
Mvmt Flow	104	157	893	115	118	727

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1856	893	0	0	1008
Stage 1	893	-	-	-	-
Stage 2	963	-	-	-	-
Critical Hdwy	6.78	6.35	-	-	4.19
Critical Hdwy Stg 1	5.78	-	-	-	-
Critical Hdwy Stg 2	5.78	-	-	-	-
Follow-up Hdwy	3.842	3.435	-	-	2.281
Pot Cap-1 Maneuver	~ 65	322	-	-	661
Stage 1	347	-	-	-	-
Stage 2	320	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 46	322	-	-	661
Mov Cap-2 Maneuver	~ 46	-	-	-	-
Stage 1	347	-	-	-	-
Stage 2	224	-	-	-	-













Approach	WB	NB	SB
HCM Control Delay, s	322.1	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	46	322	661	-
HCM Lane V/C Ratio	-	-	2.264	0.488	0.178	-
HCM Control Delay (s)	-	-	\$ 768.6	26.4	11.6	0
HCM Lane LOS	-	-	F	D	B	A
HCM 95th %tile Q(veh)	-	-	10.9	2.5	0.6	-

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

# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	522	334	454	740	413	180
Future Volume (veh/h)	522	334	454	740	413	180
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	538	205	468	0	426	186
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	548	442	485		430	991
Arrive On Green	0.33	0.33	0.27	0.00	0.21	0.55
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	538	205	468	0	426	186
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	35.2	13.3	28.8	0.0	23.1	5.7
Cycle Q Clear(g_c), s	35.2	13.3	28.8	0.0	23.1	5.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	548	442	485		430	991
V/C Ratio(X)	0.98	0.46	0.96		0.99	0.19
Avail Cap(c_a), veh/h	548	442	485		430	991
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	29.3	39.4	0.0	31.2	12.6
Incr Delay (d2), s/veh	33.9	0.8	33.0	0.0	40.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.7	7.5	23.3	0.0	22.6	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	70.5	30.0	72.4	0.0	72.0	13.0
LnGrp LOS	E	C	E		E	B
Approach Vol, veh/h	743		468	A		612
Approach Delay, s/veh	59.4		72.4			54.1
Approach LOS	E		E			D
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.0	36.6		43.4		66.6
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	23.5	30.2		36.1		60.2
Max Q Clear Time (g_c+I1), s	25.1	30.8		37.2		7.7
Green Ext Time (p_c), s	0.0	0.0		0.0		1.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			60.9			
HCM 6th LOS			E			

### Notes













Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Roundabout  
1: SR 19 & CR 48

Intersection						
Intersection Delay, s/veh	17.7					
Intersection LOS	C					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	1		1		1	
Adj Approach Flow, veh/h	882		1231		612	
Demand Flow Rate, veh/h	1008		1319		670	
Vehicles Circulating, veh/h	510		473		592	
Vehicles Exiting, veh/h	1282		789		926	
Ped Vol Crossing Leg, #/h	0		0		0	
Ped Cap Adj	1.000		1.000		1.000	
Approach Delay, s/veh	14.2		23.0		11.9	
Approach LOS	B		C		B	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	R	L	TR
Assumed Moves	L	TR	LT	R	L	TR
RT Channelized						
Lane Util	0.587	0.413	0.387	0.613	0.706	0.294
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.544	4.544
Entry Flow, veh/h	592	416	510	809	473	197
Cap Entry Lane, veh/h	893	893	923	923	829	829
Entry HV Adj Factor	0.909	0.827	0.917	0.943	0.901	0.943
Flow Entry, veh/h	538	344	468	763	426	186
Cap Entry, veh/h	811	738	847	871	746	782
V/C Ratio	0.663	0.466	0.552	0.876	0.571	0.238
Control Delay, s/veh	16.0	11.4	12.1	29.7	13.9	7.2
LOS	C	B	B	D	B	A
95th %tile Queue, veh	5	2	3	11	4	1

