

**MCELYEA PROPERTY**

Project № 19075.1

February 2020

**TRAFFIC IMPACT STUDY  
CITY OF LEESBURG  
FLORIDA**

*Prepared by:*



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*Prepared for:*

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Orlando, Florida 32803

## EXECUTIVE SUMMARY

### Project Information

Name: McElyea Property  
Location: Southwest corner of CR 48 and Number Two Road  
Jurisdiction: City of Leesburg, Florida  
Description: 538 Single Family Residential Units

### Findings

Trip Generation: 4,890 Daily trips / 387 AM peak hour trips / 511 PM peak hour trips  
Access Plan: Two full access driveways; one on CR 48 and one on Number Two Road.  
Roadway Capacity: All roadway segments currently operate within their adopted LOS capacity and will continue to do so at project buildout.  
Intersection Capacity: CR 48 and US 27 in the PM peak hour, which operates at LOS F, will continue to do so at project buildout due to background traffic. CR 48 is planned for improvements to widen the road from 2 to 4 lanes, which would provide additional capacity at the intersection.  
CR 48 and Number Two Road will experience delays in the northbound approach due to high traffic volume on CR 48 in the PM peak hour. It is recommended that a northbound right turn lane be added at the intersection.  
The project driveways will operate adequately at project buildout.

### Recommendations

Turn Lane Improvements: Construct a 350-foot eastbound right turn deceleration lane on CR 48 at the project access.  
Construct a 375-foot westbound left turn deceleration lane on CR 48 at the project access.  
Construct a 375-foot northbound left turn deceleration lane on Number Two Road at the project access.

**Pedestrian Facilities:** Construct sidewalks and pedestrian connections throughout the residential development on one side of the road and along the public rights of way.

## **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:** McElyea Property  
**LOCATION:** City of Leesburg, Florida  
**CLIENT:** Hanover Land Company 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

ON THE DATE ADJACENT TO THE SEAL

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TRAFFIC & MOBILITY CONSULTANTS LLC  
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CERTIFICATE OF AUTHORIZATION CA-30024  
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## TABLE OF CONTENTS

	Page
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>2.0 EXISTING CONDITIONS.....</b>	<b>3</b>
2.1 CR 48 LOSPlan Analysis.....	3
2.2 Study Area.....	3
2.3 Roadway Capacity Analysis .....	4
2.4 Intersection Capacity Analysis .....	5
<b>3.0 PROJECT TRAFFIC.....</b>	<b>7</b>
3.1 Trip Generation.....	7
3.2 Trip Distribution .....	7
<b>4.0 PROJECTED CONDITIONS.....</b>	<b>9</b>
4.1 Projected Traffic .....	9
4.2 Roadway Capacity Analysis .....	9
4.3 Intersection Capacity Analysis .....	10
<b>5.0 ACCESS TREATMENT REVIEW.....</b>	<b>12</b>
<b>6.0 ALTERNATIVE TRANSPORTATION MODES .....</b>	<b>14</b>
6.1 Pedestrian Facilities .....	14
6.2 Bicycle Facilities .....	14
6.3 Transit Facilities.....	14
<b>7.0 FINDINGS AND CONCLUSIONS.....</b>	<b>15</b>
<b>APPENDICES.....</b>	<b>16</b>
Appendix A Preliminary Site Plan	
Appendix B McElyea Property Methodology	
Appendix C CR 48 HighPlan Analysis	
Appendix D LSMPO Lake County TMS Data	
Appendix E 2019 Lake County Annual Traffic Counts & FDOT Traffic Online	
Appendix F Intersection Traffic Counts & FDOT Seasonal Factor Report	
Appendix G Lake-Sumter MPO Planned Improvements	
Appendix H HCM Summary Worksheets – Existing & Signal Timing	
Appendix I ITE Trip Generation Sheets	
Appendix J FSUTMS Model Output	
Appendix K Growth Trend Analysis & Historical Traffic Counts	
Appendix L HCM Summary Worksheets – Projected & Background	
Appendix M NCHRP Report 457 Output	
Appendix N Lake County Land Development Regulations	

## **LIST OF TABLES**

Table 1 Study Roadway Segment Characteristics.....	3
Table 2 Existing Roadway Capacity Analysis .....	4
Table 3 Existing Intersection Capacity Analysis .....	5
Table 4 Trip Generation Calculation .....	7
Table 5 Projected Roadway Capacity Analysis .....	9
Table 6 Projected Intersection Capacity Analysis.....	10

## **LIST OF FIGURES**

Figure 1 Site Location Map.....	2
Figure 2 Existing Intersection Volumes.....	6
Figure 3 Project Trip Distribution .....	8
Figure 4 Projected Intersection Volumes .....	11

## **1.0 INTRODUCTION**

The analysis was prepared in accordance with the requirements of the City of Leesburg. The following analysis was conducted to assess the potential offsite transportation impacts resulting from the proposed McElyea Property project. The project consists of a maximum of 542 single family dwelling units located on the southwest corner of County Road 48 (CR 48) and Number Two Road, in the City of Leesburg, Lake County, Florida. The project is anticipated to be built by the year 2024.

Access to the site is proposed via two (2) full access driveways; one on CR 48, and one on Number Two Road. The site location is illustrated in **Figure 1** and a preliminary site plan is included in **Appendix A**.

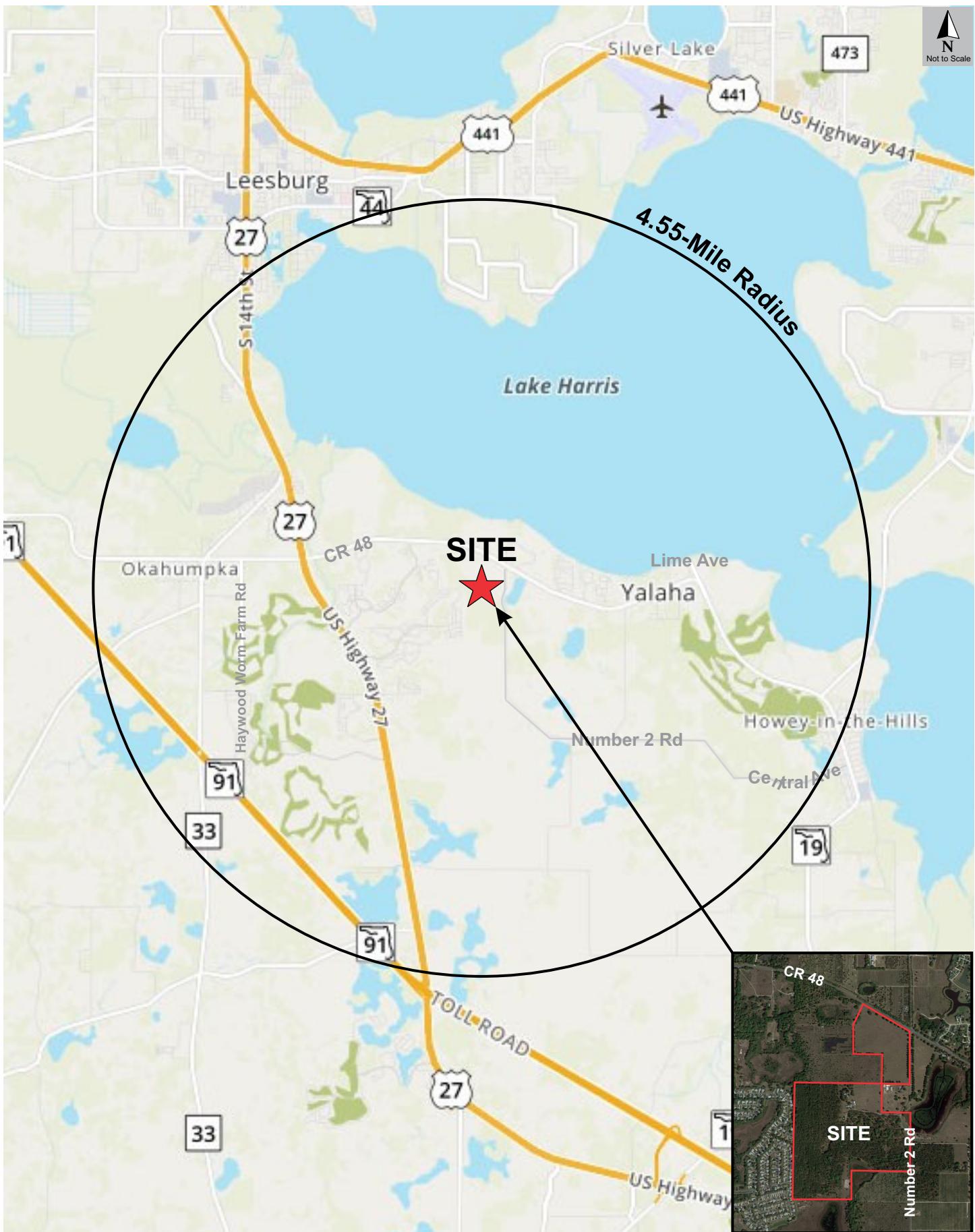
The analysis was prepared in accordance with the approved methodology, included in **Appendix B**. Information used in the analysis was obtained from the Lake~Sumter Metropolitan Planning Organization (LSMPO), Lake County, the Florida Department of Transportation (FDOT), and the project team. The study facilities considered in the analysis are:

### Study Segments:

- CR 48
  - CR 33 to Haywood Worm Farm Road
  - Haywood Worm Farm Road to US 27
  - US 27 to Lime Avenue
  - Lime Avenue to SR 19
- SR 19
  - Lake Harris North End to CR 48
  - CR 48 to Central Avenue

### Study Intersections:

- CR 48 and US 27 (Signalized)
- CR 48 and Number 2 Road (Non-Signalized)
- Project Access Driveways



## **2.0 EXISTING CONDITIONS**

### **2.1 CR 48 LOSPlan Analysis**

CR 48 from US 27 to Lime Avenue is a 4.89-mile stretch of 2-lane undivided highway that is largely uninterrupted and operates at a posted speed limit of 40 miles per hour adjacent to the project. The currently adopted service volumes for this roadway are typical of a rural developed 2-lane facility with interruptions. In order to determine the service volume based on field conditions, a Level of Service Plan (LOSPlan) analysis using the HighPlan module was prepared for the segment.

The results of the LOSPlan analysis indicate that this segment of roadway operates with a capacity of 950 vehicles per hour for Level of Service (LOS) Standard, LOS D. This capacity and the corresponding service volumes were applied in the analysis for the proposed development. The HighPlan analysis worksheet is included in **Appendix C**.

### **2.2 Study Area**

The study area for this type of development was determined in accordance with the requirements of the City of Leesburg, Lake County, and the LSMPO traffic study methodologies. The roadway segment characteristics were obtained from the LSMPO's Lake County Transportation Management System (TMS) table, which is included in **Appendix D**. The study segments and their characteristics are presented in **Table 1**.

**Table 1**  
**Study Roadway Segment Characteristics**

Road Name	From	To	# Lns	LOS Std	LOS Cap	LOS Code	PK HR Direction Capacities		
							C	D	E
CR 48	CR 33	Haywood Worm Farm Rd	2	D	792	2UMC	747	792	792
CR 48	Haywood Worm Farm Rd	US 27	2	D	792	2UMC	747	792	792
CR 48*	US 27	Number Two Road	2	D	950	2UMC	650	950	1,540
CR 48*	Number Two Road	Lime Avenue	2	D	950	2UMC	650	950	1,540
CR 48	Lime Ave	SR 19	2	D	720	2UMC	639	720	720
SR 19	Lake Harris North End	CR 48	2	C	850	2TU	850	1,200	1,640
SR 19	CR 48	Central Avenue	2	C	710	2T1	710	800	800

\*Capacity based on HIGHPLAN of CR 48

## 2.3 Roadway Capacity Analysis

Existing traffic conditions were analyzed to establish the prevailing capacity conditions on the study network for the project. The analysis was conducted using the segments' adopted service volumes and capacities from the TMS table. The latest traffic volumes on the roadway segments were obtained from *2019 Lake County Annual Traffic Counts* and *FDOT Traffic Online* data, included in **Appendix E**. AADT information obtained from FDOT Traffic Online data were converted to peak hour volumes using a peak to daily ratio (K factor) of 0.09 and a directional distribution factor (D factor) of 0.542. The results of the analysis, presented in **Table 2**, reveal that the study area network operates adequately under existing traffic volumes.

**Table 2**  
Existing Roadway Capacity Analysis

Road Name	From	To	# Lns	LOS Std	LOS Cap	Existing Volumes		
						NB/EB	SB/WB	LOS
CR 48	CR 33	Haywood Worm Farm Rd	2	D	792	304	362	C
CR 48	Haywood Worm Farm Rd	US 27	2	D	792	397	376	C
CR 48*	US 27	Number Two Road	2	D	950	409	396	C
CR 48*	Number 2 Road	Lime Ave	2	D	950	409	396	C
CR 48	Lime Ave	SR 19	2	D	720	321	404	C
SR 19**	Lake Harris North End	CR 48	2	C	850	370	356	B
SR 19**	CR 48	Central Avenue	2	C	710	224	219	C

Source: *2019 Lake County Annual Traffic Counts*

\*Capacity based on HIGHPLAN of CR 48

\*\*Counts from *FDOT Traffic Online* 2018

## 2.4 Intersection Capacity Analysis

A capacity analysis was performed for the AM and PM peak hours to determine existing operating conditions at the study intersections. The capacity analysis was conducted using the *Synchro* software and the methods of the 2010 *Highway Capacity Manual*. Turning movement volumes obtained during the AM and PM peak hours are presented in **Figure 2**. Existing counts for CR 48 and US 27 were obtained during the off-peak season, therefore, a seasonal adjustment of 1.02 was applied; counts for CR 48 and Number Two Road were obtained during the peak season and no seasonal adjustment was applied. The existing peak hour turning movement counts are provided in **Appendix F**.

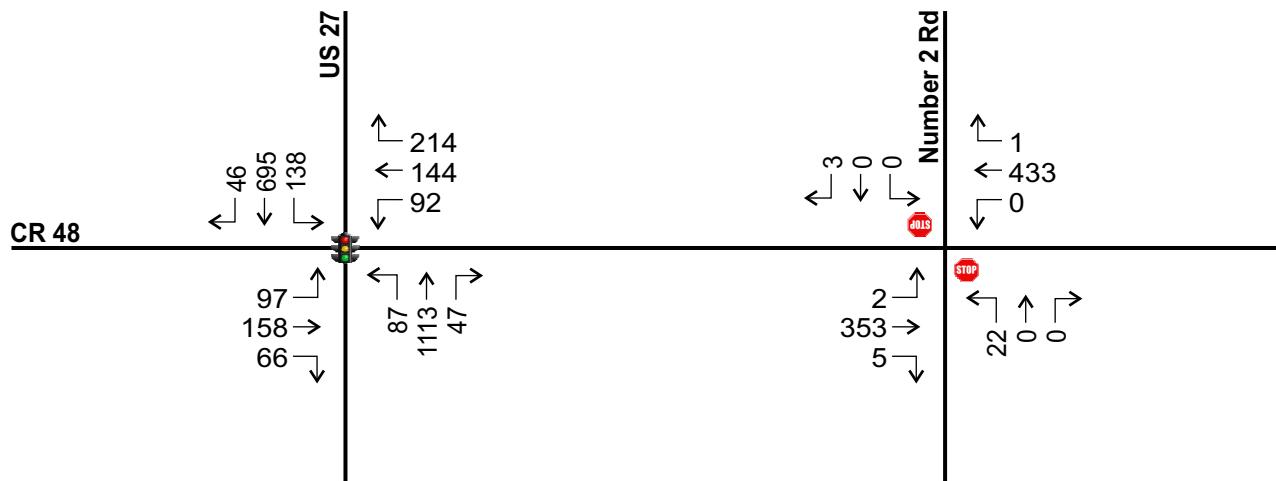
The results of the intersection capacity analysis, summarized in **Table 3**, indicate that the study intersections are currently operating at adequate LOS, except for the intersection of CR 48 and US 27. The signalized intersection is currently experiencing delays in the southbound movement during the evening peak hour. CR 48 is planned for improvements to widen the road from 2 to 4 lanes, which would provide additional capacity at the intersection. A copy of the planned improvement obtained from the LSMPO 2040 *Long Range Transportation Plan* is included in **Appendix G**. The HCM analysis summary worksheets are included in **Appendix H**.

**Table 3**  
Existing Intersection Capacity Analysis

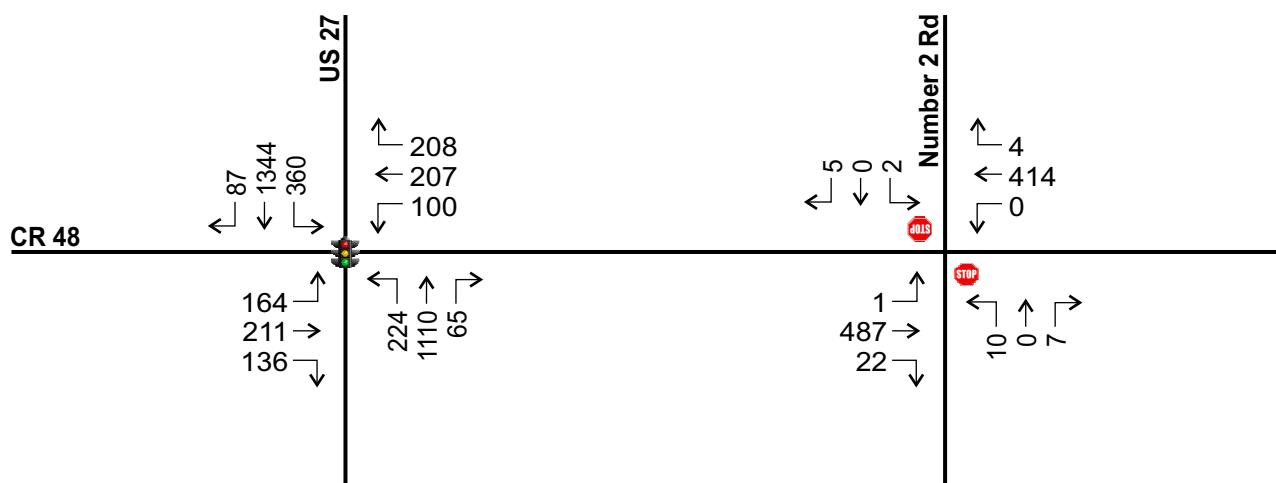
Intersection	Traffic Control	Time Period	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
CR 48 & US 27	Signal	AM	54.6	D	50.5	D	52.9	D	37.2	D	47.9	D
		PM	60.6	E	41.7	D	78.3	E	196.2	F	123.4	F
CR 48 & Number Two Rd	TWSC	AM	8.3	A	--	--	19.8	C	11.2	B	--	--
		PM	8.3	A	--	--	19.7	C	14.8	B	--	--

*Delay expressed in seconds/vehicle*

## AM Peak



## PM Peak



## 3.0 PROJECT TRAFFIC

### 3.1 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 Report, 10<sup>th</sup> Edition*. The trip generation for the project is summarized in **Table 4** and the ITE information sheets are included in **Appendix I**.

**Table 4**  
**Trip Generation Calculation**

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	538 DU	9.09	4,890	0.72	387	97	290	0.95	511	322	189

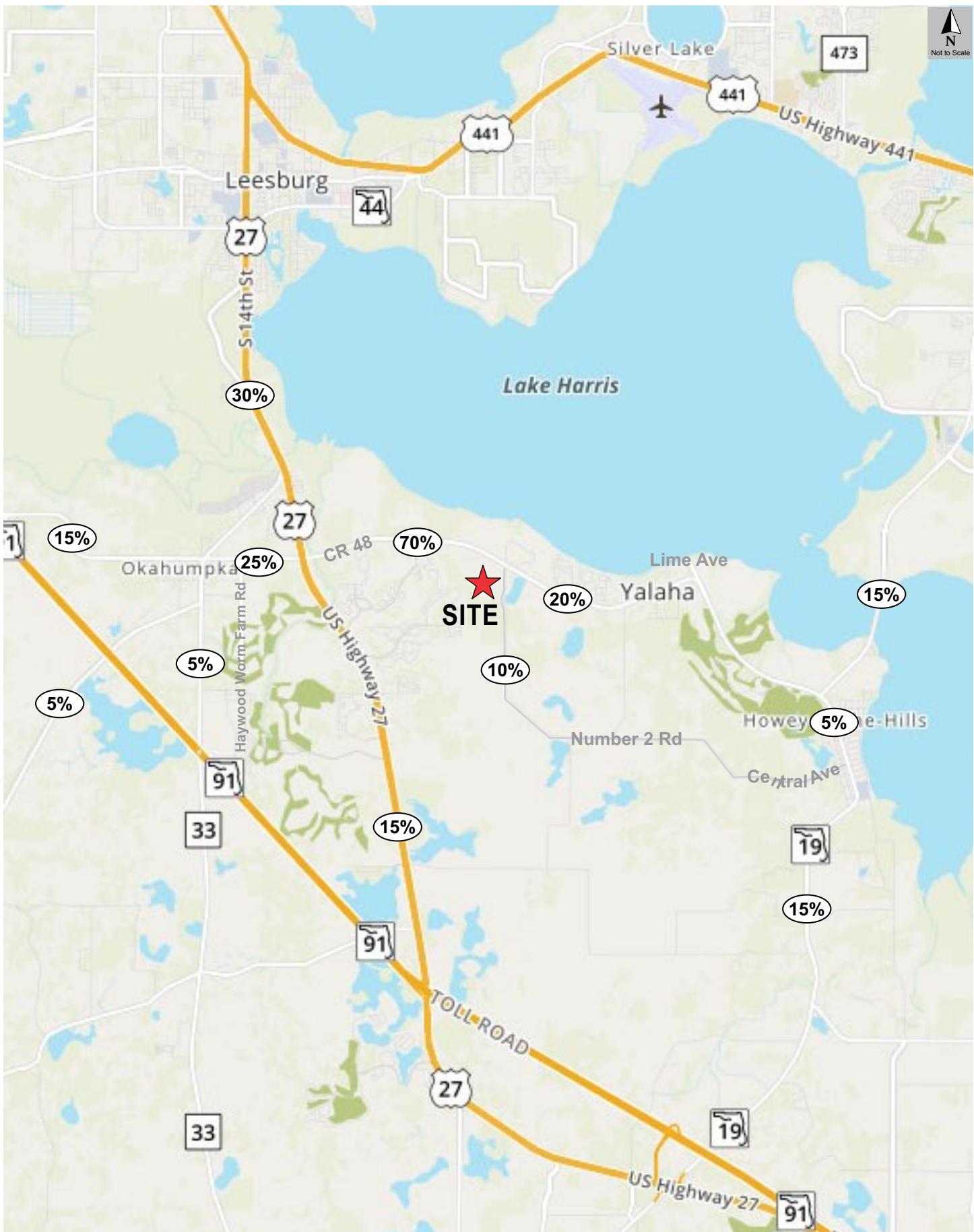
*Trip Generation analysis based on ITE Trip Generation Manual, 10th Edition.*

*Regression equations were used*

Based on these calculations, the proposed development is projected to generate 4,890 trips per day, of which 387 trips will occur during the AM peak hour and 511 trips will occur during the PM peak hour.

### 3.2 Trip Distribution

The Central Florida Regional Planning Model (CFRPM 6.1) based on the Florida Standard Transportation Model Structure (FSUTMS) was utilized to analyze the project's trip distribution percentages onto the roadway network. A plot of the model generated distribution pattern for the project is provided in **Appendix J**. Minor adjustments were applied to the model generated distribution to better reflect the surrounding transportation network, land uses, and known access routes. These adjustments were approved by Lake County. The final trip distribution pattern used in the analysis is illustrated in **Figure 3**.



**Project Trip Distribution**  
McElvea Property  
19075.1

## 4.0 PROJECTED CONDITIONS

An analysis of projected conditions was conducted to determine the impact of the proposed development on the roadway segments capacity, intersection operations, and access connections to the site. The projected buildout year is 2024.

### 4.1 Projected Traffic

Projected background traffic was calculated for the project's buildout year 2024 by applying the historical growth rates for each study roadway to the traffic volumes obtained from the *2019 Lake County Annual Traffic Counts* and *FDOT Traffic Online*. A minimum annual growth rate of 2% was applied to segments where growth is minimal. The historical traffic volume data and the annual growth rate calculations are included in **Appendix K**. The buildout traffic volume is the sum of the projected background traffic and project trips.

### 4.2 Roadway Capacity Analysis

Traffic conditions were analyzed to evaluate the transportation network for background conditions and at project buildout. The analysis, summarized in **Table 5**, reveals that all roadway segments within the study area are projected to continue to operate adequately and within their adopted capacities at project buildout.

**Table 5**  
**Projected Roadway Capacity Analysis**

Road Name	From	To	LOS Std	LOS Cap	AGR	Background 2024			% Dist	Project Trips			Total Volumes		
						NB/EB	SB/WB	LOS		NB/EB	SB/WB	NB/EB	SB/WB	LOS	
CR 48	CR 33	Haywood Worm Farm Rd	D	792	9.44%	447	533	C	25%	47	81	494	614	C	
CR 48	Haywood Worm Farm Rd	US 27	D	792	6.27%	521	494	D	25%	81	47	602	541	D	
CR 48*	US 27	Number Two Road	D	950	2.00%	450	436	C	70%	225	133	675	569	D	
CR 48*	Number Two Road	Lime Ave	D	950	2.00%	450	436	C	20%	64	38	514	474	C	
CR 48	Lime Ave	SR 19	D	720	3.40%	376	473	D	20%	64	38	440	511	D	
SR 19**	Lake Harris North End	CR 48	C	850	4.64%	456	437	D	15%	28	49	484	486	D	
SR 19**	CR 48	Central Avenue	C	710	2.51%	252	246	C	5%	9	17	261	263	C	

AGR denotes Annual Growth Rate, % Cap denotes the project's percentage consumption of the roadway capacity

\*Capacity based on HIGHPLAN of CR 48

\*\*Counts from FDOT Traffic Online 2018

### 4.3 Intersection Capacity Analysis

The projected turning movement volumes at the study intersections and the project's access points are illustrated in **Figure 4**. The results of the intersection analysis at project buildout are summarized in **Table 6**, and the detailed worksheets are included in **Appendix L**.

**Table 6**  
**Projected Intersection Capacity Analysis**

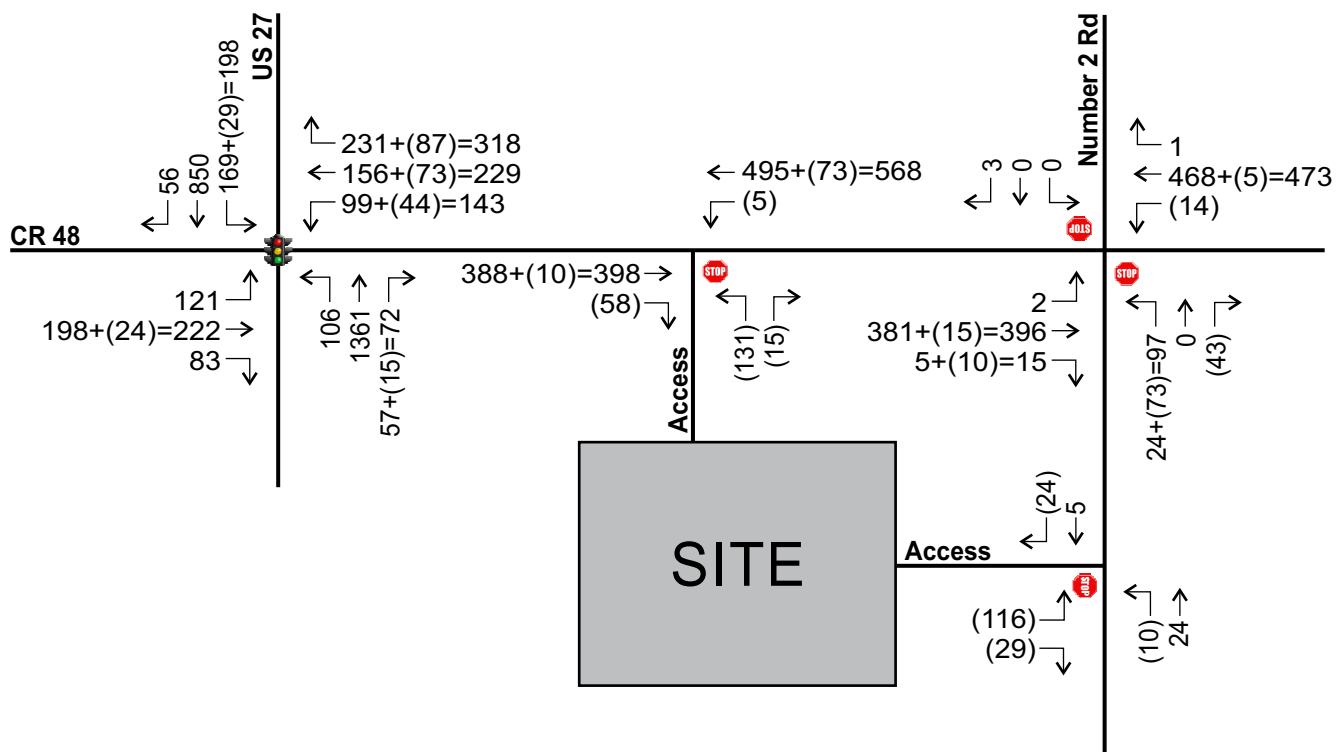
Intersection	Traffic Control	Time Period	Scenario	EB		WB		NB		SB		Overall	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
CR 48 & US 27	Signal	AM	Background	62.8	E	47.3	D	141.6	F	56.8	E	93.3	F
		PM		96.4	F	43.3	D	159.4	F	>300	F	216.8	F
		AM	Buildout	67.4	E	76.9	E	150.3	F	76.6	E	105.8	F
		PM		160.0	F	52.0	D	155.8	F	>300	F	256.0	F
CR 48 & Number Two Rd	TWSC	AM	Buildout	8.4	A	8.3	A	35.2	E	11.5	B	--	--
		PM		8.5	A	9.2	A	54.2	F	19.2	C	--	--
CR 48 & Access	TWSC	AM	Buildout	--	--	8.4	A	37.5	E	--	--	--	--
		PM		--	--	9.6	A	38.5	E	--	--	--	--
Number Two Rd & Access	TWSC	AM	Buildout	9.5	A	--	--	7.3	A	--	--	--	--
		PM		9.9	A	--	--	7.5	A	--	--	--	--

*Delay expressed in seconds/vehicle*

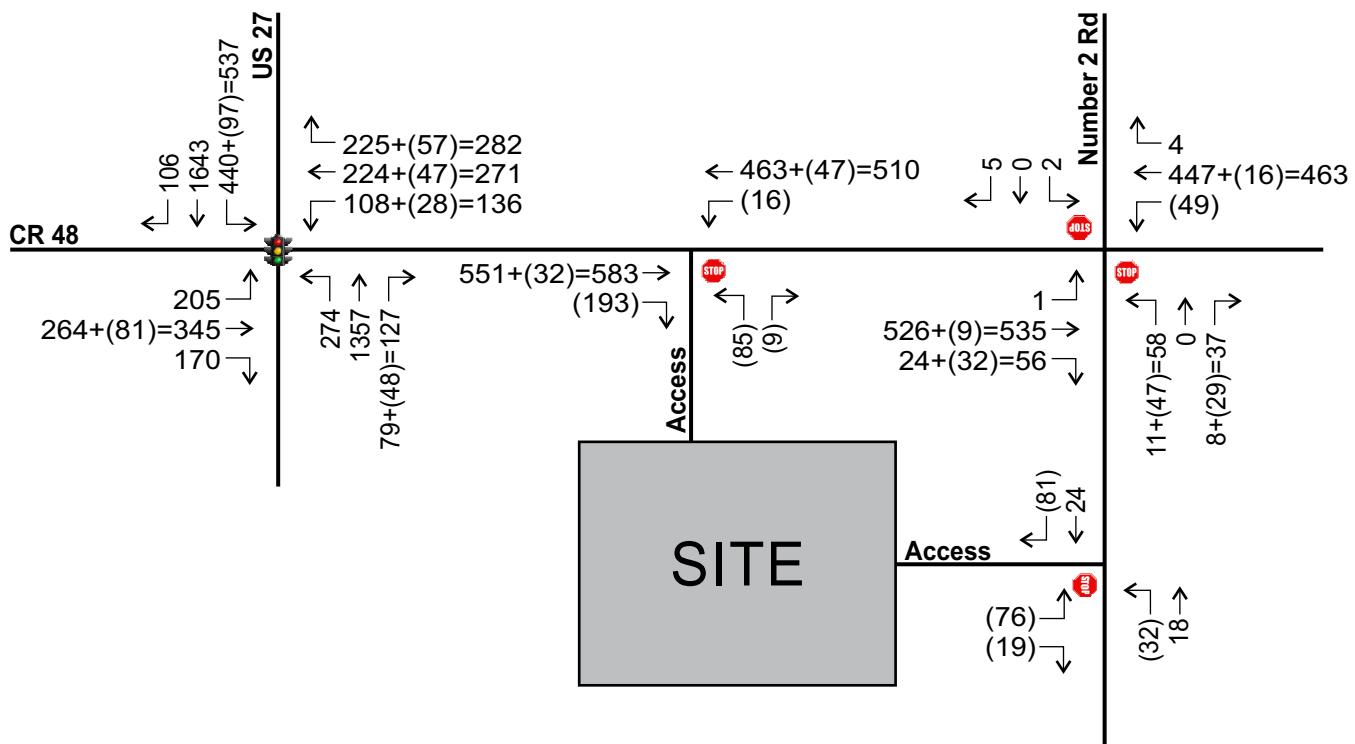
The analysis indicates that the signalized intersection at CR 48 and US 27 is projected to continue to experience delays due to the background traffic growth and operate at a deficient LOS during the peak hours. The proposed development contributes less than 7% of the projected peak hour traffic at the intersection. The stop-controlled intersections are projected to operate with adequate capacity at project buildout, except for the intersection of CR 48 and Number Two Road, which will experience delays in the northbound approach due to the high traffic volume on CR 48. The intersection requires a northbound right turn lane to serve the background and projected volumes.

## AM Peak

N  
Not to Scale



## PM Peak



### Legend

Background + (Project) = Total

## 5.0 ACCESS TREATMENT REVIEW

The site is proposed to be served by two full access driveways, one on CR 48 and one on Number 2 Road. CR 48 is a 2-lane road with a posted speed of 40 mph. Number 2 Road is a 2-lane road with a posted speed of 45 mph.

A review of warrants for left and right turn deceleration lanes on CR 48 and Number Two Road at the project access points were conducted to determine if auxiliary turn lanes are necessary to maintain the integrity of traffic flow and capacity of the road during the peak hours. The review was conducted based on the methodology of the *National Cooperative Highway Research Program (NCHRP) Report 457*. The output forms are included in **Appendix M**. The length of the deceleration lane is calculated based on the requirements of the *Lake County Land Development Regulations*, included in **Appendix N**.

### CR 48 Right Turn Lane

The result of the right turn warrant analysis shows that an eastbound right turn lane on CR 48 is warranted.

The calculations for the length of the right turn lane are provided as follows:

$$\text{Right Turn Lane} = \text{Storage Length (Free Right)} + \text{Taper}$$

$$\begin{aligned}\text{Storage Length @ design speed of 45 mph} &= 140 \text{ feet} \\ \text{Taper} &= 210 \text{ feet}\end{aligned}$$

$$\text{Right Turn Lane} = 140 + 210 = 350 \text{ feet}$$

Therefore, it is recommended that the eastbound right turn deceleration lane be approximately 350 feet.

### CR 48 Left Turn Lane

A left turn lane is warranted on CR 48 at the access driveway, due to the high traffic volume.

The calculations for the length of the left turn lane are provided as follows:

$$\text{Left Turn Lane} = \text{Storage Length} + \text{Taper}$$

$$\begin{aligned}\text{Storage Length @ design speed of 45 mph} &= 165 \text{ feet} \\ \text{Taper} &= 210 \text{ feet}\end{aligned}$$

$$\text{Left Turn Lane} = 165 + 210 = 375 \text{ feet}$$

Therefore, it is recommended that the westbound left turn deceleration lane be approximately 375 feet.

### Number Two Road Left Turn Lane

A left turn lane is proposed on Number Two Road at the access driveway.

The calculations are provided as follows:

$$\text{Left Turn Lane} = \text{Storage Length} + \text{Taper}$$

$$\begin{aligned}\text{Storage Length @ posted speed of 45 mph} &= 165 \text{ feet} \\ \text{Taper} &= 210 \text{ feet}\end{aligned}$$

$$\text{Left Turn Lane} = 165 + 210 = 375 \text{ feet}$$

Therefore, it is recommended that the northbound left turn deceleration lane be approximately 375 feet.

## **6.0 ALTERNATIVE TRANSPORTATION MODES**

A review of pedestrian and transit facilities near the development was conducted. This review consists of an inventory of available facilities to determine the alternative transportation context for the proposed development.

### **6.1 Pedestrian Facilities**

CR 48 is not improved with sidewalks on the public rights of way. The development will install sidewalks and pedestrian connections throughout the residential development on one side of the road and along the public rights of way as required by Lake County's code.

### **6.2 Bicycle Facilities**

CR 48 is not improved with dedicated on-street bicycle lanes or other bicycle facilities, however, there are paved shoulders for bicycles to utilize. Number Two Road is not currently improved with dedicated on-street bicycle lanes.

### **6.3 Transit Facilities**

Currently, this area is not served by fixed-route services. The Lake County Connection offers a door to door service within the City for medical appointments, grocery shopping, and miscellaneous errands. This service is intended primarily for mobility impaired individuals and senior citizens.

## **7.0 FINDINGS AND CONCLUSIONS**

This traffic impact study was conducted to assess the impact of the proposed McElyea Property, a residential community with 538 single family dwelling units, located on the southwest corner at the intersection of CR 48 and Number Two Road, in the City of Leesburg, Florida. The project buildout is 2024. The analysis was prepared in accordance with the County requirements and LSMPO's methodology. The study included a determination of project trip generation, a review of existing and projected roadway and intersection capacity, a review of the site access plan, and a review of alternative transportation modes. The results of the analysis are summarized as follows:

- The proposed development will generate 4,890 trips per day, of which 387 trips occur during the AM peak hour and 511 trips occur during the PM peak hour.
- Analysis of the roadway segments reveals that all study segments currently operate within their adopted capacity and will continue to do so at project buildout.
- CR 48 and US 27 in the PM peak hour operates at LOS F and will continue to do so at project buildout due to the background traffic. CR 48 is planned for improvements to widen the road from 2 to 4 lanes, which would provide additional capacity at the intersection.
- CR 48 and Number Two Road will experience delays in the northbound approach in the PM peak hour due to high traffic volume on CR 48. It is recommended that a northbound right turn lane be added at the intersection.
- The project driveways will operate adequately at project buildout.
- Construct a 350-foot eastbound right turn deceleration lane on CR 48 at the project access.
- Construct a 375-foot westbound left turn deceleration lane on CR 48 at the project access.
- Construct a 375-foot northbound left turn deceleration lane on Number Two Road at the project access.
- Based on a review of pedestrian and transit facilities, sidewalks and pedestrian connections constructed throughout the residential development on one side of the road and along the public rights of way.

## **APPENDICES**

**Appendix A**  
Preliminary Site Plan



**Appendix B**  
McElyea Property Methodology

## MEMORANDUM

January 10, 2020

**Re: McElyea Property**  
Traffic Impact Analysis Methodology  
Project № 19075.1

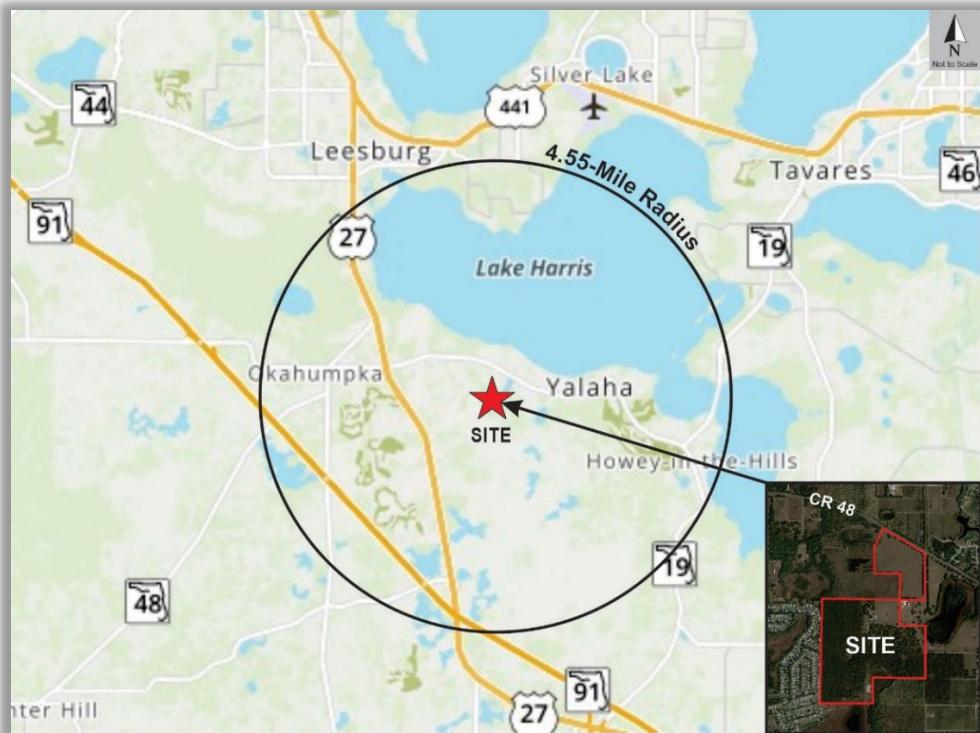
The following is a methodology outline for the Traffic Impact Analysis (TIA) for the above referenced project. The methodology is consistent with the requirements of the City of Leesburg, Lake County, and the Lake~Sumter Metropolitan Planning Organization (LSMPO) for a Tier 2 TIA.

### Project Description

The proposed project is a residential community of 542 single family dwelling units with anticipated buildout in 2024. A copy of the proposed site plan is provided in the **Attachments**.

### Project Location

The 164 +/- acre site is located at the southwest corner of County Road 48 and Number 2 Road in the City of Leesburg, in Lake County, Florida, as shown in **Figure 1**.



**Figure 1 – Project Location**

#### Project Access

Access to the site is proposed via two (2) full access driveways; one on CR 48, the other on Number 2 Road.

#### Trip Generation

The trip generation analysis was conducted using information published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 10th Edition*. **Table 1** summarizes the trip generation analysis, and the detailed ITE sheets are included in the **Attachments**.

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

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	542 DU	9.08	4,921	0.72	390	98	292	0.95	515	324	191

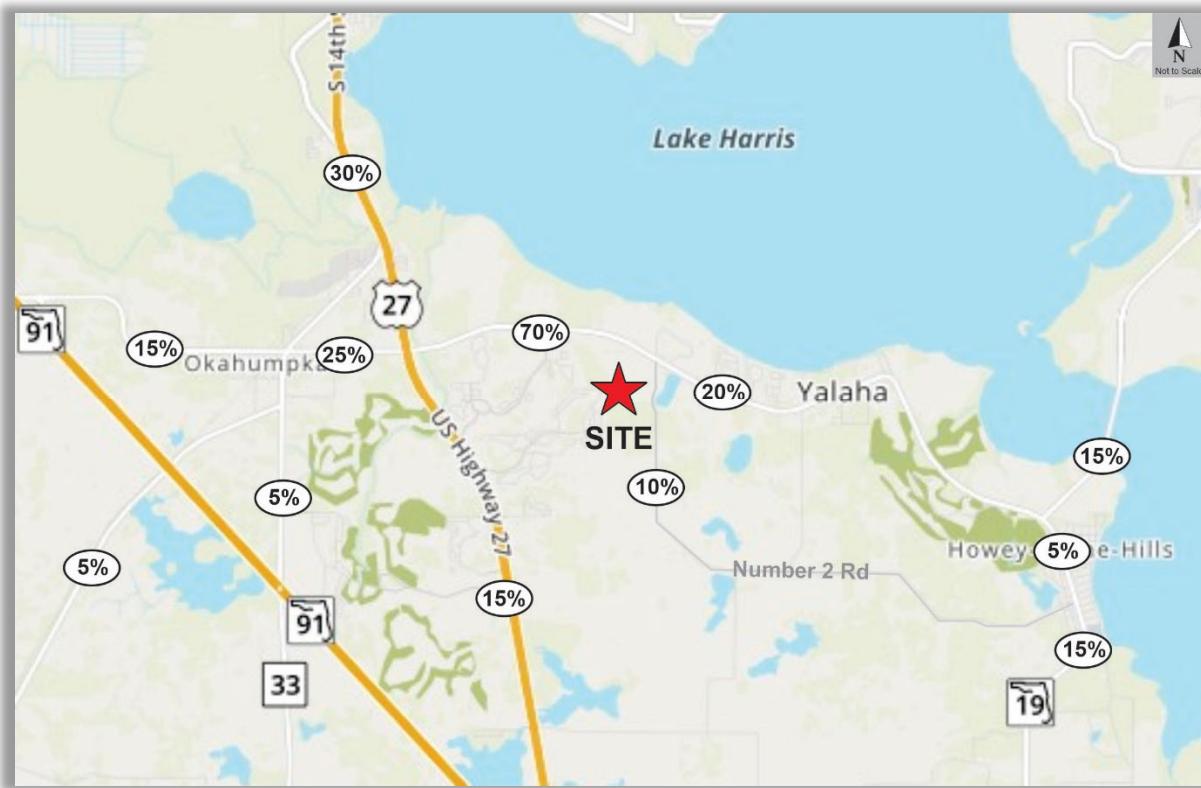
*Trip Generation analysis based on ITE Trip Generation Manual, 10th Edition.*

*Regression equations were used as  $R^2 > 0.75$*

The proposed development is projected to generate 4,921 net new trips per day, of which 390 trips occur during the AM peak hour, and 515 trips occur during the PM peak hour. The development is projected to generate more than 100 net new peak hour trips and therefore a Tier 2 Traffic Impact Analysis is required.