# HCM 6th Signalized Intersection Summary

## 1: SR 19 & CR 48

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	751	483	164	587	451	194
Future Volume (veh/h)	751	483	164	587	451	194
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1752	1589	1767	1811	1737	1811
Adj Flow Rate, veh/h	774	359	169	0	465	200
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	10	21	9	6	11	6
Cap, veh/h	777	627	259		467	743
Arrive On Green	0.47	0.47	0.15	0.00	0.20	0.41
Sat Flow, veh/h	1668	1346	1767	1535	1654	1811
Grp Volume(v), veh/h	774	359	169	0	465	200
Grp Sat Flow(s),veh/h/ln	1668	1346	1767	1535	1654	1811
Q Serve(g_s), s	50.9	21.4	9.9	0.0	22.5	8.1
Cycle Q Clear(g_c), s	50.9	21.4	9.9	0.0	22.5	8.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	777	627	259		467	743
V/C Ratio(X)	1.00	0.57	0.65		1.00	0.27
Avail Cap(c_a), veh/h	777	627	259		467	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	21.4	44.3	0.0	33.2	21.5
Incr Delay (d2), s/veh	31.4	1.3	12.2	0.0	40.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	33.4	10.6	8.9	0.0	12.2	6.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	60.7	22.7	56.5	0.0	73.6	22.4
LnGrp LOS	E	C	E		E	C
Approach Vol, veh/h	1133		169	A		665
Approach Delay, s/veh	48.7		56.5			58.2
Approach LOS	D		E			E
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	29.0	22.5		58.5		51.5
Change Period (Y+Rc), s	6.5	6.4		7.3		6.4
Max Green Setting (Gmax), s	22.5	16.1		51.2		45.1
Max Q Clear Time (g_c+I1), s	24.5	11.9		52.9		10.1
Green Ext Time (p_c), s	0.0	0.3		0.0		1.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			52.6			
HCM 6th LOS			D			

### Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Roundabout  
1: SR 19 & CR 48

Intersection							
Intersection Delay, s/veh	16.1						
Intersection LOS	C						
Approach	WB		NB		SB		
Entry Lanes	2		2		2		
Conflicting Circle Lanes	1		1		1		
Adj Approach Flow, veh/h	1272		774		665		
Demand Flow Rate, veh/h	1454		825		728		
Vehicles Circulating, veh/h	184		516		851		
Vehicles Exiting, veh/h	1157		1063		787		
Ped Vol Crossing Leg, #/h	0		0		0		
Ped Cap Adj	1.000		1.000		1.000		
Approach Delay, s/veh	12.6		15.7		23.4		
Approach LOS	B		C		C		
Lane	Left	Right	Left	Right	Left	Right	
Designated Moves	L	TR	LT	R	L	TR	
Assumed Moves	L	TR	LT	R	L	TR	
RT Channelized							
Lane Util	0.585	0.415	0.223	0.777	0.709	0.291	
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535	
Critical Headway, s	4.544	4.544	4.544	4.544	4.544	4.544	
Entry Flow, veh/h	851	603	184	641	516	212	
Cap Entry Lane, veh/h	1201	1201	888	888	655	655	
Entry HV Adj Factor	0.910	0.826	0.917	0.944	0.901	0.943	
Flow Entry, veh/h	774	498	169	605	465	200	
Cap Entry, veh/h	1092	992	815	838	590	618	
V/C Ratio	0.708	0.502	0.207	0.722	0.788	0.324	
Control Delay, s/veh	14.4	9.7	6.6	18.2	29.0	10.2	
LOS	B	A	A	C	D	B	
95th %tile Queue, veh	6	3	1	6	8	1	

## HCM 6th Signalized Intersection Summary

### 2: SR 19 & W Central Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	144	4	12	13	1	65	14	672	29	37	663	49
Future Volume (veh/h)	144	4	12	13	1	65	14	672	29	37	663	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1411	1870	1870	1870	1870	1337	1752	1870	1278	1870	1737
Adj Flow Rate, veh/h	148	4	12	13	1	67	14	693	30	38	684	51
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	33	2	2	2	2	38	10	2	42	2	11
Cap, veh/h	310	10	15	105	29	252	78	1054	45	101	1041	75
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	965	56	81	128	159	1375	11	1642	70	43	1623	118
Grp Volume(v), veh/h	164	0	0	81	0	0	737	0	0	773	0	0
Grp Sat Flow(s),veh/h/ln	1102	0	0	1663	0	0	1722	0	0	1783	0	0
Q Serve(g_s), s	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	2.2	0.0	0.0	13.5	0.0	0.0	13.2	0.0	0.0
Prop In Lane	0.90		0.07	0.16		0.83	0.02		0.04	0.05		0.07
Lane Grp Cap(c), veh/h	335	0	0	386	0	0	1177	0	0	1218	0	0
V/C Ratio(X)	0.49	0.00	0.00	0.21	0.00	0.00	0.63	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	506	0	0	645	0	0	1177	0	0	1218	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	18.1	0.0	0.0	5.7	0.0	0.0	5.7	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.3	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.0	0.0	1.4	0.0	0.0	6.1	0.0	0.0	6.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	0.0	0.0	18.3	0.0	0.0	8.2	0.0	0.0	8.2	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		164			81			737			773	
Approach Delay, s/veh		21.0			18.3			8.2			8.2	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.5		13.9		37.5		13.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		33.0		18.0				
Max Q Clear Time (g_c+I1), s		15.5		9.2		15.2		4.2				
Green Ext Time (p_c), s		5.0		0.5		5.4		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				9.9								
HCM 6th LOS				A								

# HCM 6th Signalized Intersection Summary

## 2: SR 19 & W Central Ave






















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	108	14	16	20	4	49	19	642	25	66	784	161
Future Volume (veh/h)	108	14	16	20	4	49	19	642	25	66	784	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1411	1870	1870	1870	1870	1337	1752	1870	1278	1870	1737
Adj Flow Rate, veh/h	111	14	16	21	4	51	20	662	26	68	808	166
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	33	2	2	2	2	38	10	2	42	2	11
Cap, veh/h	338	28	21	191	43	187	124	917	35	154	784	155
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	839	169	129	296	258	1130	18	1650	64	64	1410	279
Grp Volume(v), veh/h	141	0	0	76	0	0	708	0	0	1042	0	0
Grp Sat Flow(s),veh/h/ln	136	0	0	1684	0	0	1731	0	0	1753	0	0
Q Serve(g_s), s	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	1.3	0.0	0.0	9.9	0.0	0.0	18.0	0.0	0.0
Prop In Lane	0.79		0.11	0.28		0.67	0.03		0.04	0.07		0.16
Lane Grp Cap(c), veh/h	387	0	0	421	0	0	1077	0	0	1094	0	0
V/C Ratio(X)	0.36	0.00	0.00	0.18	0.00	0.00	0.66	0.00	0.00	0.95	0.00	0.00
Avail Cap(c_a), veh/h	803	0	0	1020	0	0	1077	0	0	1094	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	11.8	0.0	0.0	5.4	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.2	0.0	0.0	1.5	0.0	0.0	17.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	0.0	0.0	0.7	0.0	0.0	2.7	0.0	0.0	11.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	0.0	0.0	12.0	0.0	0.0	6.8	0.0	0.0	24.7	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	C	A	A
Approach Vol, veh/h		141			76			708			1042	
Approach Delay, s/veh		13.3			12.0			6.8			24.7	
Approach LOS		B			B			A			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		9.9		22.5		9.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+l1), s		11.9		5.7		20.0		3.3				
Green Ext Time (p_c), s		2.5		0.6		0.0		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.9								
HCM 6th LOS				B								