#### Trip Distribution

The Central Florida Regional Planning Model (CFRPM), Version 6 based on the Florida Standard Transportation Model Structure (FSUTMS) was utilized to analyze the project's trip distribution percentages onto the roadway network. A plot of the model distribution pattern for the project is provided in the **Attachments**. Adjustments to the model generated distribution were applied to better reflect the surrounding transportation network, land uses, and known access routes. The final trip distribution pattern used in the analysis is illustrated in **Figure 2**.



**Figure 2 – Trip Distribution**

#### Study Area

In accordance with the requirements of Tier 2 TIA methodology, the study area will encompass roadway segments and intersections within 1-mile radius in addition to roadways where development is expected to consume 5% or more of their adopted Level of Service (LOS) capacities within 4.55-miles.

**Table 2**  
**Study Area**

Road Name	From	To	# Lns	LOS Std	LOS Cap	Project Trips			% Cap	Within 1 mile?	In Study?
						% Dist	NB/EB	SB/WB			
CR 33	US 27	CR 48/CR 470	2	D	880	0%	0	0	0.0%	NO	NO
CR 33/CR 48	CR 48/CR 470	CR 48	2	D	1,190	5%	16	10	1.3%	NO	NO
CR 33	CR 48	Bridges Rd	2	D	1,200	5%	16	10	1.3%	NO	NO
CR 48	Clearwater Lake Rd	CR 33	2	D	720	15%	49	28	6.8%	NO	NO
CR 48	CR 33	Haywood Worm Farm Rd	2	D	792	25%	81	48	10.2%	NO	YES
CR 48	Haywood Worm Farm Rd	US 27	2	D	792	25%	81	48	10.2%	NO	YES
CR 48	US 27	Lime Ave	2	D	792	70%	227	134	28.7%	YES	YES
CR 48	Lime Ave	SR 19	2	D	720	20%	65	38	9.0%	NO	YES
SR 19	Lake Harris North End	CR 48	2	C	850	15%	49	28	5.8%	NO	YES
SR 19	CR 48	Central Ave	2	C	710	15%	49	28	6.9%	NO	YES
US 27/SR 25	CR 25A (South)	CR 33	4	D	2,000	30%	57	98	4.9%	NO	NO
US 27/SR 25	CR 33	CR 48	4	D	2,000	30%	57	98	4.9%	NO	NO
US 27/SR 25	CR 48	Plantation Blvd	4	D	2,000	15%	49	28	2.5%	NO	NO
US 27/SR 25	Plantation Blvd	Florida Turnpike	4	C	1,740	15%	49	28	2.8%	NO	NO

Source: 2014/2015 Lake County TMS Segment Report

The following roadway segments and intersections will be analyzed for the PM peak hour as part of this study:

### Roadway Segments

- CR 48
  - CR 33 to Haywood Worm Farm Road
  - Haywood Worm Farm Road to US 27
  - US 27 to Lime Avenue
  - Lime Avenue to SR 19
- SR 19
  - Lake Harris North End to CR 48
  - CR 48 to Central Avenue

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

### Study Intersections

- CR 48 and US 27 (Signalized)
- CR 48 and Number 2 Road (Non-Signalized)
- Site Access driveways (Proposed)

### Capacity Analysis

The TIA will include an analysis of the peak hour conditions in the existing year and the project buildout year (2024). The capacity analysis will be based on service volumes from the *FDOT's 2013 Quality/Level of Service (Q/LOS) Manual* and the methods of the *Highway Capacity Manual* (HCM 6<sup>th</sup> Edition). Roadway conditions will be analyzed for the PM peak hour while intersections will be analyzed for the AM and PM peak hours. Offsite and access improvements necessary to support the proposed development at buildout will be identified in the study.

### Projected Traffic

Projected background traffic for the buildout year (2024) will be calculated using a 5-year historical annual growth rate or a minimum annual growth rate of 2.0%. Historical traffic volume counts will be obtained from Lake County or FDOT to determine the observed traffic growth on the study segments. Up to 5 years of historical traffic data will be analyzed to obtain the observed regional annual growth rate.

### Planned and Programmed Improvements

Planned and programmed improvements that may be available from the County's Capital Improvement Program (CIP), the FDOT's Work Program, and/or the LSMPO Transportation Improvement Program (TIP) for any of the study segments will be utilized, if applicable.

### Report

A report will be prepared for submittal to City of Leesburg, Lake County, and the LSMPO documenting the analysis and findings.

## **Stephanie Mandello**

---

**From:** Fred Milch <fmilch@ecfrpc.org>  
**Sent:** Monday, January 27, 2020 11:46 AM  
**To:** Stephanie Mandello  
**Cc:** mwoods@LakeSumterMPO.com; Tara McCue  
**Subject:** RE: 19075.1 McElyea Property Methodology

Dear Stephanie,

I have reviewed the McElyea Property Methodology and I offer the following comments:

1. For the maps, all roadways should be clearly labeled. Any roadway listed on the tables should be clearly labeled on the maps.
2. Regarding the distribution of project traffic, it is noted that adjustments to the model generated distribution were applied to better reflect the surrounding transportation network, land uses and known access routes.
  - a. Please provide a listing for each change and the reason for each change.
  - b. These changes should be approved by city planning staff, who are most familiar with the vicinity.
  - c. Do the changes anticipate bringing the roadway up to county standards? For instance, the increase from seven to ten percent on Number 2 Road anticipate improvements to the facility? This roadway appears to have nine foot lanes.
3. Table 2, Study Area, lists the roadway segments. Please confirm that CR 48 will be broken into additional segments, particularly for each side of the Number 2 Road intersection.
4. Regarding the study area, please include situations where the roadway may not be significantly impacted, but an intersection beyond this area may experience impacts from the project. Also, if a four lane facility transitions into a two lane facility, the project may have significance on the two lane portion, even though it is not significantly impacting the four lane section.
5. The site plan shows an access point onto Number 2 Road relatively proximate to CR48. Please consider moving the access to this roadway further south so all traffic does not have to travel to the northern part of the project for ingress and egress.
6. Do the internal roadways include bicycle facilities, particularly for the roadway between the north and south parts of the project?
7. For roadway and intersection analyses, please verify that the heavy vehicle traffic is accurately reflected in the capacity calculations.
8. Please be sure to describe in detail how pedestrians and bicyclists will travel inside and outside of the project. Does CR 48 or Number 2 Road incorporate sidewalk or bicycle facilities? Where is the nearest multi-use trail existing or planned? How will non-automobile travel be accommodated?

Thank you for the opportunity to comment. If you have any questions, please do not hesitate to contact me.

Sincerely,

Fred Milch, AICP

Fred Milch, AICP  
Project Review Manager  
[fmilch@ecfrpc.org](mailto:fmilch@ecfrpc.org)

### **East Central Florida Regional Planning Council**



455 N. Garland Avenue, 4<sup>th</sup> Floor  
Orlando, FL 32801  
407.245.0300, extension 315 (phone)  
407.245.0285 (fax)  
407.716-8933 (cell phone)

**Appendix C**  
CR 48 HighPlan Analysis

# HIGHPLAN 2012 Conceptual Planning Analysis

## Project Information

<b>Analyst</b>		<b>Highway Name</b>	CR 48	<b>Study Period</b>	Standard K
<b>Date Prepared</b>	1/22/2020 10:19:55 AM	<b>From</b>	US 27	<b>Analysis Type</b>	Two-Lane Segment
<b>Agency</b>	TMC	<b>To</b>	Lime Ave	<b>Program</b>	HIGHPLAN 2012
<b>Area Type</b>	Rural Developed	<b>Peak Direction</b>	Eastbound	<b>Version Date</b>	12/12/2012
<b>File Name</b>	T:\AProjectFiles\2019\19075 McElveya Property\19075.1 TIS\TIA\HIGHPLAN -CR 48 from US 27 to Lime Ave.xhp				
<b>User Notes</b>					

## Highway Data

<b>Roadway Variables</b>			<b>Traffic Variables</b>			
Segment Length	4.890	Median	No	<b>AADT</b>	8000	<b>PHF</b>
# Thru Lanes	2	Left Turn Impact	No	<b>K</b>	0.095	% Heavy Vehicles
Terrain	Level	Pass Lane Length	N/A	<b>D</b>	0.575	<b>Base Capacity</b>
Posted Speed	40	% NPZ	60	<b>Peak Dir. Hrly. Vol.</b>	437	Local Adj. Factor
Free Flow Speed	45	Class	3	<b>Off Peak Dir. Hrly. Vol.</b>	323	Adjusted Capacity
						1547

## LOS Results

<b>v/c Ratio</b>	0.28	<b>Density</b>	N/A	<b>PTSF</b>	70.1	<b>ATS</b>	36.2	<b>% FFS</b>	80.5
<b>FFS Delay</b>	94.7	<b>LOS Thresh. Delay</b>	133.8	<b>Service Measure</b>	PctFFS	<b>LOS</b>	C		

## Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/in.

	A	B	C	D	E
<b>Lanes</b>					
1	120	310	650	950	1540
2					
3					
4					
<b>Lanes</b>					
2	210	540	1140	1660	2680
4					
6					
8					
<b>Lanes</b>					
2	2300	5700	12000	17500	28300
4					
6					
8					

\* Cannot be achieved based on input data provided.

# Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

**Appendix D**  
LSMPO Lake County TMS Data

ROAD NAME	FROM	TO	NUMBER OF LANES	AREA TYPE	MAINTAINING AGENCY	JURISDICTION	FUNCTIONAL CLASSIFICATION	FDOT LOS STANDARD	LOS CAPACITY	SIS?	LOS CODE	PEAK HOUR DIRECTION CAPACITIES					2014/15 LEVEL OF SERVICE												
												A	B	C	D	E	AADT	PM PEAK HOUR /PEAK DIRECTION	EB/NB	RESERVED	TOTAL	V/C RATIO	LOS	WB/SB	RESERVED	TOTAL	V/C RATIO	LOS	
CR_470	BAY AVENUE	CR 33	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	4,262	350	184	166	0	166	0.21	C	184	0	184	0.23	C
CR_473	CR 44	FOUNTAIN LAKE BOULEVARD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	5,746	513	287	38	325	0.48	C	226	22	248	0.37	C	
CR_473	US 441	FOUNTAIN LAKE BOULEVARD	4	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	1,467	N	4UC	0	0	657	1,467	1,530	13,030	1,157	714	39	753	0.51	D	443	23	466	0.32	C	
CR_474	SE 33	GREEN SWAMP ROAD	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	C	850	N	2RMC	0	450	850	1,200	1,640	2,702	178	110	68	26	94	0.11	B	110	20	130	0.15	B
CR_474	US 27	GREEN SWAMP ROAD	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	C	850	N	3RMC	0	450	850	1,200	1,640	1,939	148	91	57	32	89	0.10	B	91	26	117	0.14	B
CR_478	SE 19	JAMARLY ROAD	2	T	COUNTY	CITY OF GROVELAND	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	936	102	66	66	0	66	0.09	C	36	0	36	0.05	C
CR_48	SUMTER COUNTY LINE	CLEARWATER LAKE RD	2	T	COUNTY	CITY OF LEESBURG	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	2,221	199	102	77	0	77	0.11	C	122	0	122	0.17	C
CR_48	CLEARWATER LAKE RD	CR 33	2	T	COUNTY	CITY OF LEESBURG	MAJOR COLLECTOR	D	720	N	2TMC	0	0	639	720	720	2,218	194	115	79	0	79	0.11	C	115	0	115	0.16	C
CR_48	CR 33	HAYWOOD WORM FARM RD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	4,976	385	159	29	188	0.24	C	226	35	261	0.35	C	
CR_48	HAYWOOD WORM FARM RD	US 27	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,733	596	299	29	928	0.41	C	297	35	327	0.42	C	
CR_48	US 27	LIME AVENUE	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	8,765	739	379	87	466	0.59	C	360	105	465	0.59	C	
CR_48	LIME AVENUE	SR 19	2	T	COUNTY	HOWEY IN THE HILLS	MAJOR COLLECTOR	D	792	N	2TMC	0	0	639	792	792	7,257	577	323	53	116	0.61	C	254	44	398	0.55	C	
CR_48	CR 561	RANCH ROAD	2	U	COUNTY	TOWN OF ASTATULA	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	5,448	563	298	29	313	0.40	C	265	25	290	0.37	C	
CR_48	RANCH ROAD	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	C	670	N	2R	0	0	670	740	740	5,448	563	298	29	308	0.44	C	265	0	265	0.40	C	
CR_50	CR 50 (SUNSET AVENUE)	US 27	2	U	COUNTY	TURKEY FARM ROAD	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	10,129	860	483	377	195	572	0.72	C	483	172	655	0.83	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	4,308	417	306	222	91	129	0.41	C	129	441	570	0.72	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	4,308	417	306	222	91	129	0.41	C	129	441	570	0.72	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC	0	0	747	792	792	6,100	541	148	94	242	510	0.31	C	541	100	641	0.81	C
CR_50	CR 50 (SUNSET AVENUE)	CR 445	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	MAJOR COLLECTOR	D	792	N	2UMC																		

ROAD NAME	FROM	TO	NUMBER OF LANES	AREA TYPE	MAINTAINING AGENCY	JURISDICTION	FUNCTIONAL CLASSIFICATION	FDOT LOS STANDARD	LOS CAPACITY	SIS?	LOS CODE	PEAK HOUR DIRECTION CAPACITIES					2014/15 LEVEL OF SERVICE												
												A	B	C	D	E	AADT	PM PEAK HOUR /PEAK DIRECTION	EB/NB	RESERVED	TOTAL	V/C RATIO	LOS	WB/SB	RESERVED	TOTAL	V/C RATIO	LOS	
KURT STREET	DAVID WALKER DRIVE	MT HOMER ROAD / W ARDICE AVENUE	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,386	384	204	180	0	180	0.27	C	204	0	204	0.30	C
KURT STREET	MT HOMER ROAD / W ARDICE AVENUE	US 441	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,395	340	197	143	0	143	0.21	C	197	0	197	0.29	C
W LADY LAKE BOULEVARD	WEST TERMINI	US 27/US41	2	U	TOWN OF LADY LAKE	TOWN OF LADY LAKE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,132	97	52	45	0	45	0.07	C	52	0	52	0.08	C
E LADY LAKE BOULEVARD	US 27/US41	BERCHFIELD ROAD	2	U	COUNTY	TOWN OF LADY LAKE	COLLECTOR	D	675	N	2UC	0	0	333	675	720	633	58	41	41	0	41	0.06	C	17	0	17	0.03	C
LAKE AVENUE / FAIRVIEW AVENUE	OLD 441 / CR 500A	LAKESHORE DRIVE	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	553	45	27	27	0	27	0.04	C	18	0	18	0.03	C
LAKE DRIVE	SR 44	COUNTRY ROAD	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	C	603	N	2RC	0	0	603	666	666	818	85	49	49	0	49	0.08	C	36	0	36	0.06	C
LAKE ELLA ROAD	SUMTER COUNTY LINE	ROLLING ACRES ROAD	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	1,650	171	98	98	0	98	0.16	C	23	42	115	0.19	C
LAKE ELLA ROAD	ROLLING ACRES ROAD	US 27	2	T	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	612	N	2TC	0	0	297	612	648	1,161	137	72	65	28	93	0.15	C	72	3	75	0.12	C
LAKE ERIE ROAD	CR 565	SR 33	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	C	603	N	2RC	0	0	603	666	666	53	38	38	0	38	0.06	C	15	0	15	0.02	C	
LAKE EUSTIS DRIVE	CLAY BOULEVARD	2	U	COUNTY	EUSTIS/TAVARES	COLLECTOR	D	675	N	2UC	0	0	333	675	720	5,445	501	282	282	0	282	0.42	C	219	0	219	0.32	C	
LAKE LOUISA ROAD	LAKESHORE DRIVE	VISTA DEL LAGO BOULEVARD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,124	263	161	161	0	161	0.24	C	102	0	102	0.15	C
LAKE LOUISA ROAD	US 27	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	3,894	364	261	103	0	103	0.15	C	261	0	261	0.39	C	
LAKE MACK DRIVE	CH 42	ANOTHER ANNA ROAD	2	R	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	C	603	N	2RC	0	0	603	666	666	1,399	125	82	82	0	82	0.14	C	43	0	43	0.07	C
LAKE STREET	US 441	MAIN STREET	2	U	CITY OF LEESBURG	CITY OF LEESBURG	MAJOR COLLECTOR	D	792	N	2UCM	0	0	747	792	720	2,621	190	97	93	0	93	0.12	C	97	0	97	0.12	C
LAKE STREET	SR 44	MAIN STREET	2	U	CITY OF LEESBURG	CITY OF LEESBURG	MAJOR COLLECTOR	D	792	N	2UCM	0	0	747	792	720	3,114	231	129	129	0	129	0.16	C	102	0	102	0.13	C
LAKESTORE DRIVE (CLEAR)	OSWALT ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,942	166	92	92	0	92	0.14	C	74	0	74	0.11	C	
LAKESTORE DRIVE (CLEAR)	OSWALT ROAD	HARDER ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	8,756	715	468	468	13	481	0.71	C	247	24	271	0.40	C
LAKESTORE DRIVE (CLEAR)	HARDER ROAD	HAMMOCK RIDGE ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	11,897	1,108	755	755	24	779	1.15	F					
LAKESTORE DRIVE (EUSTIS)	CLAY BOULEVARD	ANDERSON HILL ROAD	2	U	COUNTY	UNINCORPORATED LAKE COUNTY	COLLECTOR	D	675	N	2UC	0	0	333	675	720	6,664	593	376	376	13	389	0.58	C	217	24	241	0.36	C
LAKESTORE DRIVE (EUSTIS)	CLAY BOULEVARD	SOUTH BAY STREET / SR 19 SB	2	U	COUNTY	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	5,171	441	253	253	0	253	0.37	C	188	0	188	0.28	C
W LAKEVIEW AVENUE	KURT STREET	SR 19	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	4,443	599	372	372	0	372	0.34	D	372	0	372	0.55	D
E LAKEVIEW AVENUE	SR 19	JASMINE STREET / CROOKED LAKE COURT	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	5,101	451	227	227	0	227	0.33	C	227	0	227	0.34	C
E LAKEVIEW AVENUE	JASMINE STREET / CROOKED LAKE COURT	HASELTON STREET	2	U	CITY OF EUSTIS	CITY OF EUSTIS	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,601	227	227	227	0	227	0.33	C					
LANE PARK CUTOFF	CR 561	CR 561	2	U	CITY OF TAVARES	CITY OF TAVARES	COLLECTOR	D	675	N	2UC	0	0	333	675	720	1,597	266	150	116	15	131	0.19	C	150	24	174	0.26	C
LEE STREET	GRIFIN ROAD	US 441	2	U	CITY OF LEESBURG	CITY OF LEESBURG	MAJOR COLLECTOR	D	792	N	2UCM	0	0	747	792	720	2,235	207	113	113	0	113	0.14	C	94	0	94	0.12	C
LEE STREET	US 441	MAIN STREET	2	U	CITY OF LEESBURG	CITY OF LEESBURG	MAJOR COLLECTOR	D	792	N	2UCM	0	0	747	792	720	2,743	272	172	100	0	100	0.13	C	172	0	172	0.22	C
WILSON LAKE PARKWAY	US 27	LIBBY ROAD	2	T	COUNTY	CITY OF GROVELAND																							