# HCM 6th Signalized Intersection Summary

## 4: SR 19 & Revels Rd/Revels Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	120	124	0	53	44	490	66	21	790	14
Future Volume (veh/h)	41	0	120	124	0	53	44	490	66	21	790	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1781	1722	1870	1752	1870
Adj Flow Rate, veh/h	46	0	133	138	0	59	49	544	73	23	878	16
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	8	12	2	10	2
Cap, veh/h	377	0	210	0	0	210	342	980	131	104	1093	1010
Arrive On Green	0.13	0.00	0.13	0.00	0.00	0.13	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1455	0	1585	0	0	1585	622	1538	206	16	1716	1585
Grp Volume(v), veh/h	46	0	133	0	0	59	49	0	617	901	0	16
Grp Sat Flow(s),veh/h/ln	1455	0	1585	0	0	1585	622	0	1744	1731	0	1585
Q Serve(g_s), s	0.0	0.0	3.1	0.0	0.0	1.3	2.5	0.0	7.8	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.9	0.0	3.1	0.0	0.0	1.3	17.5	0.0	7.8	15.0	0.0	0.1
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.12	0.03		1.00
Lane Grp Cap(c), veh/h	377	0	210	0	0	210	342	0	1111	1197	0	1010
V/C Ratio(X)	0.12	0.00	0.63	0.00	0.00	0.28	0.14	0.00	0.56	0.75	0.00	0.02
Avail Cap(c_a), veh/h	819	0	731	0	0	731	630	0	1921	1984	0	1745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	16.0	0.0	0.0	15.3	11.8	0.0	4.0	5.3	0.0	2.6
Incr Delay (d2), s/veh	0.1	0.0	3.1	0.0	0.0	0.7	0.2	0.0	0.4	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.0	2.0	0.0	0.0	0.8	0.5	0.0	1.7	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	0.0	19.2	0.0	0.0	16.0	12.0	0.0	4.4	6.3	0.0	2.6
LnGrp LOS	B	A	B	A	A	B	B	A	A	A	A	A
Approach Vol, veh/h		179			59			666			917	
Approach Delay, s/veh		18.2			16.0			5.0			6.2	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		29.4	0.0	9.7		29.4		9.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.0	5.0	18.0		43.0		18.0				
Max Q Clear Time (g_c+I1), s		19.5	0.0	5.1		17.0		3.3				
Green Ext Time (p_c), s		4.8	0.0	0.5		7.9		0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			7.3									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary  
 4: SR 19 & Revels Rd/Revels Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1	83	88	0	36	135	744	146	64	602	45
Future Volume (veh/h)	30	1	83	88	0	36	135	744	146	64	602	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1781	1722	1870	1752	1870
Adj Flow Rate, veh/h	33	1	92	98	0	40	150	827	162	71	669	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	8	12	2	10	2
Cap, veh/h	244	6	140	0	0	140	388	1102	216	126	1006	1207
Arrive On Green	0.09	0.09	0.09	0.00	0.00	0.09	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	1422	65	1585	0	0	1585	733	1447	283	80	1321	1585
Grp Volume(v), veh/h	34	0	92	0	0	40	150	0	989	740	0	50
Grp Sat Flow(s),veh/h/ln	1486	0	1585	0	0	1585	733	0	1730	1401	0	1585
Q Serve(g_s), s	0.0	0.0	3.4	0.0	0.0	1.4	9.8	0.0	19.1	4.7	0.0	0.5
Cycle Q Clear(g_c), s	1.1	0.0	3.4	0.0	0.0	1.4	33.6	0.0	19.1	24.0	0.0	0.5
Prop In Lane	0.97		1.00	0.00		1.00	1.00		0.16	0.10		1.00
Lane Grp Cap(c), veh/h	249	0	140	0	0	140	388	0	1318	1133	0	1207
V/C Ratio(X)	0.14	0.00	0.66	0.00	0.00	0.29	0.39	0.00	0.75	0.65	0.00	0.04
Avail Cap(c_a), veh/h	542	0	476	0	0	476	600	0	1818	1548	0	1666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	26.5	0.0	0.0	25.6	15.2	0.0	4.0	3.3	0.0	1.8
Incr Delay (d2), s/veh	0.2	0.0	5.2	0.0	0.0	1.1	0.6	0.0	1.2	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	0.0	2.5	0.0	0.0	1.0	2.7	0.0	4.3	2.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	0.0	31.6	0.0	0.0	26.7	15.8	0.0	5.1	3.9	0.0	1.8
LnGrp LOS	C	A	C	A	A	C	B	A	A	A	A	A
Approach Vol, veh/h		126			40			1139			790	
Approach Delay, s/veh		30.0			26.7			6.5			3.8	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		50.5	0.0	9.8		50.5		9.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		63.0	5.0	18.0		63.0		18.0				
Max Q Clear Time (g_c+I1), s		35.6	0.0	5.4		26.0		3.4				
Green Ext Time (p_c), s		10.8	0.0	0.3		7.2		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			7.3									
HCM 6th LOS			A									

# HCM 6th Signalized Intersection Summary

## 5: SR 19 & CR 455



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	78	88	596	133	183	927
Future Volume (veh/h)	78	88	596	133	183	927
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1337	1678	1781	1574	1767	1826
Adj Flow Rate, veh/h	81	92	621	139	191	966
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	38	15	8	22	9	5
Cap, veh/h	101	113	1527	1143	214	983
Arrive On Green	0.08	0.08	0.86	0.86	0.86	0.86
Sat Flow, veh/h	1273	1422	1781	1334	216	1146
Grp Volume(v), veh/h	81	92	621	139	1157	0
Grp Sat Flow(s),veh/h/ln	1273	1422	1781	1334	1362	0
Q Serve(g_s), s	8.9	9.1	10.9	2.4	105.7	0.0
Cycle Q Clear(g_c), s	8.9	9.1	10.9	2.4	116.6	0.0
Prop In Lane	1.00	1.00		1.00	0.17	
Lane Grp Cap(c), veh/h	101	113	1527	1143	1197	0
V/C Ratio(X)	0.80	0.81	0.41	0.12	0.97	0.00
Avail Cap(c_a), veh/h	161	180	1540	1153	1208	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	64.4	64.4	2.2	1.6	12.5	0.0
Incr Delay (d2), s/veh	13.6	13.9	0.2	0.0	18.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/lr	5.9	6.7	4.5	0.8	40.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	78.0	78.4	2.4	1.7	30.8	0.0
LnGrp LOS	E	E	A	A	C	A
Approach Vol, veh/h	173		760		1157	
Approach Delay, s/veh	78.2		2.3		30.8	
Approach LOS	E		A		C	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		126.5			126.5	15.8
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		123.0			123.0	18.0
Max Q Clear Time (g_c+I1), s		12.9			118.6	11.1
Green Ext Time (p_c), s		5.3			3.4	0.3
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			24.3			
HCM 6th LOS			C			

# HCM 6th Signalized Intersection Summary

## 5: SR 19 & CR 455



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	179	956	110	130	756
Future Volume (veh/h)	100	179	956	110	130	756
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1337	1678	1781	1574	1767	1826
Adj Flow Rate, veh/h	104	186	996	115	135	788
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	38	15	8	22	9	5
Cap, veh/h	153	171	1461	1094	141	755
Arrive On Green	0.12	0.12	0.82	0.82	0.82	0.82
Sat Flow, veh/h	1273	1422	1781	1334	138	921
Grp Volume(v), veh/h	104	186	996	115	923	0
Grp Sat Flow(s),veh/h/ln	1273	1422	1781	1334	1059	0
Q Serve(g_s), s	11.7	18.0	34.2	2.5	88.8	0.0
Cycle Q Clear(g_c), s	11.7	18.0	34.2	2.5	123.0	0.0
Prop In Lane	1.00	1.00		1.00	0.15	
Lane Grp Cap(c), veh/h	153	171	1461	1094	896	0
V/C Ratio(X)	0.68	1.09	0.68	0.11	1.03	0.00
Avail Cap(c_a), veh/h	153	171	1461	1094	896	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.2	66.0	5.5	2.7	24.2	0.0
Incr Delay (d2), s/veh	11.6	95.0	1.3	0.0	38.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	17.1	15.7	1.1	52.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	74.9	161.0	6.8	2.7	62.3	0.0
LnGrp LOS	E	F	A	A	F	A
Approach Vol, veh/h	290		1111			923
Approach Delay, s/veh	130.1		6.4			62.3
Approach LOS	F		A			E
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		127.5			127.5	22.5
Change Period (Y+Rc), s		4.5			4.5	4.5
Max Green Setting (Gmax), s		123.0			123.0	18.0
Max Q Clear Time (g_c+I1), s		36.2			125.0	20.0
Green Ext Time (p_c), s		11.8			0.0	0.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			44.1			
HCM 6th LOS			D			

**Appendix N**  
*Lake County Land Development Code (LDC)*

## 2. Turn Lanes

Turn lanes consist of left-turn lanes and right-turn lanes (deceleration lanes). Turn lanes shall be installed on the road which is being accessed at the proposed entrance(s) to the development, as deemed necessary by the County Manager or Designee. The County Manager or Designee may also require turn lanes at adjacent or nearby intersections in lieu of, or in addition to, turn lanes at the development entrances.

Conditions which are to be considered in determining the need for turn lanes include the following:

- a) If the property accessing the road is projected to generate 500 or more vehicle trips per day, or 50 or more vehicle trips in any hour;
- b) If a traffic analysis indicates that turn lanes would be necessary to maintain capacity on fronting roads and/or on adjacent or nearby intersections.
- c) If entrances are proposed at locations where grade, topography, site distance, traffic, or other unusual conditions indicate that turn lanes would be needed for traffic safety. The need for turn lanes to accommodate right turn movements and left turn movements shall be based upon anticipated traffic distribution and projected turning movement volumes among other considerations, including traffic safety.