**Appendix E**  
2019 Lake County Annual Traffic Counts & FDOT Traffic Online

## 2019 Lake County Annual Traffic Counts

MAP STA #	ROAD NAME	LOCATION	Map Sheet	TMS ID	S E C	T W P	R N G	ANNUAL ADJUSTED DAILY TRAFFIC (AADT)						5-YEAR ANNUAL AVERAGE GROWTH RATE PERCENT	ADJUSTED PEAK HR VOLUME 2019	BEGIN PEAK HOUR 2019	ADJUSTED 2019 PM PEAK HOUR VOLUME (3-7 PM reported as 15:00-18:45)				
								2014	2015	2016	2017	2018	2019				Total	NB/EB	SB/WB	Pk Dir	Time
1	C.R. 25	AT MARION CO LINE	C	366	5	18	24	8,608	9,609	7,584	10,954	10,916	10,696	4.44%	951	16:30	951	693	258	NB	16:30
2	MARION COUNTY RD	0.15 Mi E OF C.R. 25	C	373	5	18	24	1,803	2,232	2,051	2,377	2,145	2,200	4.05%	209	16:15	209	110	99	EB	16:15
3	GRIFFIN AV	0.05 Mi E OF C.R. 25	C	390	8	18	24	2,336	2,408	2,686	3,021	2,716	2,654	2.59%	229	15:15	229	114	115	WB	15:15
4	LAKE GRIFFIN RD	0.27 Mi W OF CAROLINA AV	C	744	16	18	24	3,027	3,234	3,060	3,133	2,927	2,830	-1.33%	287	16:45	287	185	103	EB	16:45
5	C.R. 466	0.10 Mi W OF CLAY AV	C	619	17	18	24	14,490	16,427	16,958	18,598	16,724	16,274	2.35%	1,481	13:30	1,307	693	614	EB	15:00
6	C.R. 466	AT SUMTER CO LINE	C	381	18	18	24	24,272	25,598	25,989	25,388	24,224	22,395	-1.60%	2,081	14:30	1,959	977	982	WB	15:00
7	GRIFFIN VIEW DR	0.08 Mi E OF U.S. 27/U.S. 441	C	384	21	18	24	4,124	5,358	4,137	4,466	3,967	3,579	-2.79%	328	16:45	328	218	110	EB	16:45
8	GRAYS AIRPORT RD	0.10 Mi N OF GRIFFIN VIEW DR	C	399	22	18	24	2,017	2,200	2,212	2,649	2,419	2,425	3.75%	254	16:45	254	156	97	NB	16:45
9	GRIFFIN VIEW DR	0.12 Mi E OF GRAYS AIRPORT RD	C	386	23	18	24	1,673	1,801	1,623	1,892	1,728	1,715	0.50%	172	17:00	172	104	69	EB	17:00
10	C.R. 468	0.04 Mi N OF BERCKMAN ST	C	305	4	19	24	3,216	5,105	3,113	4,080	3,991	3,637	2.49%	365	7:15	287	126	162	NB	16:00
11	C.R. 466A	AT SUMTER CO LINE	C	689	6	19	24	15,281	17,819	17,820	18,230	18,968	13,377	-2.63%	1,158	14:30	1,130	513	618	WB	15:00
12	C.R. 468	0.08 Mi S OF MYRTLE LAKE/URICK ST	C	303	9	19	24	5,781	6,037	5,484	6,150	6,280	6,169	1.31%	567	16:30	567	276	291	NB	16:30
13	SUNNYSIDE DR	0.09 Mi S OF MAIN ST (S.R. 44)	C	751	25	19	24	3,467	3,326	3,363	4,389	3,979	3,945	2.62%	418	16:45	418	148	270	SB	16:45
14	C.R. 468	0.09 Mi N OF S.R. 44	C	302	28	19	24	6,667	5,158	7,071	7,492	7,773	7,658	2.81%	683	16:15	683	352	331	NB	16:15
15	C.R. 470	0.06 Mi E OF SUMTER CO LINE	B	908	7	20	24	5,813	6,771	6,681	8,310	8,986	8,816	8.68%	781	15:45	781	456	325	EB	15:45
16	C.R. 48	0.25 Mi E OF U.S. 27	B	97	14	20	24	8,765	6,895	9,996	10,428	10,908	9,624	1.89%	805	15:15	805	409	396	EB	15:15
17	C.R. 48	0.18 Mi E OF C.R. 33	B	219	15	20	24	4,978	6,580	11,043	8,307	8,867	7,814	9.44%	666	16:45	666	304	362	WB	16:45
18	C.R. 48	0.12 Mi W OF C.R. 33	B	224	22	20	24	2,221	2,019	3,559	3,520	3,145	2,849	5.10%	265	16:45	265	92	173	WB	16:45
19	C.R. 33	0.06 Mi N OF AUSTIN MERRITT RD	B	231	10	21	24	3,259	2,766	4,144	3,670	4,697	4,200	5.21%	375	7:00	359	229	130	SB	16:15
20	AUSTIN MERRITT RD	0.07 Mi W OF C.R. 33	B	679	10	21	24	1,131	1,008	1,044	1,372	1,494	1,476	5.48%	141	16:30	141	100	41	WB	16:30
21	BRIDGES RD	0.08 Mi E OF C.R. 33	B	669	10	21	24	789	1,201	1,225	1,472	1,394	1,485	13.48%	133	15:45	133	99	34	WB	15:45
22	YOUTH CAMP RD	0.48 Mi W OF AUSTIN MERRITT RD	B	678	17	21	24	825	1,156	1,041	1,237	1,216	1,178	7.38%	118	16:15	118	38	80	WB	16:15
24	C.R. 33	0.10 Mi N OF S.R. 50	B	235	14	22	24	3,937	5,006	4,345	5,430	5,825	5,931	8.54%	468	7:15	464	241	223	NB	17:00
26	EMPIRE CHURCH RD	0.10 Mi S OF ANDERSON ST	A	187	25	22	24	1,162	1,335	1,199	1,380	1,425	1,442	4.42%	149	16:30	149	44	105	SB	16:30
27	GOOSE PRAIRIE RD	0.12 Mi W OF FELKINS RD	C	570	25	18	25	2,169	2,275	2,487	2,685	2,672	2,763	4.96%	270	16:30	270	164	105	EB	16:30
28	EMERALDA AV	0.05 Mi N OF C.R. 44	C	326	35	18	25	3,191	3,457	3,284	3,626	3,704	3,673	2.85%	328	16:30	328	205	123	NB	16:30
29	C.R. 44	0.10 Mi S OF TREASURE ISLAND RD	C	339	9	19	25	8,082	9,213	9,633	10,184	10,812	10,699	5.77%	997	16:30	997	654	343	NB	16:30
30	C.R. 449 (SILVER LAKE ROAD)	0.37 Mi S OF MORNINGSIDE DR	C	641	15	19	25	2,104	2,158	2,078	2,212	2,298	2,112	0.07%	221	16:45	221	165	56	EB	16:45
31	C.R. 44	0.55 Mi N OF U.S. 441	C	329	20	19	25	9,885	10,604	10,903	12,699	11,194	11,399	2.89%	982	7:15	969	619	350	NB	16:30
32	C.R. 473	0.21 Mi N OF U.S. 441	C	826	24	19	25	13,030	12,622	13,313	15,208	14,151	13,629	0.90%	1,263	16:45	1,263	721	543	NB	16:45
33	SUNNYSIDE DR	0.04 Mi W OF TOMATO HILL RD	C	868	29	19	25	1,955	1,196	2,007	2,449	2,543	2,527	5.27%	300	16:45	300	92	208	WB	16:45
34	C.R. 48	0.18 Mi W OF S.R. 19	B	99	23	20	25	7,252	8,181	8,304	9,300	9,304	8,572	3.40%	725	16:15	725	321	404	EB	16:15
35	C.R. 565	0.07 Mi S OF U.S. 27	B	610	18	21	25	978	1,189	1,277	1,588	1,981	2,037	15.82%	184	16:15	184	117	67	SB	16:15

## 2019 Lake County Annual Traffic Counts

120	C.R. 44 LEG A	0.10 Mi NW OF U.S. 441	C	328	16	19	25	1,320	1,323	1,304	1,337	1,248	1,290	-0.45%		134	9:30	119	45	74	EB	16:15
121	OLD MT DORA RD	0.11 Mi W OF EUDORA RD	C-1	517	23	19	26	4,161	5,150	4,485	5,298	4,964	5,030	3.86%		522	16:30	522	257	265	WB	16:30
122	MORNINGSIDE DR (MT DORA)	0.14 Mi N OF OLD 441	C-1	549	25	19	26	1,181	1,565	1,325	1,537	1,620	1,498	4.88%		145	13:15	132	74	58	NB	16:15
123	OLD 441	0.20 Mi E OF EUDORA RD	C-1	712	25	19	26	10,908	12,426	10,957	13,405	13,524	15,132	6.77%		1,297	16:15	1,297	598	699	WB	16:15
124	OLD 441	0.19 Mi W OF C.R. 19A/EUDORA RD	C-1	65	26	19	26	7,311	8,213	7,533	8,656	8,991	8,390	2.79%		736	16:15	736	394	341	EB	16:15
125	OLD 441/ALFRED ST	0.12 Mi E OF C.R. 19A/DORA AV	C-1	713	28	19	26	7,784	7,323	8,174	8,575	9,461	9,214	3.43%		838	16:30	838	449	389	EB	16:30
126	ESTES RD	0.035 Mi N OF S.R. 44	C-1	583	8	19	27	3,162	3,497	3,040	3,518	3,782	3,456	1.80%		392	15:45	392	234	158	NB	15:45
127	C.R. 439	0.08 Mi N OF S.R. 44	D	346	10	19	27	3,248	3,781	3,736	4,443	4,387	4,228	5.42%		381	16:45	381	136	245	NB	16:45
128	C.R. 445A	0.11 Mi W OF ASTOR PARK CUTOFF RD	E	272	37	15	27	1,599	1,847	2,116	2,363	2,902	2,657	10.68%		236	14:15	215	108	106	EB	16:15
129	WOLF BRANCH RD	0.12 Mi E OF U.S. 441	D	710	29	19	27	9,697	9,507	9,950	12,087	13,096	14,369	8.18%		1,281	16:30	1,281	603	679	WB	16:30
130	ROUND LAKE RD	0.17 Mi S OF S.R. 46	D	508	35	19	27	4,338	4,880	4,764	5,453	6,127	5,388	4.43%		543	16:15	543	268	275	SB	16:15
131	S.R. 46	0.17 Mi E OF C.R. 46A	D	245	25	19	28	17,308	20,770	20,470	22,898	25,751	#N/A	#N/A		#N/A	7:00	#N/A	#N/A	#N/A	WB	15:45
132	C.R. 33	0.34 Mi W OF U.S. 27	B	226	11	20	24	7,719	8,443	8,444	9,988	9,599	9,402	4.02%		728	16:15	728	427	301	SB	16:15
133	C.R. 33	0.28 Mi S OF C.R. 470/C.R. 48	B	229	15	20	24	7,130	5,056	7,552	10,062	9,251	8,936	4.62%		751	16:15	751	308	443	SB	16:15
134	C.R. 448	AT ORANGE CO LINE	B	71	13	20	26	5,524	8,141	6,292	7,383	7,479	7,075	5.07%		676	16:30	676	361	315	EB	16:30
135	C.R. 478	0.08 Mi E OF S.R. 19	B	597	7	22	25	936	1,085	1,351	1,295	1,342	1,641	11.89%		171	15:45	171	66	105	WB	15:45
136	C.R. 565A	0.2 Mi N OF S.R. 50	B	599	20	22	25	7,386	9,936	10,992	8,120	9,069	9,273	4.65%		944	6:30	718	381	337	NB	17:00
137	C.R. 565A	0.27 Mi S OF S.R. 50	A	594	20	22	25	1,965	3,541	2,186	2,213	2,149	2,324	3.41%		205	13:15	185	61	124	SB	16:15
138	C.R. 565B	0.10 Mi E OF C.R. 565A	A	593	3	23	25	2,055	2,194	2,173	2,511	2,433	1,754	-3.12%		193	7:30	170	89	81	EB	16:45
139	C.R. 561	0.11 Mi E OF S.R. 33	A	131	8	24	25	1,231	1,483	1,467	2,050	2,002	2,141	11.70%		201	15:30	201	112	88	EB	15:30
140	S.R. 33	AT POLK CO LINE	A	1	28	24	25	3,384	3,400	4,481	5,617	7,773	6,234	13.00%		441	9:15	440	241	199	NB	16:45
141	U.S. 27/S.R. 25	0.56 Mi N OF POLK CO LINE	A	25	35	24	26	35,361	55,443	32,261	42,561	52,260	51,646	7.87%		3,475	16:30	3,475	1,929	1,546	NB	16:30
142	U.S. 27/S.R. 25	0.53 Mi E OF C.R. 565	B	217	20	21	25	17,028	25,160	23,286	22,733	24,875	22,314	5.56%		1,718	15:45	1,718	836	882	EB	15:45
143	JALARMY RD	0.29 Mi N OF C.R. 561	B	486	12	22	25	3,098	3,784	3,714	4,208	3,665	5,060	10.31%		425	17:15	425	166	259	NB	17:15
144	LOG HOUSE RD	0.05 Mi E OF C.R. 561	A	133	11	23	25	3,195	4,798	2,944	3,482	3,299	3,285	0.55%		434	7:30	316	181	135	EB	15:00
145	LAKE LOUISA RD	0.20 Mi S OF LAKESHORE DR	A	171	6	23	26	3,124	6,428	3,456	3,775	3,641	3,719	3.55%		330	16:45	330	170	161	SB	16:45
146	HARTWOOD MARSH RD	0.15 Mi E OF U.S. 27/S.R. 25	A	362	9	23	26	11,908	10,704	14,102	14,932	16,077	16,511	6.75%		1,388	7:15	1,373	626	747	WB	15:30
147	ROYAL TRAILS RD	0.11 Mi N OF S.R. 44	D	510	18	18	29	1,533	1,518	1,519	1,766	1,700	1,674	1.77%		174	16:15	174	124	50	NB	16:15
148	WOLF BRANCH RD	0.075 Mi W OF C.R. 437	D	49	19	19	28	4,429	5,131	4,997	6,263	6,723	7,402	10.82%		713	7:15	701	359	341	EB	16:30
149	LANE PARK CUTOFF	0.045 Mi E OF S.R. 19	B	558	6	20	26	1,597	1,795	1,720	2,032	1,984	2,193	6.54%		361	8:00	329	128	202	WB	15:30
150	HARTWOOD MARSH RD	1.09 Mi W OF ORANGE CO LINE	A	918	2	23	26	9,589	10,759	10,247	10,862	12,123	11,200	3.16%		1,058	16:45	1,058	785	273	WB	16:45
151	LK LOUISA RD	0.17 Mi W OF U.S. 27	A	174	16	23	26	3,894	4,318	4,044	3,734	3,656	3,583	-1.65%		292	16:45	292	86	206	WB	16:45
152	MAIN ST	0.05 Mi E OF S.R. 44 (TO U.S. 441)	C	478	25	19	24	3,982	4,275	4,359	5,249	5,145	4,957	4.47%		523	16:30	523	416	107	EB	16:30
153	C.R. 48	0.12 Mi W OF U.S. 27	B	218	14	20	24	6,733	8,459	7,698	8,996	9,714	9,128	6.27%		773	16:00	773	397	376	EB	16:00
155	C.R. 474	0.04 Mi W OF U.S. 27/S.R. 25	A	703	27	24	26	1,939	1,849	3,741	4,660	5,315	6,183	26.10%		484	7:15	416	145	271	WB	17:00

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 11 - LAKE

SITE: 0494 - ON SR-19, 0.3 MI. N OF CR-48 (RCLP) CAB NW

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	14900 F	N 7600	S 7300	9.00	54.20	11.50
2017	14500 C	N 7400	S 7100	9.00	54.20	11.50
2016	13900 C	N 7000	S 6900	9.00	53.90	11.20
2015	12900 C	N 6400	S 6500	9.00	54.60	11.00
2014	12200 C	N 6100	S 6100	9.00	54.50	15.10
2013	12900 C	N 6500	S 6400	9.00	54.70	24.50
2012	11800 C	N 5900	S 5900	9.00	55.10	11.10
2011	10400 C	N 4600	S 5800	9.00	54.20	10.10
2010	11000 C	N 4900	S 6100	9.86	54.75	7.60
2009	12400 C	N 6200	S 6200	9.96	54.94	12.60
2008	12300 C	N 6300	S 6000	10.42	55.39	12.60
2007	14000 C	N 7000	S 7000	10.24	59.56	11.20
2006	14400 C	N 7200	S 7200	10.23	59.48	11.00
2005	13800 C	N 6800	S 7000	10.30	57.70	15.00
2004	13000 C	N 6500	S 6500	10.10	57.60	15.00
2003	12500 C	N 6200	S 6300	9.80	55.30	12.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 11 - LAKE

SITE: 0495 - ON SR-19, 0.326 MI. S OF CR-48 (RVL)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	9100 C	N 4600	S 4500	9.00	54.20	23.20
2017	9200 C	N 4600	S 4600	9.00	54.20	16.50
2016	9100 C	N 4600	S 4500	9.00	53.90	19.70
2015	8700 C	N 4400	S 4300	9.00	54.60	13.90
2014	8200 C	N 4100	S 4100	9.00	54.50	15.80
2013	8700 C	N 4400	S 4300	9.00	54.70	16.70
2012	8200 C	N 4100	S 4100	9.00	55.10	14.80
2011	7900 C	N 4000	S 3900	9.00	54.20	15.10
2010	8200 C	N 4000	S 4200	9.86	54.75	13.50
2009	9000 C	N 4700	S 4300	9.96	54.94	9.90
2008	8200 C	N 4100	S 4100	10.42	55.39	16.40
2007	8800 C	N 4400	S 4400	10.24	59.56	18.60
2006	9200 C	N 4600	S 4600	10.23	59.48	21.50
2005	8800 C	N 4600	S 4200	10.30	57.70	14.50
2004	8100 C	N 4100	S 4000	10.10	57.60	21.90
2003	7600 C	N 3800	S 3800	9.80	55.30	19.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

**Appendix F**  
Intersection Traffic Counts & FDOT Seasonal Factor Report

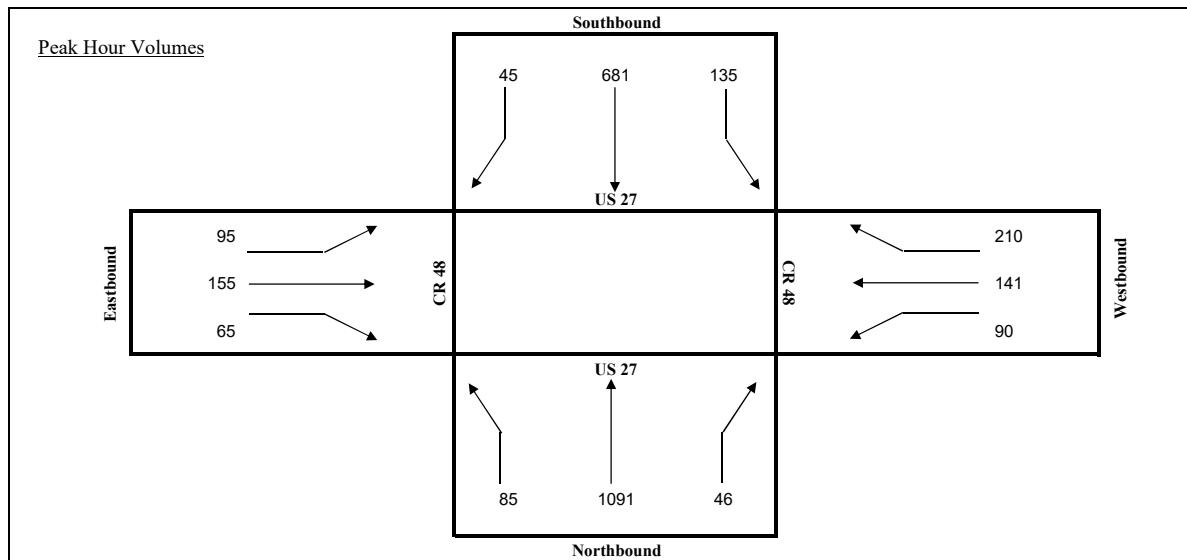
**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

Intersection (N/S): US 27

Intersection (E/W): CR 48

Date: 1/17/2019

Start	End	US 27			US 27			CR 48			CR 48			TOTAL		
		NB			SB			EB			WB					
L	T	R	L	T	R	L	T	R	L	T	R	L	T	R		
7:00 AM	7:15 AM	31	182	9	22	159	7	5	30	10	13	37	29	534		
7:15 AM	7:30 AM	26	215	9	24	166	10	20	35	11	21	38	54	629		
7:30 AM	7:45 AM	30	219	10	25	184	9	14	39	12	19	40	55	656		
7:45 AM	8:00 AM	28	226	12	31	153	12	16	41	9	22	44	59	653		
8:00 AM	8:15 AM	22	270	14	34	128	10	23	40	16	20	33	52	662		
8:15 AM	8:30 AM	20	257	11	30	150	13	20	44	12	18	40	55	670		
8:30 AM	8:45 AM	24	315	10	38	215	12	28	38	20	29	33	53	815		
8:45 AM	9:00 AM	19	249	11	33	188	10	24	33	17	23	35	50	692		
<b>Total for:</b>		7:00 AM	8:00 AM	115	842	40	102	662	38	55	145	42	75	159	197	2472
<b>Total for:</b>		8:00 AM	9:00 AM	85	1091	46	135	681	45	95	155	65	90	141	210	2839
<b>Total Peak Hour:</b>		8:00 AM	9:00 AM	85	1091	46	135	681	45	95	155	65	90	141	210	2839
<b>Overall PHF:</b>		0.87														



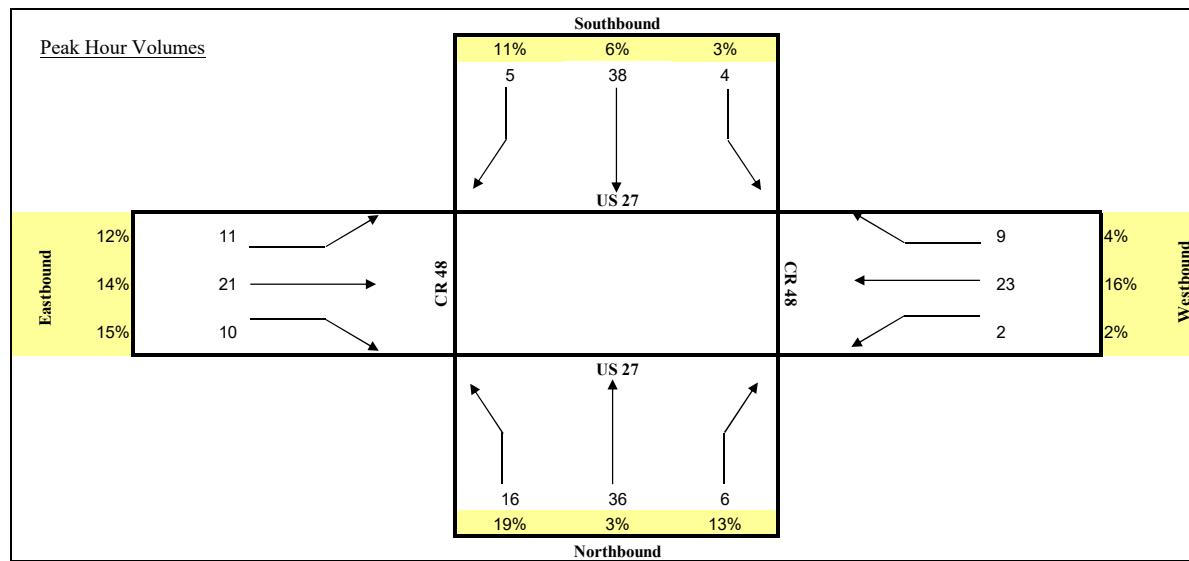
**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): US 27

Intersection (E/W): CR 48

Date: 1/17/2019

Start	End	US 27			US 27			CR 48			CR 48			TOTAL	
		NB			SB			EB			WB				
L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	4	7	0	1	8	2	1	5	2	0	6	2	38	
7:15 AM	7:30 AM	2	9	1	0	12	1	2	5	3	0	2	2	39	
7:30 AM	7:45 AM	3	7	1	1	10	3	3	6	3	1	5	1	44	
7:45 AM	8:00 AM	5	9	2	0	9	1	1	5	2	0	7	3	44	
8:00 AM	8:15 AM	4	11	1	2	9	0	4	4	3	0	6	3	47	
8:15 AM	8:30 AM	4	9	2	1	10	1	3	6	2	1	5	2	46	
8:30 AM	8:45 AM	1	8	0	1	13	0	0	2	2	0	8	1	36	
8:45 AM	9:00 AM	3	10	1	2	10	1	1	5	3	1	6	2	45	
Total for:	7:00 AM	8:00 AM	14	32	4	2	39	7	7	21	10	1	20	8	165
Total for:	8:00 AM	9:00 AM	12	38	4	6	42	2	8	17	10	2	25	8	174
Tota Peak Hour:	7:30 AM	8:30 AM	16	36	6	4	38	5	11	21	10	2	23	9	181
Overall PHF:	0.96														