## C. Traffic Analysis

### 1. Transportation Concurrency Management System

Transportation Concurrency Management System is administered by the Lake-Sumter Metropolitan Planning Organization (LSMPO). All information regarding traffic study could be found on LSPMO website [www.lakesumtermpo.com/concurrency/index.aspx](http://www.lakesumtermpo.com/concurrency/index.aspx)

## D. Road Classification

### 1. Arterial Roads

An arterial road is a route providing service which is relatively continuous and of relatively high traffic volume, long average trip length, high operating speed and of high mobility importance.

Arterial roads are grouped into the following sub-categories:

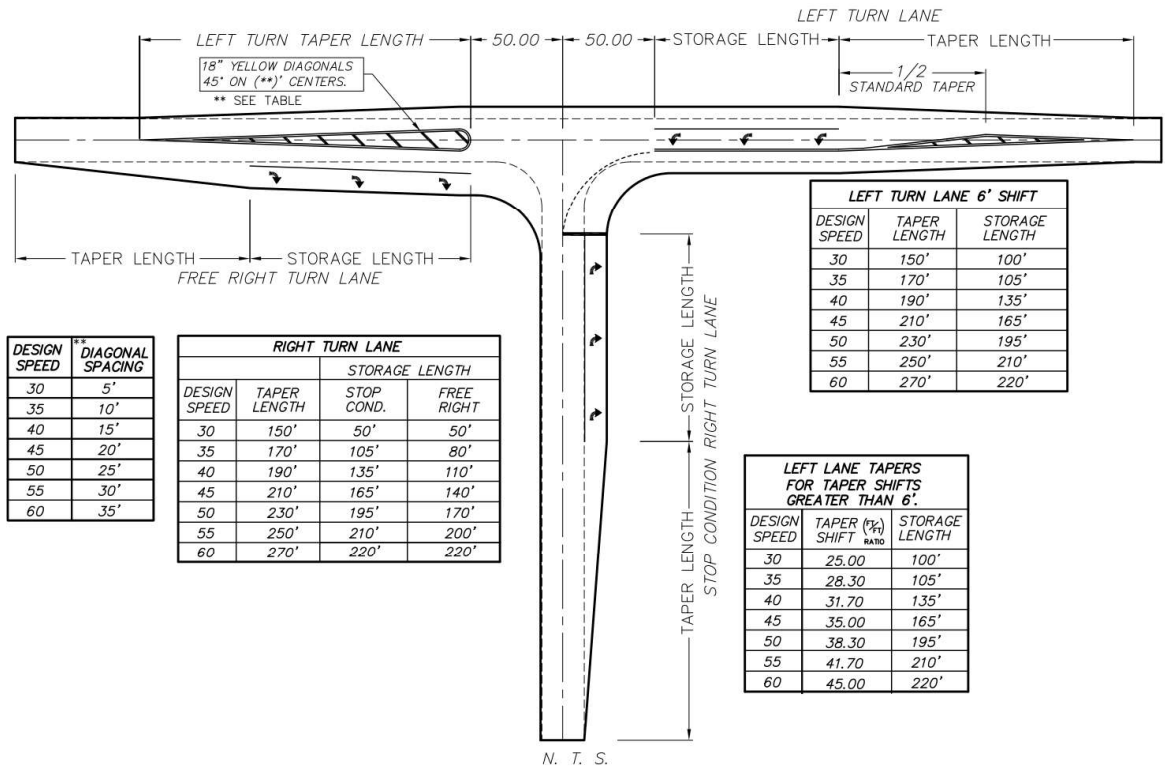
- a) Principal Arterial
- b) Minor Arterial

The classification of roads as arterials shall be based upon criteria established by the Florida Department of Transportation utilizing their most recent, adopted functional classification system.

### 2. Collector Roads

A collector road is a route providing services which is of relatively moderate traffic volume, moderate trip length and moderate operating speed. Collector roads collect and distribute the traffic between local roads and arterial roads and serves as a linkage between land access and mobility needs.