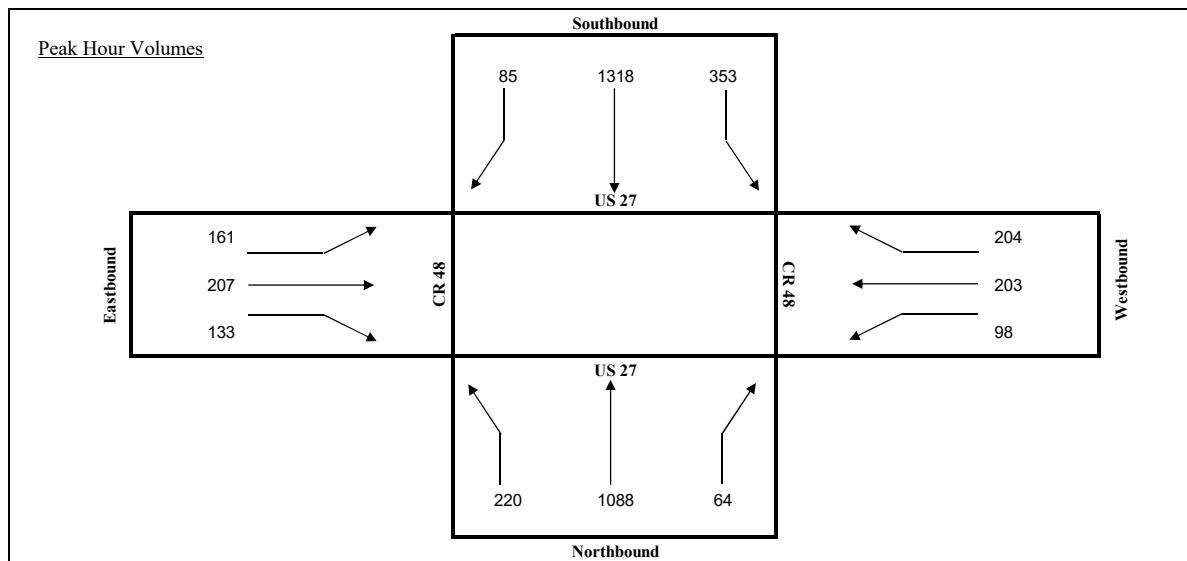
**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

Intersection (N/S): US 27

Intersection (E/W): CR 48

Date: 1/17/2019

Start	End	US 27			US 27			CR 48			CR 48			TOTAL
		NB	SB	EB	WB	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	29	224	7	50	274	10	39	58	33	30	49	57	860
4:15 PM	4:30 PM	36	262	9	76	309	13	47	64	36	36	57	62	1007
4:30 PM	4:45 PM	35	280	11	59	294	14	41	69	40	33	54	60	990
4:45 PM	5:00 PM	41	277	10	70	311	20	35	54	41	29	55	57	1000
5:00 PM	5:15 PM	62	268	19	113	356	23	49	47	30	23	49	49	1088
5:15 PM	5:30 PM	60	289	15	91	320	24	41	51	33	20	51	50	1045
5:30 PM	5:45 PM	57	254	20	79	331	18	36	55	29	26	48	48	1001
5:45 PM	6:00 PM	60	260	17	66	294	19	39	42	21	30	41	51	940
<b>Total for:</b>	4:00 PM	141	1043	37	255	1188	57	162	245	150	128	215	236	3857
<b>Total for:</b>	5:00 PM	239	1071	71	349	1301	84	165	195	113	99	189	198	4074
<b>Tota Peak Hour:</b>	4:45 PM	220	1088	64	353	1318	85	161	207	133	98	203	204	4134
<b>Overall PHF:</b>		0.95												



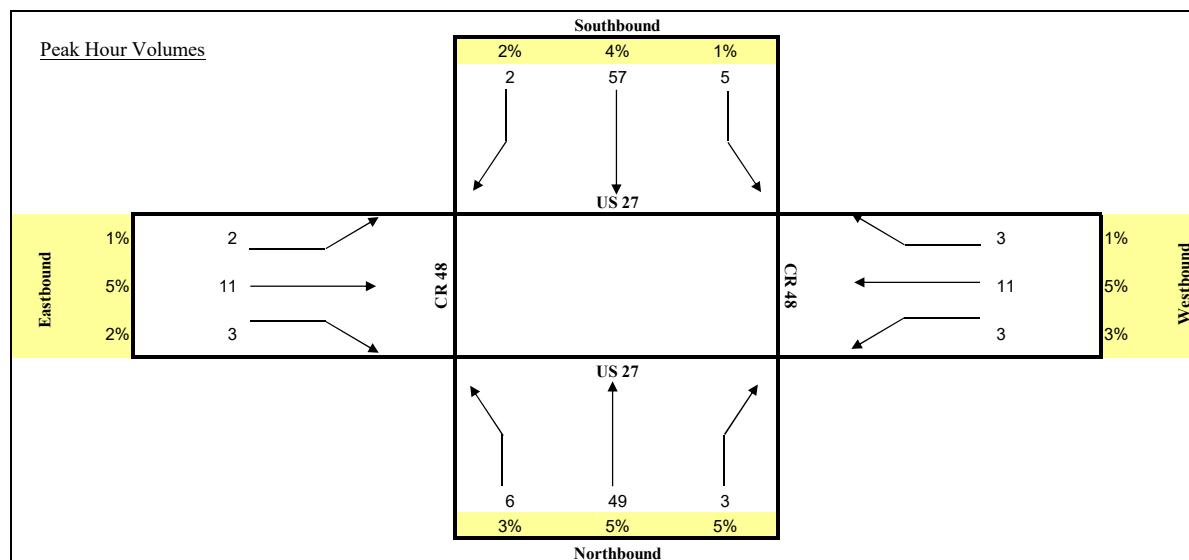
**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): US 27

Intersection (E/W): CR 48

Date: 1/17/2019

Start	End	US 27			US 27			CR 48			CR 48			TOTAL		
		NB	SB	EB	WB	R	T	L	R	T	L	R	T	L		
4:00 PM	4:15 PM	1	10	1	1	11	1		1	2	1	1	1	1	32	
4:15 PM	4:30 PM	3	11	0	2	15	0		0	2	0	0	4	0	37	
4:30 PM	4:45 PM	0	10	1	2	14	1		1	3	1	1	3	2	39	
4:45 PM	5:00 PM	1	15	1	1	15	0		1	4	1	1	2	1	43	
5:00 PM	5:15 PM	2	13	1	0	13	1		0	2	1	1	2	0	36	
5:15 PM	5:30 PM	3	10	2	1	10	1		1	1	0	0	1	1	31	
5:30 PM	5:45 PM	1	13	1	0	15	0		1	2	1	2	4	1	41	
5:45 PM	6:00 PM	3	12	2	1	12	2		0	1	2	1	3	0	39	
<b>Total for:</b>		4:00 PM	5:00 PM	5	46	3	6	55	2	3	11	3	3	10	4	151
<b>Total for:</b>		5:00 PM	6:00 PM	9	48	6	2	50	4	2	6	4	4	10	2	147
<b>Tota Peak Hour:</b>		4:15 PM	5:15 PM	6	49	3	5	57	2	2	11	3	3	11	3	155
<b>Overall PHF:</b>		0.90														



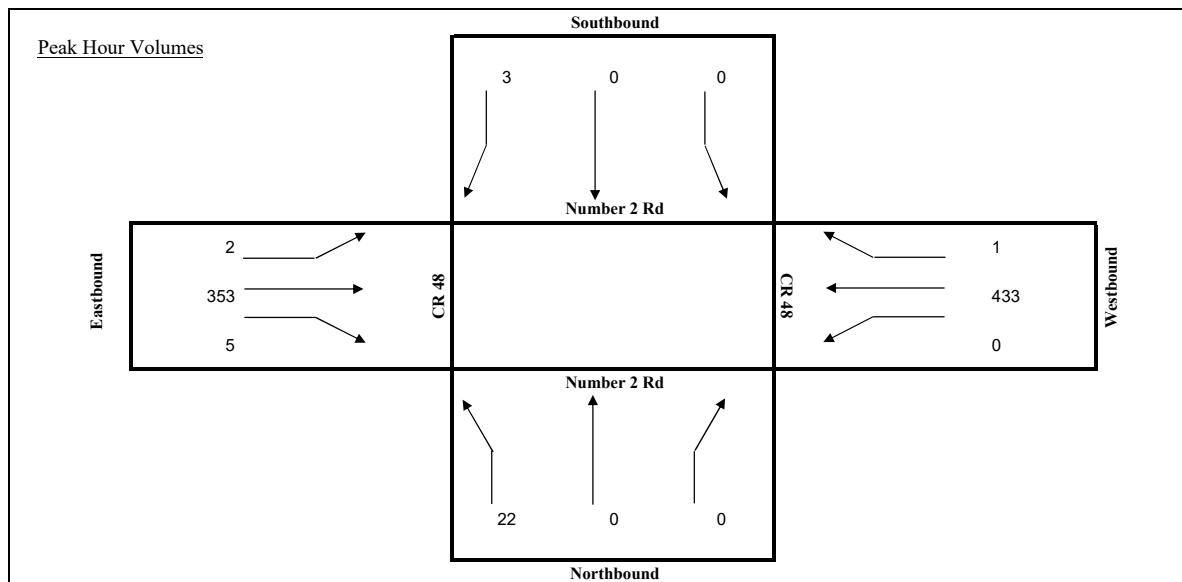
**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

Intersection (N/S): Number 2 Rd

(E/W) CR 48

Date: 1/21/2020

Start	End	Number 2 Rd			Number 2 Rd			CR 48			CR 48			TOTAL		
		NB	SB	EB	WB	L	T	R	L	T	R	L	T	R		
7:00 AM	7:15 AM	1	0	0	0	3	0	0	0	72	0	0	92	0	168	
7:15 AM	7:30 AM	6	0	0	0	0	0	1	0	75	1	0	106	0	189	
7:30 AM	7:45 AM	9	0	0	0	0	0	1	0	104	1	0	112	0	227	
7:45 AM	8:00 AM	3	0	0	0	0	0	0	0	92	1	0	105	1	202	
8:00 AM	8:15 AM	4	0	0	0	0	0	1	2	82	2	0	110	0	201	
8:15 AM	8:30 AM	3	0	1	0	0	0	1	0	77	1	2	101	0	186	
8:30 AM	8:45 AM	4	0	3	0	0	0	0	0	72	4	0	102	0	185	
8:45 AM	9:00 AM	2	0	1	1	0	0	2	2	64	1	0	111	0	184	
<b>Total for:</b>		7:00 AM	8:00 AM	19	0	0	3	0	2	0	343	3	0	415	1	786
<b>Total for:</b>		8:00 AM	9:00 AM	13	0	5	1	0	4	4	295	8	2	424	0	756
<b>Total Peak Hour:</b>		7:15 AM	8:15 AM	22	0	0	0	0	3	2	353	5	0	433	1	819
<b>Overall PHF:</b>		0.90														



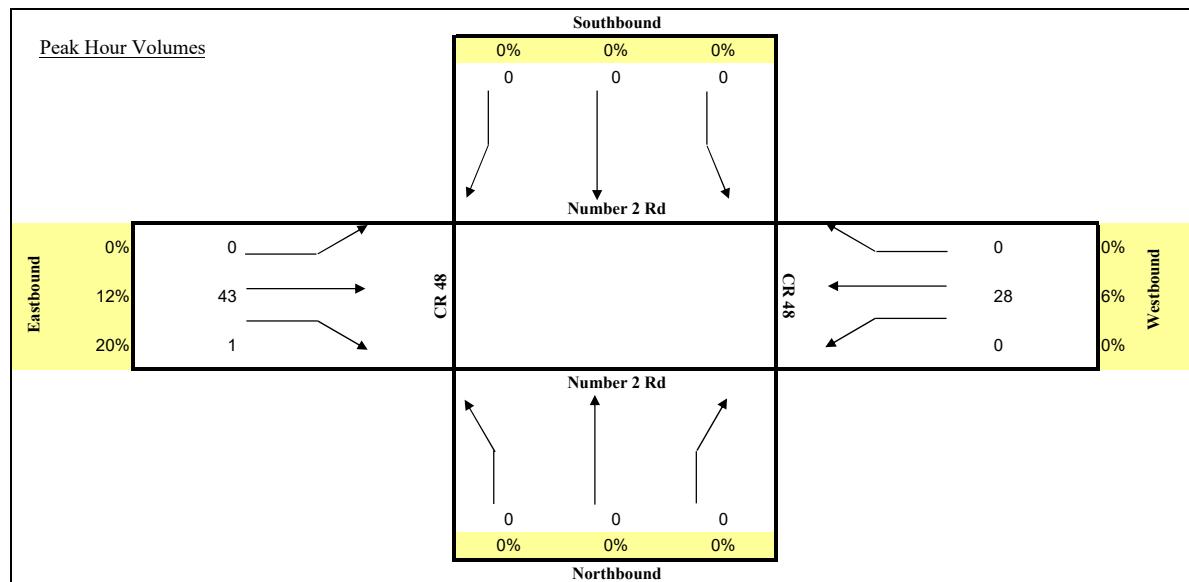
**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): Number 2 Rd

Intersection (E/W): CR 48

Date: 1/21/2020

Start	End	Number 2 Rd			Number 2 Rd			CR 48			CR 48			TOTAL	
		NB	SB	EB	WB	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	0	0	0	0	0	0	0	0	10	0	0	9	0	19
7:15 AM	7:30 AM	0	0	0	0	0	0	0	0	5	0	0	8	0	13
7:30 AM	7:45 AM	0	0	0	0	0	0	0	0	16	1	0	5	0	22
7:45 AM	8:00 AM	0	0	0	0	0	0	0	0	12	0	0	6	0	18
8:00 AM	8:15 AM	1	0	0	0	0	0	0	0	8	0	0	8	0	17
8:15 AM	8:30 AM	0	0	0	0	0	0	0	0	4	0	0	8	0	12
8:30 AM	8:45 AM	0	0	0	0	0	0	0	0	3	0	0	15	0	18
8:45 AM	9:00 AM	0	0	0	0	0	0	1	6	0	0	0	16	0	23
Total for:	7:00 AM	8:00 AM	0	0	0	0	0	0	0	43	1	0	28	0	72
Total for:	8:00 AM	9:00 AM	1	0	0	0	0	0	1	21	0	0	47	0	70
Total Peak Hour:	7:00 AM	8:00 AM	0	0	0	0	0	0	0	43	1	0	28	0	72
Overall PHF:	0.82														



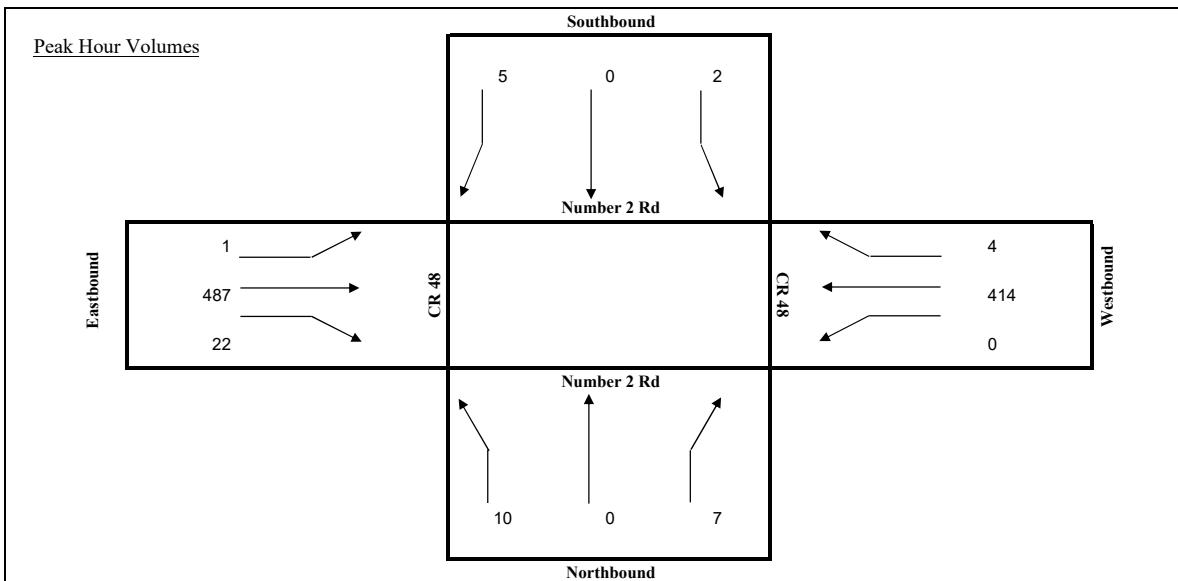
**TURNING MOVEMENT COUNT ANALYSIS**  
**AUTOS & TRUCKS**

Intersection (N/S): Number 2 Rd

Intersection (E/W): CR 48

Date: 1/21/2020

Start	End	Number 2 Rd			Number 2 Rd			CR 48			CR 48			TOTAL		
		NB	SB	EB	WB	L	T	R	L	T	R	L	T	R		
4:00 PM	4:15 PM	4	0	0	0	0	0	0	1	119	2	0	92	0	218	
4:15 PM	4:30 PM	1	0	0	1	0	0	1	0	103	3	0	106	2	217	
4:30 PM	4:45 PM	5	0	2	0	0	0	1	1	121	2	0	89	0	221	
4:45 PM	5:00 PM	3	0	2	0	0	0	0	1	103	5	0	105	2	221	
5:00 PM	5:15 PM	4	0	1	0	0	0	1	0	112	4	0	89	2	213	
5:15 PM	5:30 PM	3	0	3	1	0	0	3	0	140	7	0	118	1	276	
5:30 PM	5:45 PM	1	0	2	0	0	0	1	1	114	6	0	107	0	232	
5:45 PM	6:00 PM	2	0	1	1	0	0	0	0	121	5	0	100	1	231	
<b>Total for:</b>		4:00 PM	5:00 PM	13	0	4	1	0	2	3	446	12	0	392	4	877
<b>Total for:</b>		5:00 PM	6:00 PM	10	0	7	2	0	5	1	487	22	0	414	4	952
<b>Total Peak Hour:</b>		5:00 PM	6:00 PM	10	0	7	2	0	5	1	487	22	0	414	4	952
<b>Overall PHF:</b>		0.86														



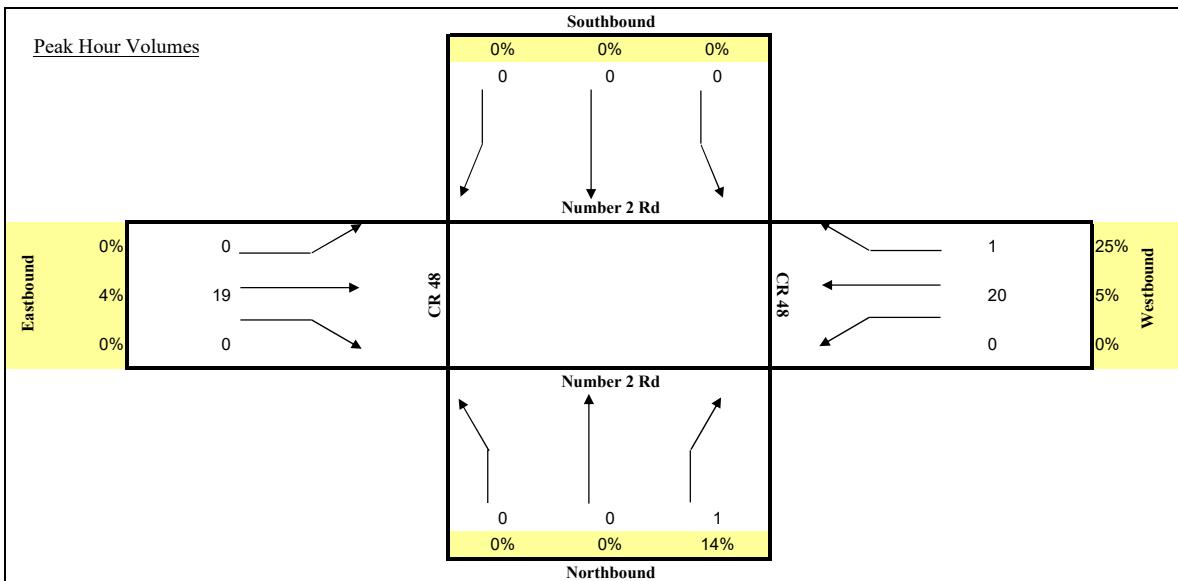
**TURNING MOVEMENT COUNT ANALYSIS**  
**TRUCKS**

Intersection (N/S): Number 2 Rd

Intersection (E/W): CR 48

Date: 1/21/2020

Start	End	Number 2 Rd			Number 2 Rd			CR 48			CR 48			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	8	0	0	8	0	16
4:15 PM	4:30 PM	0	0	0	0	0	0	0	2	0	0	5	0	7
4:30 PM	4:45 PM	0	0	0	0	0	0	0	5	0	0	2	0	7
4:45 PM	5:00 PM	0	0	1	0	0	0	0	4	0	0	5	1	11
5:00 PM	5:15 PM	0	0	0	0	0	0	0	4	0	0	4	0	8
5:15 PM	5:30 PM	1	0	0	0	0	1	0	4	0	0	2	0	8
5:30 PM	5:45 PM	0	0	1	0	0	0	0	2	0	0	3	0	6
5:45 PM	6:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
<b>Total for:</b> 4:00 PM - 5:00 PM		0	0	1	0	0	0	0	19	0	0	20	1	41
<b>Total for:</b> 5:00 PM - 6:00 PM		1	0	1	0	0	1	0	11	0	0	10	0	24
<b>Total Peak Hour:</b> 4:00 PM - 5:00 PM		0	0	1	0	0	0	0	19	0	0	20	1	41
<b>Overall PHF:</b> 0.64														



2018 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL  
 CATEGORY: 1100 LAKE COUNTYWIDE

MOCF: 0.94  
 PSCF

WEEK	DATES	SF	
=====			
1	01/01/2018 - 01/06/2018	1.01	1.07
2	01/07/2018 - 01/13/2018	1.01	1.07
3	01/14/2018 - 01/20/2018	1.02	1.09
4	01/21/2018 - 01/27/2018	1.00	1.06
5	01/28/2018 - 02/03/2018	0.98	1.04
* 6	02/04/2018 - 02/10/2018	0.95	1.01
* 7	02/11/2018 - 02/17/2018	0.93	0.99
* 8	02/18/2018 - 02/24/2018	0.93	0.99
* 9	02/25/2018 - 03/03/2018	0.93	0.99
*10	03/04/2018 - 03/10/2018	0.93	0.99
*11	03/11/2018 - 03/17/2018	0.93	0.99
*12	03/18/2018 - 03/24/2018	0.93	0.99
*13	03/25/2018 - 03/31/2018	0.94	1.00
*14	04/01/2018 - 04/07/2018	0.94	1.00
*15	04/08/2018 - 04/14/2018	0.94	1.00
*16	04/15/2018 - 04/21/2018	0.94	1.00
*17	04/22/2018 - 04/28/2018	0.96	1.02
*18	04/29/2018 - 05/05/2018	0.98	1.04
19	05/06/2018 - 05/12/2018	1.00	1.06
20	05/13/2018 - 05/19/2018	1.02	1.09
21	05/20/2018 - 05/26/2018	1.02	1.09
22	05/27/2018 - 06/02/2018	1.03	1.10
23	06/03/2018 - 06/09/2018	1.03	1.10
24	06/10/2018 - 06/16/2018	1.04	1.11
25	06/17/2018 - 06/23/2018	1.04	1.11
26	06/24/2018 - 06/30/2018	1.05	1.12
27	07/01/2018 - 07/07/2018	1.06	1.13
28	07/08/2018 - 07/14/2018	1.07	1.14
29	07/15/2018 - 07/21/2018	1.07	1.14
30	07/22/2018 - 07/28/2018	1.06	1.13
31	07/29/2018 - 08/04/2018	1.05	1.12
32	08/05/2018 - 08/11/2018	1.04	1.11
33	08/12/2018 - 08/18/2018	1.03	1.10
34	08/19/2018 - 08/25/2018	1.03	1.10
35	08/26/2018 - 09/01/2018	1.03	1.10
36	09/02/2018 - 09/08/2018	1.04	1.11
37	09/09/2018 - 09/15/2018	1.04	1.11
38	09/16/2018 - 09/22/2018	1.03	1.10
39	09/23/2018 - 09/29/2018	1.02	1.09
40	09/30/2018 - 10/06/2018	1.02	1.09
41	10/07/2018 - 10/13/2018	1.01	1.07
42	10/14/2018 - 10/20/2018	1.00	1.06
43	10/21/2018 - 10/27/2018	1.00	1.06
44	10/28/2018 - 11/03/2018	1.00	1.06
45	11/04/2018 - 11/10/2018	1.01	1.07
46	11/11/2018 - 11/17/2018	1.01	1.07
47	11/18/2018 - 11/24/2018	1.01	1.07
48	11/25/2018 - 12/01/2018	1.01	1.07
49	12/02/2018 - 12/08/2018	1.01	1.07
50	12/09/2018 - 12/15/2018	1.01	1.07
51	12/16/2018 - 12/22/2018	1.01	1.07
52	12/23/2018 - 12/29/2018	1.01	1.07
53	12/30/2018 - 12/31/2018	1.02	1.09

\* PEAK SEASON

25-FEB-2019 16:26:27

830UPD

5\_1100\_PKSEASON.TXT

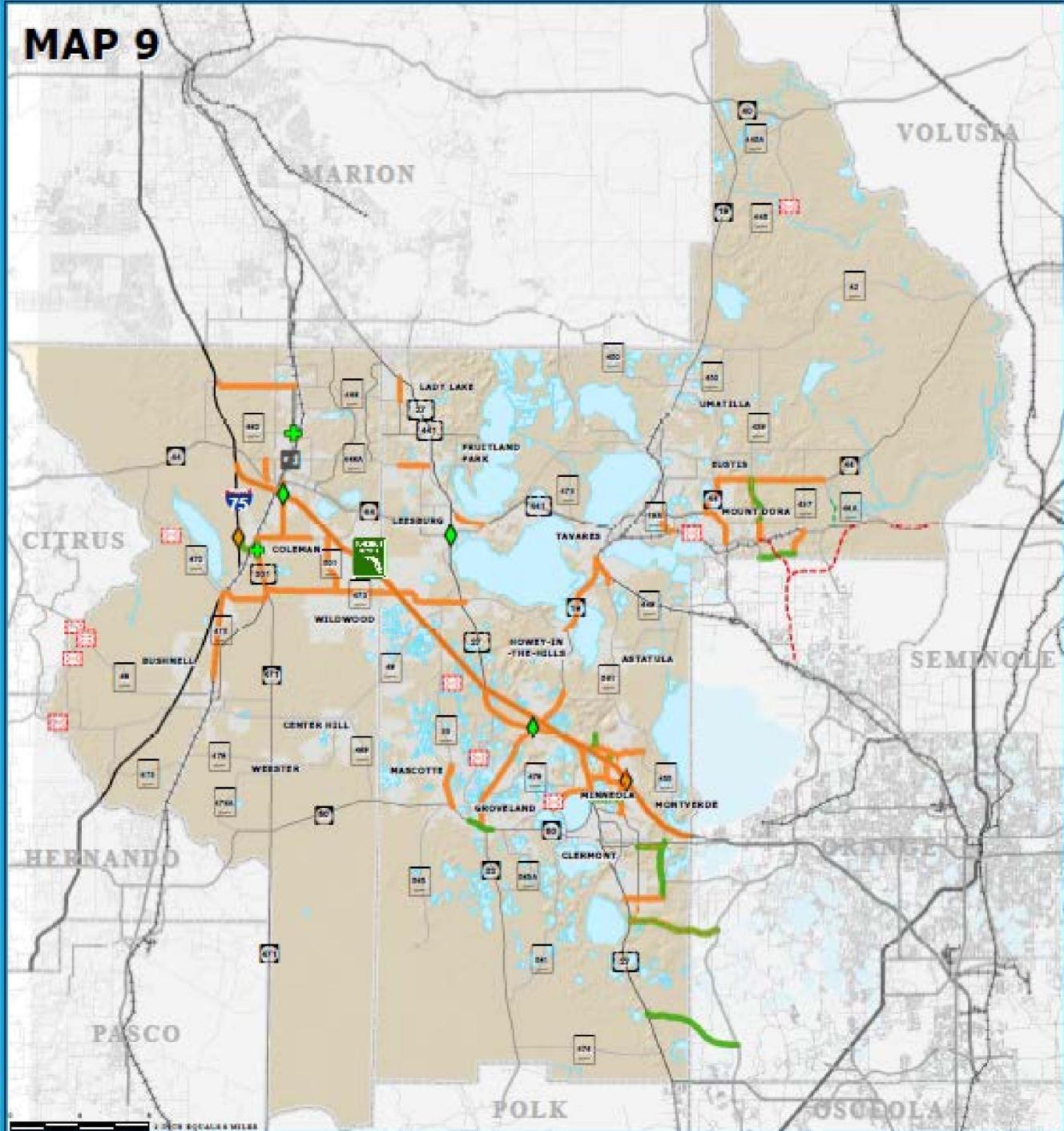
**Appendix G**  
Lake-Sumter MPO Planned Improvements

**Table 2 - Other Arterial (State / Federal Funds)**

Facility	From	To	County	Project	Current Year Cost Estimates	Year of Expenditure Cost Estimates	Funded Phases	2021 - 2025	2026 - 2030	2031 - 2040	Unfunded Phases
US 301 & C-472	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	\$ 2.1	\$ 2.4	PD&E	PE / ROW / CST	-	-	-
SR 44	ORANGE AVENUE	US 441	LAKE	WIDEN ROAD (2 TO 4 LANES)	\$ 18.5	\$ 22.2	PD&E / PE / ROW	CST	-	-	-
SR 50/SR 33	CR 565 (VILLA CITY ROAD)	BROWN STREET	LAKE	NEW 4 LANE ROAD	\$ 33.8	\$ 41.7	PD&E / PE	ROW	CST	-	-
US 301/SR 35	SR 44	C-470 W	SUMTER	WIDEN ROAD (2 TO 4 LANES)	\$ 51.1	\$ 87.3	PD&E / PE	ROW	-	CST	-
US 301 & CR 525E	INTERSECTION	0	SUMTER	SIGNAL/INTERSECTION IMPROVEMENTS	\$ 1.9	\$ 2.2	PD&E / ROW	PE / CST	-	-	-
US 441	SR 44	SR 46	LAKE	WIDEN ROAD (4 TO 6 LANES)	\$ 14.6	\$ 20.7	PD&E / PE	ROW	CST	-	-
C-470	TURNPIKE WEST RAMPS	CR 527	SUMTER	WIDEN ROAD (2 TO 4 LANES)	\$ 45.5	\$ 76.8	PD&E	PE / ROW / CST	-	CST	-
CR 470	TP WEST RAMPS	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	\$ 18.4	\$ 26.9	PD&E / ROW	ROW	CST	-	-
SR 44 & US 27	INTERSECTION	0	LAKE	UPGRADE INTERSECTION	\$ 2.1	\$ 2.5	PD&E / PE / ROW	CST	-	-	-
US 441/SR 500	PERKINS STREET	SR 44	LAKE	WIDEN ROAD (4 TO 6 LANES)	\$ 8.7	\$ 16.1	PD&E / PE / ROW	-	-	CST	-
CR 48	EAST OF US 27 (PALATLAKAHA BRIDGE)	CR 33	LAKE	WIDEN ROAD (2 TO 4 LANES)	\$ 6.3	\$ 1.3	PD&E / PE	-	ROW	-	CST
SR 19	CR 561	CR 48	LAKE	WIDEN ROAD (2 TO 4 LANES)	\$ 41.7	\$ -	PD&E / PE	-	-	-	ROW / CST
SR 50	HERNANDO CO	CR 33	SUMTER	CORRIDOR IMPROVEMENT	\$ 33.7	\$ -	None	-	-	-	PD&E / PE / ROW / CST
LAKE ORANGE PARKWAY	US 27	ORANGE COUNTY LINE	LAKE	NEW 4 LANE ROAD	\$ 85.5	\$ -	None	-	-	-	PD & E / PE / ROW / CST
SR 44	SR 44 & ORANGE AVENUE	CR 46A	LAKE	WIDEN ROAD (2 TO 4 LANES)	\$ 8.1	\$ -	None	-	-	-	PD & E / PE / ROW / CST
SR 19	SR 50	CR 455	LAKE	WIDEN ROAD (2 TO 4 LANES)	\$ 62.5	\$ -	None	-	-	-	PD & E / PE / ROW / CST
<b>Total</b>					<b>\$ 202.75</b>	<b>\$ 300.16</b>	(PROJECTS THAT ARE COST FEASIBLE BY 2040)				
<b>Other Arterial Funds</b>					<b>\$ 303.50</b>						
<b>Balance ( + / - )</b>					<b>\$ 3.34</b>						

## ROADWAY NEEDS PLAN

### MAP 9



**LEGEND:**

- County Road
- State Road
- US Highway
- Interstate
- Turnpike
- Water Body
- County Delineation
- Amtrak Station
- +Bus Service Only
- ++++ Active Railroad
- Road Widening
- New Road
- Replace Bridge
- Intersection Improvements
- New Interchange
- Interchange Improvements

MAP COMPOSITION:  
SEPTEMBER, 2013



**Appendix H**  
HCM Summary Worksheets – Existing & Signal Timing

# HCM 6th Signalized Intersection Summary

1: US 27 & CR 48

19075.1 McElvea Property



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	97	158	66	92	144	214	87	1113	47	138	695	46
Future Volume (veh/h)	97	158	66	92	144	214	87	1113	47	138	695	46
Initial Q (Q <sub>b</sub> ), 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	1693	1693	1870	1663	1841	1618	1856	1707	1856	1811	1737
Adj Flow Rate, veh/h	111	182	76	106	166	246	100	1279	54	159	799	53
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	12	14	14	2	16	4	19	3	13	3	6	11
Cap, veh/h	246	205	86	204	301	282	121	1324	543	180	1378	590
Arrive On Green	0.06	0.18	0.18	0.06	0.18	0.18	0.08	0.38	0.38	0.10	0.40	0.40
Sat Flow, veh/h	1640	1134	473	1781	1663	1560	1541	3526	1447	1767	3441	1472
Grp Volume(v), veh/h	111	0	258	106	166	246	100	1279	54	159	799	53
Grp Sat Flow(s), veh/h/ln	1640	0	1607	1781	1663	1560	1541	1763	1447	1767	1721	1472
Q Serve(g_s), s	6.2	0.0	17.7	5.4	10.3	17.4	7.2	40.2	2.7	10.1	20.5	2.5
Cycle Q Clear(g_c), s	6.2	0.0	17.7	5.4	10.3	17.4	7.2	40.2	2.7	10.1	20.5	2.5
Prop In Lane	1.00			0.29	1.00		1.00	1.00		1.00	1.00	1.00
Lane Grp Cap(c), veh/h	246	0	291	204	301	282	121	1324	543	180	1378	590
V/C Ratio(X)	0.45	0.00	0.89	0.52	0.55	0.87	0.83	0.97	0.10	0.89	0.58	0.09
Avail Cap(c_a), veh/h	246	0	388	205	409	383	159	1324	543	180	1378	590
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	45.2	35.9	42.2	45.1	51.4	34.6	22.9	50.2	26.5	21.1
Incr Delay (d2), s/veh	1.3	0.0	17.1	2.3	1.6	15.2	22.9	17.8	0.4	37.0	1.8	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.5	0.0	8.2	2.4	4.2	7.7	3.4	18.9	1.0	6.1	8.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.6	0.0	62.3	38.2	43.8	60.2	74.3	52.4	23.3	87.1	28.3	21.4
LnGrp LOS	D	A	E	D	D	E	E	D	C	F	C	C
Approach Vol, veh/h						518						1011
Approach Delay, s/veh						50.5						37.2
Approach LOS				D		D		D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R <sub>c</sub> ), s	20.0	50.0	14.9	28.2	17.2	52.8	15.0	28.2				
Change Period (Y+R <sub>c</sub> ), s	8.5	7.5	7.8	* 7.7	* 8.3	7.5	* 8	* 7.7				
Max Green Setting (Gmax), s	11.5	42.5	7.2	* 27	* 12	42.5	* 7	* 28				
Max Q Clear Time (g_c+l1), s	12.1	42.2	7.4	19.7	9.2	22.5	8.2	19.4				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.8	0.0	4.9	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				47.9								
HCM 6th LOS				D								
Notes												

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

Existing AM

# HCM 6th Signalized Intersection Summary

1: US 27 & CR 48

19075.1 McElvea Property



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	164	211	136	100	207	208	224	1110	65	360	1344	87
Future Volume (veh/h)	164	211	136	100	207	208	224	1110	65	360	1344	87
Initial Q (Q <sub>b</sub> ), 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	1885	1826	1826	1856	1826	1885	1856	1826	1826	1885	1841	1870
Adj Flow Rate, veh/h	173	222	111	105	218	166	236	1168	52	379	1415	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	5	5	3	5	1	3	5	5	1	4	2
Cap, veh/h	272	242	121	192	384	336	176	1256	560	176	1266	574
Arrive On Green	0.06	0.21	0.21	0.06	0.21	0.21	0.10	0.36	0.36	0.10	0.36	0.36
Sat Flow, veh/h	1795	1148	574	1767	1826	1598	1767	3469	1547	1795	3497	1585
Grp Volume(v), veh/h	173	0	333	105	218	166	236	1168	52	379	1415	92
Grp Sat Flow(s), veh/h/ln	1795	0	1723	1767	1826	1598	1767	1735	1547	1795	1749	1585
Q Serve(g_s), s	7.0	0.0	22.2	5.4	12.6	10.7	11.7	38.0	2.6	11.5	42.5	4.6
Cycle Q Clear(g_c), s	7.0	0.0	22.2	5.4	12.6	10.7	11.7	38.0	2.6	11.5	42.5	4.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	0	363	192	384	336	176	1256	560	176	1266	574
V/C Ratio(X)	0.63	0.00	0.92	0.55	0.57	0.49	1.34	0.93	0.09	2.15	1.12	0.16
Avail Cap(c_a), veh/h	272	0	401	192	432	378	176	1256	560	176	1266	574
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	0.0	45.3	35.5	41.6	40.8	52.8	36.0	24.7	52.9	37.4	25.4
Incr Delay (d2), s/veh	4.8	0.0	24.5	3.2	1.4	1.1	186.1	12.2	0.1	538.2	64.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	2.7	0.0	17.2	4.4	9.5	7.6	22.4	23.7	1.7	49.2	39.4	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.0	0.0	69.8	38.7	42.9	42.0	239.0	48.2	24.8	591.1	101.5	25.5
LnGrp LOS	D	A	E	D	D	D	F	D	C	F	F	C
Approach Vol, veh/h		506			489			1456			1886	
Approach Delay, s/veh		60.6			41.7			78.3			196.2	
Approach LOS		E			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	50.0	15.0	32.4	20.0	50.0	15.0	32.4				
Change Period (Y+Rc), s	8.5	7.5	7.8	* 7.7	* 8.3	7.5	* 8	* 7.7				
Max Green Setting (Gmax), s	11.5	42.5	7.2	* 27	* 12	42.5	* 7	* 28				
Max Q Clear Time (g_c+l1), s	13.5	40.0	7.4	24.2	13.7	44.5	9.0	14.6				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.5	0.0	0.0	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			123.4									
HCM 6th LOS			F									
Notes												

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

Existing PM

## Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↔	↔		↔	↔	
Traffic Vol, veh/h	2	353	5	0	433	1	22	0	0	0	0	3
Future Vol, veh/h	2	353	5	0	433	1	22	0	0	0	0	3
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									
Storage Length	235	-	-	360	-	-	-	-	-	-	-	-
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, %	0	12	20	0	6	0	0	0	0	0	0	0
Mvmt Flow	2	392	6	0	481	1	24	0	0	0	0	3

Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	482	0	0	398	0	0	882	881	395	881	884	482
Stage 1	-	-	-	-	-	-	399	399	-	482	482	-
Stage 2	-	-	-	-	-	-	483	482	-	399	402	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1091	-	-	1172	-	-	269	288	659	269	286	588
Stage 1	-	-	-	-	-	-	631	606	-	569	557	-
Stage 2	-	-	-	-	-	-	569	557	-	631	604	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1091	-	-	1172	-	-	267	287	659	269	285	588
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	287	-	269	285	-
Stage 1	-	-	-	-	-	-	630	605	-	568	557	-
Stage 2	-	-	-	-	-	-	566	557	-	630	603	-

Approach	EB	WB			NB			SB		
HCM Control Delay, s	0	0			19.8			11.2		
HCM LOS					C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	267	1091	-	-	1172	-	-	588
HCM Lane V/C Ratio	0.092	0.002	-	-	-	-	-	0.006
HCM Control Delay (s)	19.8	8.3	-	-	0	-	-	11.2
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

## 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	1	487	22	0	414	4	10	0	7	2	0	5
Future Vol, veh/h	1	487	22	0	414	4	10	0	7	2	0	5
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	-	-
Storage Length	235	-	-	360	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	4	0	0	5	25	0	0	14	0	0	0
Mvmt Flow	1	566	26	0	481	5	12	0	8	2	0	6

Major/Minor	Major1	Major2		Minor1		Minor2						
Conflicting Flow All	486	0	0	592	0	0	1068	1067	579	1069	1078	484
Stage 1	-	-	-	-	-	-	581	581	-	484	484	-
Stage 2	-	-	-	-	-	-	487	486	-	585	594	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.34	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.426	3.5	4	3.3
Pot Cap-1 Maneuver	1087	-	-	994	-	-	201	224	493	201	220	587
Stage 1	-	-	-	-	-	-	503	503	-	568	555	-
Stage 2	-	-	-	-	-	-	566	554	-	501	496	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1087	-	-	994	-	-	199	224	493	198	220	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	199	224	-	198	220	-
Stage 1	-	-	-	-	-	-	502	502	-	567	555	-
Stage 2	-	-	-	-	-	-	560	554	-	492	496	-

Approach	EB	WB		NB		SB		
HCM Control Delay, s	0	0		19.7		14.8		
HCM LOS				C		B		
<hr/>								
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	1087	-	-	994	-	-	376
HCM Lane V/C Ratio	0.075	0.001	-	-	-	-	-	0.022
HCM Control Delay (s)	19.7	8.3	-	-	0	-	-	14.8
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

## LAKE COUNTY - TRAFFIC SIGNAL OPERATIONS

<b>CARTEGRAPH ID: LC-S-058</b>				<b>DATE: 05/15/2015</b>				
<b>INTERSECTION NAME AND ID#: US 27 &amp; CR 48 065</b>								
<b>PHASE</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
	SBL	NB	WBL	EB	NBL	SB	EBL	WB
<b>INITIAL</b>	5	17	5	8	5	17	5	8
<b>PASSAGE</b>	3	3	3	3	3	3	3	3
<b>YELLOW</b>	5.5	5.5	4.8	4.8	5.5	5.5	4.8	4.8
<b>RED CLEAR</b>	3.0	2.0	3.0	2.9	2.8	2.0	3.2	2.4
<b>MAX 1</b>	20	50	15	35	20	50	15	35
<b>MAX 2</b>								
<b>WALK</b>								
<b>DON'T WALK</b>								
<b>RECALL</b>		Min			Min			
<b>DET. FUNC.</b>		L			L			
<b>SYSTEM TIMING</b>								
<b>PATTERN</b>	<b>CYCLE</b> Sec.	<b>OFFSET</b> Sec.	<b>COORDINATED</b> Phase	<b>BASE DAY 1</b> Sequence	<b>BASE DAY 2</b> Mon.- Fri. Sat.- Sun			
<b>SPLIT ALLOCATION - Sec.</b>								
<b>PHASE</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>NOTES:</b> Naztec 980 - TS-2								

Sent by Jim Globig (Lake County Assistant Traffic Operations Supervisor) on 01-16-2015