### LAKE COUNTY STANDARD TURN LANES



DESIGN SPEED	** DIAGONAL SPACING
30	5'
35	10'
40	15'
45	20'
50	25'
55	30'
60	35'

RIGHT TURN LANE			
DESIGN SPEED	TAPER LENGTH	STORAGE LENGTH	
		STOP COND.	FREE RIGHT
30	150'	50'	50'
35	170'	105'	80'
40	190'	135'	110'
45	210'	165'	140'
50	230'	195'	170'
55	250'	210'	200'
60	270'	220'	220'

LEFT TURN LANE 6' SHIFT		
DESIGN SPEED	TAPER LENGTH	STORAGE LENGTH
30	150'	100'
35	170'	105'
40	190'	135'
45	210'	165'
50	230'	195'
55	250'	210'
60	270'	220'

LEFT LANE TAPERS FOR TAPER SHIFTS GREATER THAN 6'		
DESIGN SPEED	TAPER SHIFT (1/2) RATIO	STORAGE LENGTH
30	25.00	100'
35	28.30	105'
40	31.70	135'
45	35.00	165'
50	38.30	195'
55	41.70	210'
60	45.00	220'

Typical Details

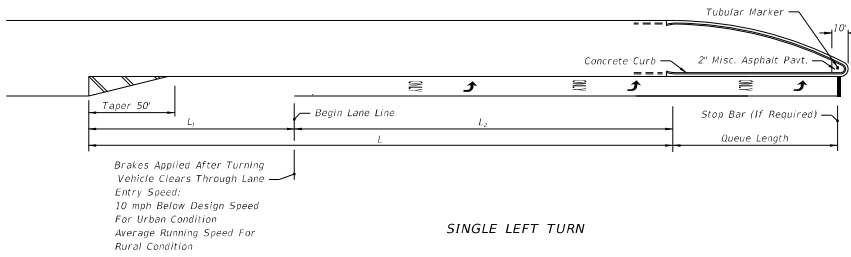
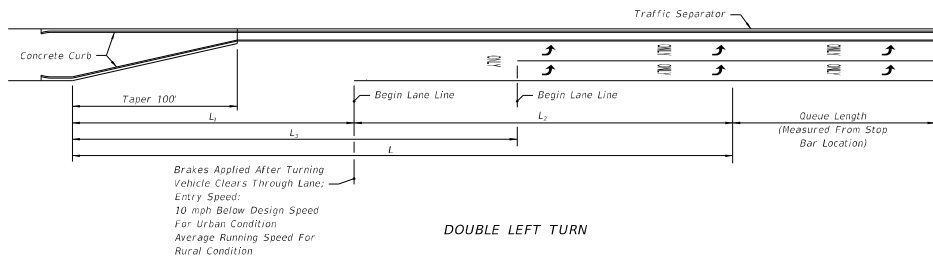
0:\\_CAD STANDARDS\DWG\Turn LanesR1.dwg (02/06/2007)

N. T. S.  
THIS SHOULD BE USED AS A GUIDE LINE ONLY.  
ALL DESIGNS SHALL BE SUBMITTED FOR REVIEW.

**Appendix O**  
FDOT Design Manual Exhibit 212-1



## MEDIAN TURN LANES MINIMUM DECELERATION LENGTHS



		MEDIAN TURN LANES							
Design Speed (mph)	Entry Speed (mph)	Clearance Distance L <sub>1</sub> (ft.)	URBAN CONDITIONS			RURAL CONDITIONS			
			Brake To Stop Distance L <sub>1</sub> (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L <sub>2</sub> (ft.)	Brake To Stop Distance L <sub>1</sub> (ft.)	Total Decel. Distance L (ft.)	Clearance Distance L <sub>2</sub> (ft.)	
35	25	70	75	145	110	—	—	—	
40	30	80	75	155	120	—	—	—	
45	35	85	100	185	135	—	—	—	
50	40/44	105	135	240	160	185	290	160	
55	48	125	—	—	—	225	350	195	
60	52	145	—	—	—	260	405	230	
65	55	170	—	—	—	290	460	270	

NOT TO SCALE

EXHIBIT 212-1  
01/01/2022

**Appendix B**  
Preliminary Development Plan

**Appendix C**  
Lake County CMP Database and 2023 FDOT Q/LOS

**Appendix D**  
Turning Movement Counts and Seasonal Factor Data

**Appendix E**  
HCM Analysis Worksheets - Existing Conditions

**Appendix F**  
ITE Trip Generation Sheets

**Appendix G**  
CFRPM Model Output

**Appendix H**  
*LSMPO TIP and LSMPO LOPP*



**Appendix I**  
Vested Trips Data

**Appendix J**  
AADT Model Plot

**Appendix K**  
HCM Worksheets - Projected Conditions

**Appendix L**  
Intersection Volume Projections

**Appendix M**  
Background Conditions / Buildout Conditions with Mitigation

**Appendix N**  
*Lake County Land Development Code (LDC)*

**Appendix O**  
FDOT Design Manual Exhibit 212-1