**Appendix I**  
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: 159

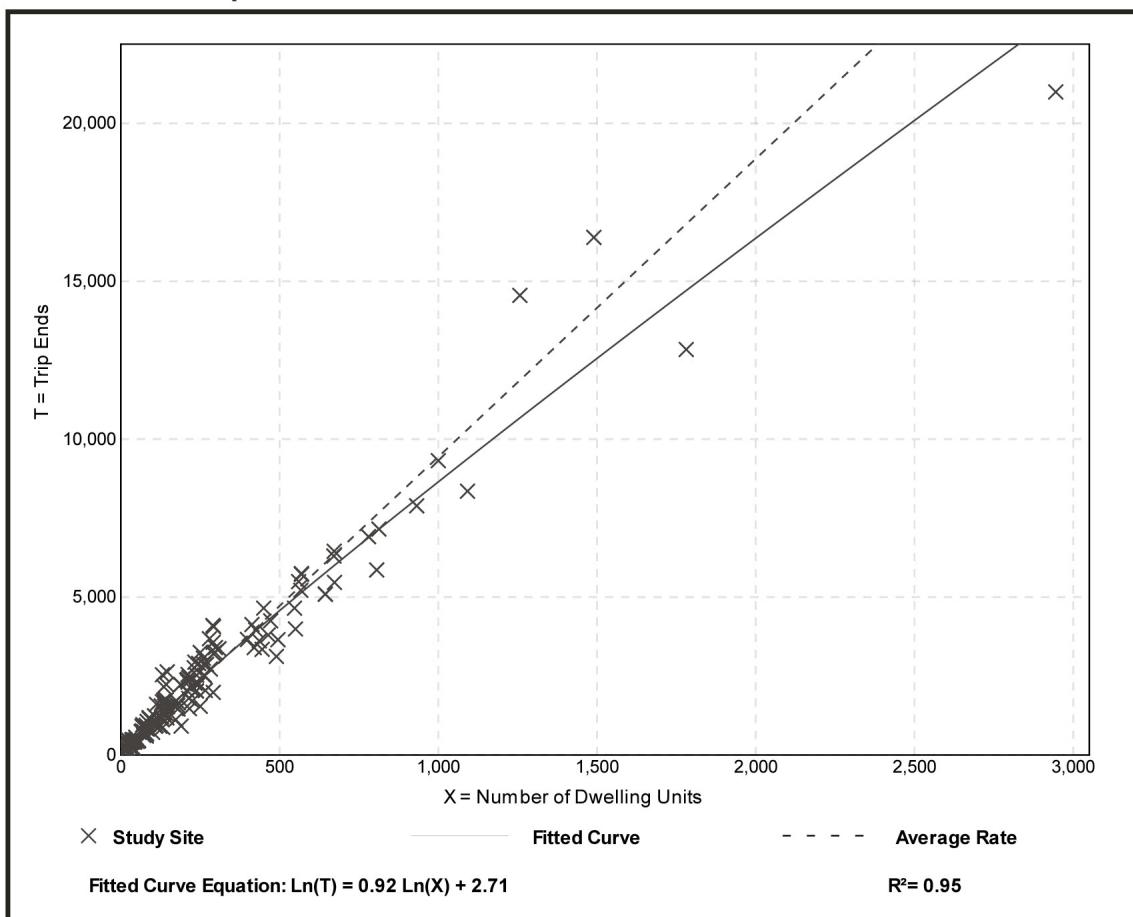
Avg. Num. of Dwelling Units: 264

Directional Distribution: 50% entering, 50% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

### 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: 173

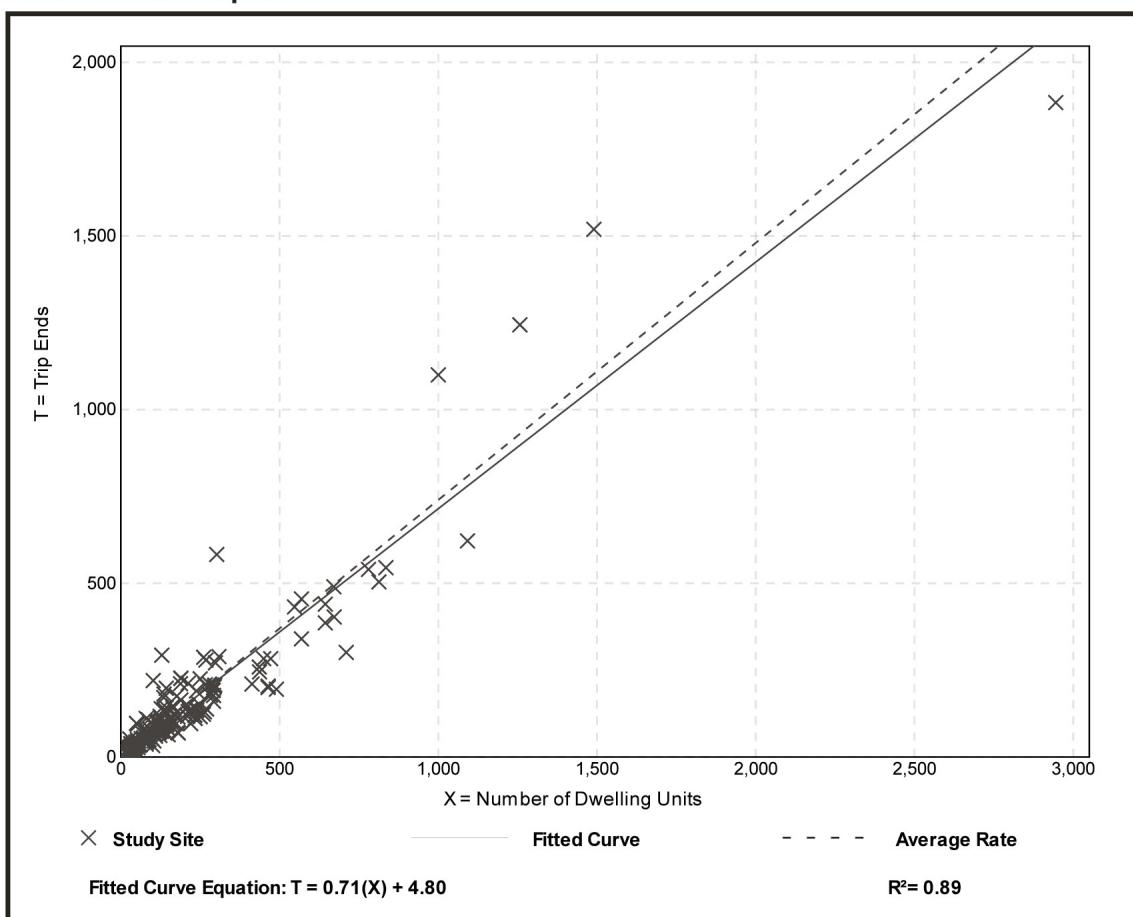
Avg. Num. of Dwelling Units: 219

Directional Distribution: 25% entering, 75% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

### 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: 190

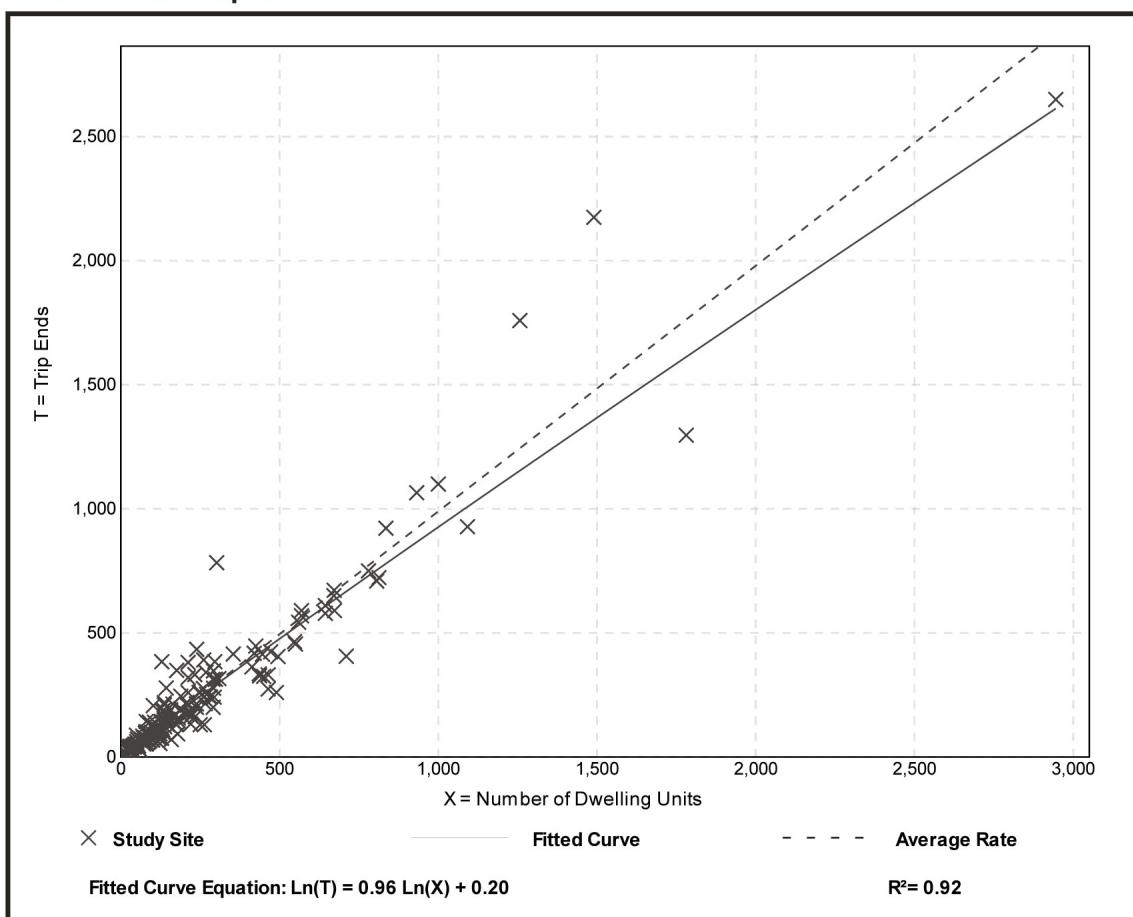
Avg. Num. of Dwelling Units: 242

Directional Distribution: 63% entering, 37% exiting

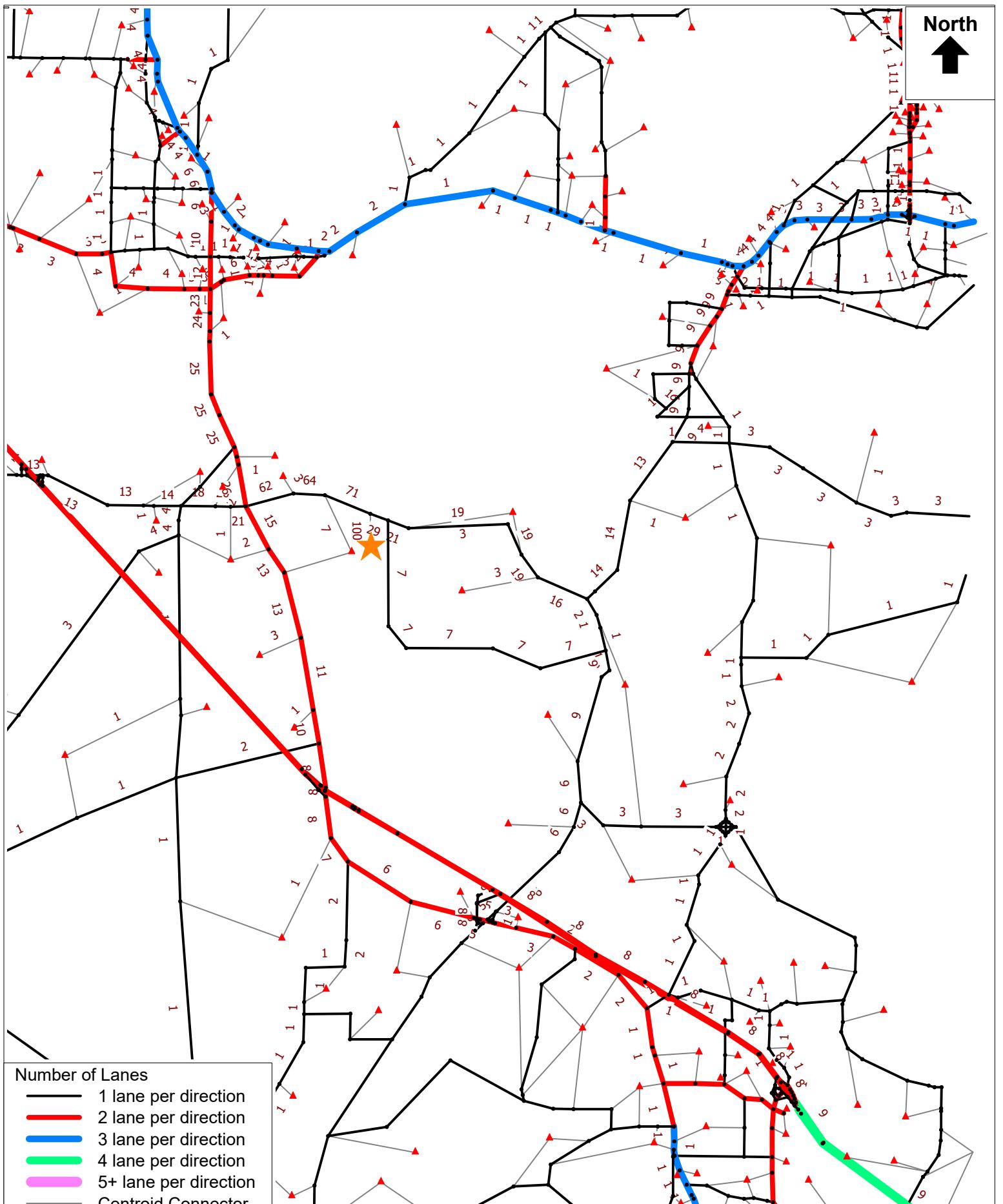
### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

### Data Plot and Equation



**Appendix J**  
FSUTMS Model Output



McElyea Property - Lake County (P19075 CF2025 TAZ=1663)

Project Distribution

C:\FSUTMS\5\CFRPMV61\_Daily\Base\CF\_2025\P19075\Output\HWYLOAD\_C25.NET 1/10/2020

(Licensed to Traffic and Mobility Consultants LLC)

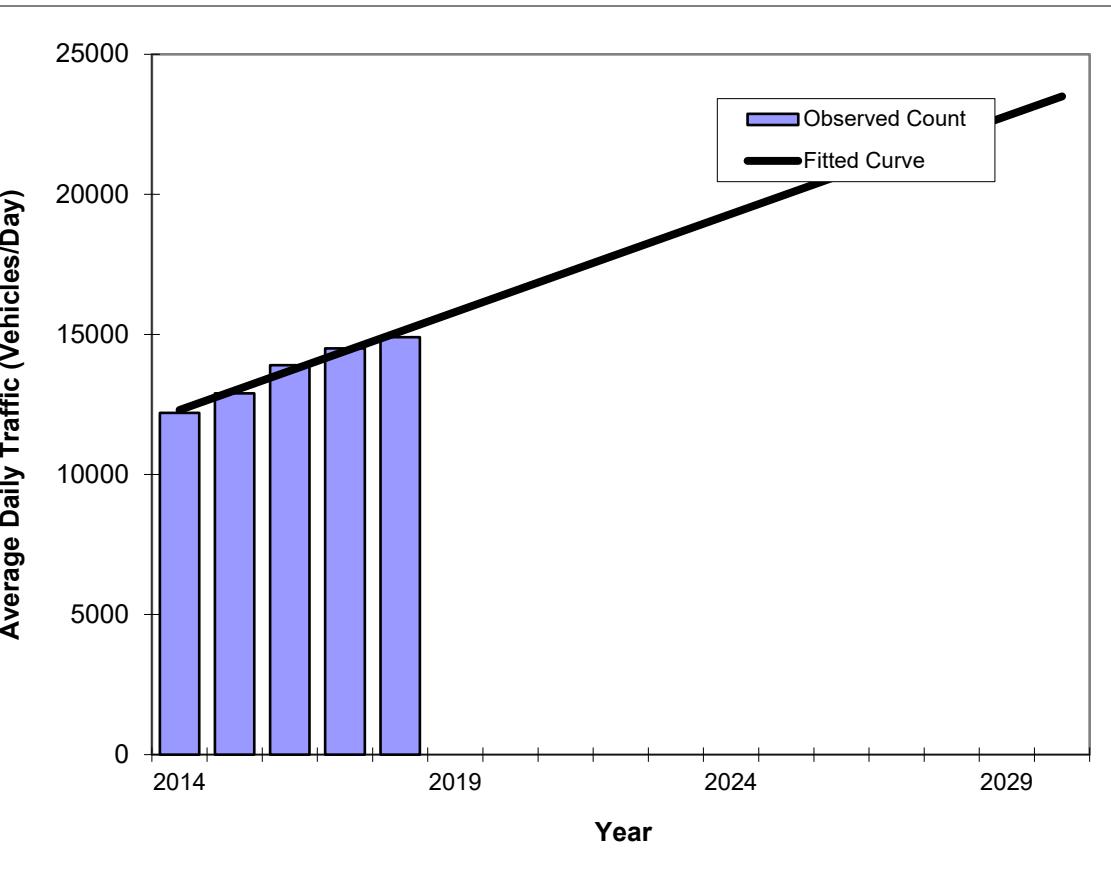
**Appendix K**  
Growth Trend Analysis & Historical Traffic Counts

## Traffic Trends - V2.0

**SR 19 -- Lake Harris North End to CR 48**

PIN#	973215-1
Location	1

County:	Lake (11)
Station #:	0
Highway:	SR 19



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	12200	12300
2015	12900	13000
2016	13900	13700
2017	14500	14400
2018	14900	15100

2020 Opening Year Trend		
2020	N/A	16500
2023 Mid-Year Trend		
2023	N/A	18600
2030 Design Year Trend		
2030	N/A	23500
TRANPLAN Forecasts/Trends		

\*\* Annual Trend Increase: 700  
 Trend R-squared: 97.84%  
 Trend Annual Historic Growth Rate: 5.69%  
 Trend Growth Rate (2018 to Design Year): 4.64%  
 Printed: 20-Jan-20

**Straight Line Growth Option**

\*Axe-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 11 - LAKE

SITE: 0494 - ON SR-19, 0.3 MI. N OF CR-48 (RCLP) CAB NW

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	14900 F	N 7600	S 7300	9.00	54.20	11.50
2017	14500 C	N 7400	S 7100	9.00	54.20	11.50
2016	13900 C	N 7000	S 6900	9.00	53.90	11.20
2015	12900 C	N 6400	S 6500	9.00	54.60	11.00
2014	12200 C	N 6100	S 6100	9.00	54.50	15.10
2013	12900 C	N 6500	S 6400	9.00	54.70	24.50
2012	11800 C	N 5900	S 5900	9.00	55.10	11.10
2011	10400 C	N 4600	S 5800	9.00	54.20	10.10
2010	11000 C	N 4900	S 6100	9.86	54.75	7.60
2009	12400 C	N 6200	S 6200	9.96	54.94	12.60
2008	12300 C	N 6300	S 6000	10.42	55.39	12.60
2007	14000 C	N 7000	S 7000	10.24	59.56	11.20
2006	14400 C	N 7200	S 7200	10.23	59.48	11.00
2005	13800 C	N 6800	S 7000	10.30	57.70	15.00
2004	13000 C	N 6500	S 6500	10.10	57.60	15.00
2003	12500 C	N 6200	S 6300	9.80	55.30	12.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

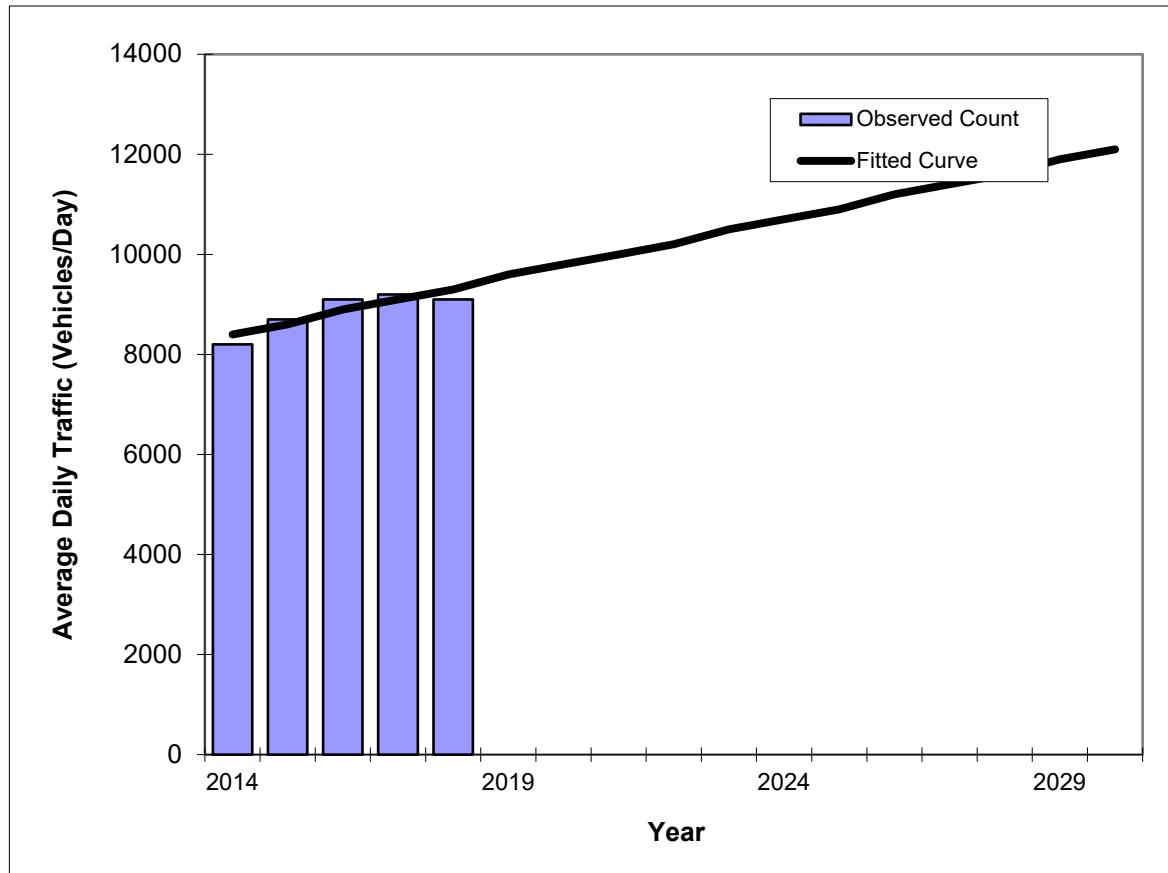
\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

## Traffic Trends - V2.0

SR 19 -- CR 48 to Central Ave

PIN#	973215-1
Location	1

County:	Lake (11)
Station #:	0
Highway:	SR 19



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2014	8200	8400
2015	8700	8600
2016	9100	8900
2017	9200	9100
2018	9100	9300
2019	N/A	9500
2020	N/A	9800
2021	N/A	10100
2022	N/A	10400
2023	N/A	10700
2024	N/A	11000
2025	N/A	11300
2026	N/A	11600
2027	N/A	11900
2028	N/A	12200
2029	N/A	12500

2020 Opening Year Trend		
2020	N/A	9800
2023 Mid-Year Trend		
2023	N/A	10500
2030 Design Year Trend		
2030	N/A	12100

TRANPLAN Forecasts/Trends		

\*\* Annual Trend Increase: 230  
 Trend R-squared: 76.45%  
 Trend Annual Historic Growth Rate: 2.68%  
 Trend Growth Rate (2018 to Design Year): 2.51%  
 Printed: 20-Jan-20

Straight Line Growth Option

\*Axle-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 11 - LAKE

SITE: 0495 - ON SR-19, 0.326 MI. S OF CR-48 (RVL)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	9100 C	N 4600	S 4500	9.00	54.20	23.20
2017	9200 C	N 4600	S 4600	9.00	54.20	16.50
2016	9100 C	N 4600	S 4500	9.00	53.90	19.70
2015	8700 C	N 4400	S 4300	9.00	54.60	13.90
2014	8200 C	N 4100	S 4100	9.00	54.50	15.80
2013	8700 C	N 4400	S 4300	9.00	54.70	16.70
2012	8200 C	N 4100	S 4100	9.00	55.10	14.80
2011	7900 C	N 4000	S 3900	9.00	54.20	15.10
2010	8200 C	N 4000	S 4200	9.86	54.75	13.50
2009	9000 C	N 4700	S 4300	9.96	54.94	9.90
2008	8200 C	N 4100	S 4100	10.42	55.39	16.40
2007	8800 C	N 4400	S 4400	10.24	59.56	18.60
2006	9200 C	N 4600	S 4600	10.23	59.48	21.50
2005	8800 C	N 4600	S 4200	10.30	57.70	14.50
2004	8100 C	N 4100	S 4000	10.10	57.60	21.90
2003	7600 C	N 3800	S 3800	9.80	55.30	19.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

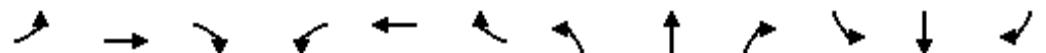
\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

**Appendix L**  
HCM Summary Worksheets – Projected & Background

# HCM 6th Signalized Intersection Summary

1: US 27 & CR 48

19075.1 McElvea Property



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑ ↗	↑ ↘		↑ ↗	↑ ↘		↑ ↗	↑ ↘	↑ ↗	↑ ↘	↑ ↗	↑ ↘
Traffic Volume (veh/h)	121	198	83	99	156	231	106	1361	57	169	850	56
Future Volume (veh/h)	121	198	83	99	156	231	106	1361	57	169	850	56
Initial Q (Q <sub>b</sub> ), 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	1693	1693	1870	1663	1841	1618	1856	1707	1856	1811	1737
Adj Flow Rate, veh/h	139	228	95	114	179	266	122	1564	66	194	977	64
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	12	14	14	2	16	4	19	3	13	3	6	11
Cap, veh/h	264	246	102	190	360	338	144	1266	520	172	1255	537
Arrive On Green	0.06	0.22	0.22	0.06	0.22	0.22	0.09	0.36	0.36	0.10	0.36	0.36
Sat Flow, veh/h	1640	1135	473	1781	1663	1560	1541	3526	1447	1767	3441	1472
Grp Volume(v), veh/h	139	0	323	114	179	266	122	1564	66	194	977	64
Grp Sat Flow(s), veh/h/ln	1640	0	1607	1781	1663	1560	1541	1763	1447	1767	1721	1472
Q Serve(g_s), s	7.0	0.0	23.3	5.8	11.2	19.1	9.2	42.5	3.6	11.5	29.8	3.4
Cycle Q Clear(g_c), s	7.0	0.0	23.3	5.8	11.2	19.1	9.2	42.5	3.6	11.5	29.8	3.4
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	0	348	190	360	338	144	1266	520	172	1255	537
V/C Ratio(X)	0.53	0.00	0.93	0.60	0.50	0.79	0.85	1.24	0.13	1.13	0.78	0.12
Avail Cap(c_a), veh/h	264	0	371	190	391	366	152	1266	520	172	1255	537
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	0.0	45.4	35.6	40.7	43.8	52.8	37.9	25.5	53.4	33.4	25.0
Incr Delay (d2), s/veh	1.9	0.0	28.2	5.1	1.1	10.1	32.7	112.9	0.5	107.9	4.8	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	5.8	0.0	17.3	4.9	8.0	12.7	8.3	53.3	2.3	15.9	18.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.6	0.0	73.6	40.7	41.7	53.9	85.5	150.9	26.0	161.3	38.2	25.4
LnGrp LOS	D	A	E	D	D	D	F	F	C	F	D	C
Approach Vol, veh/h		462				559			1752		1235	
Approach Delay, s/veh		62.8				47.3			141.6		56.8	
Approach LOS		E				D			F		E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R <sub>c</sub> ), s	20.0	50.0	15.0	33.4	19.3	50.7	15.0	33.4				
Change Period (Y+R <sub>c</sub> ), s	8.5	7.5	7.8	* 7.7	* 8.3	7.5	* 8	* 7.7				
Max Green Setting (Gmax), s	11.5	42.5	7.2	* 27	* 12	42.5	* 7	* 28				
Max Q Clear Time (g_c+l1), s	13.5	44.5	7.8	25.3	11.2	31.8	9.0	21.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	4.5	0.0	1.0				

## Intersection Summary

HCM 6th Ctrl Delay	93.3
HCM 6th LOS	F

## Notes

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

# HCM 6th Signalized Intersection Summary

1: US 27 & CR 48

19075.1 McElvea Property



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	205	264	170	108	224	225	274	1357	79	440	1643	106
Future Volume (veh/h)	205	264	170	108	224	225	274	1357	79	440	1643	106
Initial Q (Q <sub>b</sub> ), 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	1885	1826	1826	1856	1826	1885	1856	1826	1826	1885	1841	1870
Adj Flow Rate, veh/h	216	278	147	114	236	184	288	1428	67	463	1729	112
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	5	5	3	5	1	3	5	5	1	4	2
Cap, veh/h	275	256	135	166	415	363	172	1229	548	172	1239	561
Arrive On Green	0.06	0.23	0.23	0.06	0.23	0.23	0.10	0.35	0.35	0.10	0.35	0.35
Sat Flow, veh/h	1795	1124	595	1767	1826	1598	1767	3469	1547	1795	3497	1585
Grp Volume(v), veh/h	216	0	425	114	236	184	288	1428	67	463	1729	112
Grp Sat Flow(s), veh/h/ln	1795	0	1719	1767	1826	1598	1767	1735	1547	1795	1749	1585
Q Serve(g_s), s	7.0	0.0	27.3	5.9	13.8	12.1	11.7	42.5	3.5	11.5	42.5	5.9
Cycle Q Clear(g_c), s	7.0	0.0	27.3	5.9	13.8	12.1	11.7	42.5	3.5	11.5	42.5	5.9
Prop In Lane	1.00			0.35	1.00		1.00	1.00		1.00	1.00	1.00
Lane Grp Cap(c), veh/h	275	0	391	166	415	363	172	1229	548	172	1239	561
V/C Ratio(X)	0.79	0.00	1.09	0.69	0.57	0.51	1.67	1.16	0.12	2.69	1.40	0.20
Avail Cap(c_a), veh/h	275	0	391	166	423	370	172	1229	548	172	1239	561
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	46.4	35.7	41.1	40.5	54.2	38.8	26.2	54.3	38.7	26.9
Incr Delay (d2), s/veh	14.0	0.0	70.8	11.2	1.7	1.1	326.3	82.3	0.1	777.2	183.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.8	0.0	18.9	3.0	6.2	4.7	20.6	30.7	1.3	42.1	48.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.6	0.0	117.2	46.9	42.9	41.6	380.4	121.1	26.3	831.5	221.9	27.1
LnGrp LOS	E	A	F	D	D	D	F	F	C	F	F	C
Approach Vol, veh/h						534						2304
Approach Delay, s/veh						43.3						334.9
Approach LOS			F			D		F				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	50.0	15.0	35.0	20.0	50.0	15.0	35.0				
Change Period (Y+Rc), s	8.5	7.5	7.8	* 7.7	* 8.3	7.5	* 8	* 7.7				
Max Green Setting (Gmax), s	11.5	42.5	7.2	* 27	* 12	42.5	* 7	* 28				
Max Q Clear Time (g_c+l1), s	13.5	44.5	7.9	29.3	13.7	44.5	9.0	15.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4				

## Intersection Summary

HCM 6th Ctrl Delay 216.8

HCM 6th LOS F

## Notes

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

# HCM 6th Signalized Intersection Summary

1: US 27 & CR 48

19075.1 McElvea Property



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑ ↗	↑ ↘		↑ ↗	↑ ↘	↑ ↗	↑ ↘	↑ ↗	↑ ↘	↑ ↗	↑ ↘	↑ ↗
Traffic Volume (veh/h)	121	222	83	143	229	318	106	1361	72	198	850	56
Future Volume (veh/h)	121	222	83	143	229	318	106	1361	72	198	850	56
Initial Q (Q <sub>b</sub> ), 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	1693	1693	1870	1663	1841	1618	1856	1707	1856	1811	1737
Adj Flow Rate, veh/h	139	255	95	164	263	366	122	1564	83	228	977	64
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	12	14	14	2	16	4	19	3	13	3	6	11
Cap, veh/h	218	271	101	184	384	360	143	1243	510	169	1228	525
Arrive On Green	0.06	0.23	0.23	0.06	0.23	0.23	0.09	0.35	0.35	0.10	0.36	0.36
Sat Flow, veh/h	1640	1176	438	1781	1663	1560	1541	3526	1447	1767	3441	1472
Grp Volume(v), veh/h	139	0	350	164	263	366	122	1564	83	228	977	64
Grp Sat Flow(s), veh/h/ln	1640	0	1614	1781	1663	1560	1541	1763	1447	1767	1721	1472
Q Serve(g_s), s	7.0	0.0	25.7	7.2	17.4	27.8	9.4	42.5	4.7	11.5	30.7	3.5
Cycle Q Clear(g_c), s	7.0	0.0	25.7	7.2	17.4	27.8	9.4	42.5	4.7	11.5	30.7	3.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	0	372	184	384	360	143	1243	510	169	1228	525
V/C Ratio(X)	0.64	0.00	0.94	0.89	0.69	1.02	0.85	1.26	0.16	1.35	0.80	0.12
Avail Cap(c_a), veh/h	218	0	372	184	384	360	150	1243	510	169	1228	525
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	0.0	45.5	39.8	42.4	46.3	53.8	39.0	26.8	54.5	34.8	26.1
Incr Delay (d2), s/veh	6.0	0.0	31.6	37.2	5.0	51.8	33.8	122.7	0.7	192.1	5.4	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	6.2	0.0	19.1	5.8	11.9	22.2	8.4	55.6	3.0	22.2	18.8	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.7	0.0	77.2	76.9	47.4	98.2	87.6	161.7	27.5	246.6	40.2	26.5
LnGrp LOS	D	A	E	E	D	F	F	F	C	F	D	C
Approach Vol, veh/h						793						1269
Approach Delay, s/veh						76.9						76.6
Approach LOS			E			E			F			E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R <sub>c</sub> ), s	20.0	50.0	15.0	35.5	19.5	50.5	15.0	35.5				
Change Period (Y+R <sub>c</sub> ), s	8.5	7.5	7.8	* 7.7	* 8.3	7.5	* 8	* 7.7				
Max Green Setting (Gmax), s	11.5	42.5	7.2	* 27	* 12	42.5	* 7	* 28				
Max Q Clear Time (g_c+l1), s	13.5	44.5	9.2	27.7	11.4	32.7	9.0	29.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0				

## Intersection Summary

HCM 6th Ctrl Delay 105.8

HCM 6th LOS F

## Notes

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

Projected AM

# HCM 6th Signalized Intersection Summary

1: US 27 & CR 48

19075.1 McElvea Property



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↓		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	205	345	170	136	271	282	274	1357	127	537	1643	106
Future Volume (veh/h)	205	345	170	136	271	282	274	1357	127	537	1643	106
Initial Q (Q <sub>b</sub> ), 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	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	1885	1826	1826	1856	1826	1885	1856	1826	1826	1885	1841	1870
Adj Flow Rate, veh/h	216	363	147	143	285	244	288	1428	118	565	1729	112
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	5	5	3	5	1	3	5	5	1	4	2
Cap, veh/h	239	281	114	166	415	363	172	1229	548	172	1239	561
Arrive On Green	0.06	0.23	0.23	0.06	0.23	0.23	0.10	0.35	0.35	0.10	0.35	0.35
Sat Flow, veh/h	1795	1236	500	1767	1826	1598	1767	3469	1547	1795	3497	1585
Grp Volume(v), veh/h	216	0	510	143	285	244	288	1428	118	565	1729	112
Grp Sat Flow(s), veh/h/ln	1795	0	1736	1767	1826	1598	1767	1735	1547	1795	1749	1585
Q Serve(g_s), s	7.0	0.0	27.3	7.2	17.1	16.7	11.7	42.5	6.4	11.5	42.5	5.9
Cycle Q Clear(g_c), s	7.0	0.0	27.3	7.2	17.1	16.7	11.7	42.5	6.4	11.5	42.5	5.9
Prop In Lane	1.00			0.29	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	239	0	395	166	415	363	172	1229	548	172	1239	561
V/C Ratio(X)	0.90	0.00	1.29	0.86	0.69	0.67	1.67	1.16	0.22	3.28	1.40	0.20
Avail Cap(c_a), veh/h	239	0	395	166	423	370	172	1229	548	172	1239	561
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	46.4	37.1	42.4	42.3	54.2	38.8	27.1	54.3	38.7	26.9
Incr Delay (d2), s/veh	33.5	0.0	148.9	34.1	4.5	4.6	326.3	82.3	0.2	1042.5	183.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	5.2	0.0	27.7	4.7	8.0	6.9	20.6	30.7	2.3	54.8	48.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.8	0.0	195.3	71.2	46.9	46.8	380.4	121.1	27.3	1096.8	221.9	27.1
LnGrp LOS	E	A	F	E	D	D	F	F	C	F	F	C
Approach Vol, veh/h		726			672			1834			2406	
Approach Delay, s/veh		160.0			52.0			155.8			418.3	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R <sub>c</sub> ), s	20.0	50.0	15.0	35.0	20.0	50.0	15.0	35.0				
Change Period (Y+R <sub>c</sub> ), s	8.5	7.5	7.8	* 7.7	* 8.3	7.5	* 8	* 7.7				
Max Green Setting (Gmax), s	11.5	42.5	7.2	* 27	* 12	42.5	* 7	* 28				
Max Q Clear Time (g_c+l1), s	13.5	44.5	9.2	29.3	13.7	44.5	9.0	19.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6				

## Intersection Summary

HCM 6th Ctrl Delay                    256.0  
HCM 6th LOS                            F

## Notes

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

Projected PM

## Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↔	↔		↔	↔	
Traffic Vol, veh/h	2	396	15	14	473	1	97	0	43	0	0	3
Future Vol, veh/h	2	396	15	14	473	1	97	0	43	0	0	3
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									
Storage Length	235	-	-	360	-	-	-	-	-	-	-	-
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, %	0	12	20	0	6	0	0	0	0	0	0	0
Mvmt Flow	2	440	17	16	526	1	108	0	48	0	0	3

Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	527	0	0	457	0	0	1013	1012	449	1036	1020	527
Stage 1	-	-	-	-	-	-	453	453	-	559	559	-
Stage 2	-	-	-	-	-	-	560	559	-	477	461	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1050	-	-	1114	-	-	219	241	614	212	239	555
Stage 1	-	-	-	-	-	-	590	573	-	517	514	-
Stage 2	-	-	-	-	-	-	516	514	-	573	569	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1050	-	-	1114	-	-	215	237	614	193	235	555
Mov Cap-2 Maneuver	-	-	-	-	-	-	215	237	-	193	235	-
Stage 1	-	-	-	-	-	-	589	572	-	516	507	-
Stage 2	-	-	-	-	-	-	506	507	-	527	568	-

Approach	EB	WB			NB			SB			
HCM Control Delay, s	0	0.2			35.2			11.5			
HCM LOS					E			B			

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	269	1050	-	-	1114	-	-	555
HCM Lane V/C Ratio	0.578	0.002	-	-	0.014	-	-	0.006
HCM Control Delay (s)	35.2	8.4	-	-	8.3	-	-	11.5
HCM Lane LOS	E	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	3.3	0	-	-	0	-	-	0

## Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑		↔	↔		↔	↔	
Traffic Vol, veh/h	1	535	56	49	463	4	58	0	37	2	0	5
Future Vol, veh/h	1	535	56	49	463	4	58	0	37	2	0	5
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	-	-
Storage Length	235	-	-	360	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	4	0	0	5	25	0	0	14	0	0	0
Mvmt Flow	1	622	65	57	538	5	67	0	43	2	0	6

Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	543	0	0	687	0	0	1315	1314	655	1333	1344	541
Stage 1	-	-	-	-	-	-	657	657	-	655	655	-
Stage 2	-	-	-	-	-	-	658	657	-	678	689	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.34	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.426	3.5	4	3.3
Pot Cap-1 Maneuver	1036	-	-	916	-	-	136	160	446	132	153	545
Stage 1	-	-	-	-	-	-	457	465	-	458	466	-
Stage 2	-	-	-	-	-	-	457	465	-	445	450	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1036	-	-	916	-	-	128	150	446	114	143	545
Mov Cap-2 Maneuver	-	-	-	-	-	-	128	150	-	114	143	-
Stage 1	-	-	-	-	-	-	457	465	-	458	437	-
Stage 2	-	-	-	-	-	-	424	436	-	402	450	-

Approach	EB	WB			NB			SB					
HCM Control Delay, s	0	0.9			54.2			19.2					
HCM LOS					F			C					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	177	1036	-	-	916	-	-	262					
HCM Lane V/C Ratio	0.624	0.001	-	-	0.062	-	-	0.031					
HCM Control Delay (s)	54.2	8.5	-	-	9.2	-	-	19.2					
HCM Lane LOS	F	A	-	-	A	-	-	C					
HCM 95th %tile Q(veh)	3.5	0	-	-	0.2	-	-	0.1					

Intersection						
Int Delay, s/veh	4.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	
Traffic Vol, veh/h	398	58	5	568	131	15
Future Vol, veh/h	398	58	5	568	131	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	350	375	-	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	433	63	5	617	142	16
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	496	0	1060	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	627	-
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	-	-	1068	-	248	623
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1068	-	247	623
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	529	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.1	37.5			
HCM LOS			E			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	263	-	-	1068	-	
HCM Lane V/C Ratio	0.603	-	-	0.005	-	
HCM Control Delay (s)	37.5	-	-	8.4	-	
HCM Lane LOS	E	-	-	A	-	
HCM 95th %tile Q(veh)	3.6	-	-	0	-	

Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	
Traffic Vol, veh/h	583	193	16	510	85	9
Future Vol, veh/h	583	193	16	510	85	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	350	375	-	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	634	210	17	554	92	10
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	844	0	1222	634
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	588	-
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	-	-	792	-	198	479
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	792	-	194	479
Mov Cap-2 Maneuver	-	-	-	-	194	-
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	543	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.3	38.5			
HCM LOS			E			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	206	-	-	792	-	
HCM Lane V/C Ratio	0.496	-	-	0.022	-	
HCM Control Delay (s)	38.5	-	-	9.6	-	
HCM Lane LOS	E	-	-	A	-	
HCM 95th %tile Q(veh)	2.5	-	-	0.1	-	

Intersection

Int Delay, s/veh 7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		T	↑	↑	
Traffic Vol, veh/h	116	29	10	24	5	24
Future Vol, veh/h	116	29	10	24	5	24
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	-	375	-	-	-
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	126	32	11	26	5	26

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	66	18	31	0	-	0
Stage 1	18	-	-	-	-	-
Stage 2	48	-	-	-	-	-
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	939	1061	1582	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	932	1061	1582	-	-	-
Mov Cap-2 Maneuver	932	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	974	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	2.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1582	-	955	-	-
HCM Lane V/C Ratio	0.007	-	0.165	-	-
HCM Control Delay (s)	7.3	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		T	↑	R	
Traffic Vol, veh/h	76	19	32	18	24	81
Future Vol, veh/h	76	19	32	18	24	81
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	-	375	-	-	-
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	83	21	35	20	26	88

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	160	70	114	0	-
Stage 1	70	-	-	-	-
Stage 2	90	-	-	-	-
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	831	993	1475	-	-
Stage 1	953	-	-	-	-
Stage 2	934	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	811	993	1475	-	-
Mov Cap-2 Maneuver	811	-	-	-	-
Stage 1	930	-	-	-	-
Stage 2	934	-	-	-	-

Approach	EB	NB	SB	
HCM Control Delay, s	9.9	4.8	0	
HCM LOS	A			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1475	-	842	-	-
HCM Lane V/C Ratio	0.024	-	0.123	-	-
HCM Control Delay (s)	7.5	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

# 19075.1 McElyea Property

## Intersection Volumes (2024 PROJECTED AM)

Period	Tgen	Enter	Exit	SF	AGR	Years	Legend
AM Peak	97	290	--	Variable	4		Backg'd + (Project) = Total

### Intersection= CR 48 & US 27

1

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	95	1.02	97	1.25		121			0	121	121
	T	155	1.02	158	1.25		198	25%		24	222	198 + (24) = 222
	R	65	1.02	66	1.25		83			0	83	83
WB	L	90	1.02	92	1.08		99		15%	44	143	99 + (44) = 143
	T	141	1.02	144	1.08		156		25%	73	229	156 + (73) = 229
	R	210	1.02	214	1.08		231		30%	87	318	231 + (87) = 318
NB	L	85	1.02	87	1.22		106			0	106	106
	T	1091	1.02	1,113	1.22		1361			0	1361	1361
	R	46	1.02	47	1.22		57	15%		15	72	57 + (15) = 72
SB	L	135	1.02	138	1.22		169	30%		29	198	169 + (29) = 198
	T	681	1.02	695	1.22		850			0	850	850
	R	45	1.02	46	1.22		56			0	56	56

### Intersection= CR 48 & Number 2 Road

2

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	2	1.00	2	1.08		2			0	2	2
	T	353	1.00	353	1.08		381		5%	15	396	381 + (15) = 396
	R	5	1.00	5	1.08		5	10%		10	15	5 + (10) = 15
WB	L	0	1.00	0	1.08		0	15%		14	14	(14)
	T	433	1.00	433	1.08		468	5%		5	473	468 + (5) = 473
	R	1	1.00	1	1.08		1			0	1	1
NB	L	22	1.00	22	1.08		24		25%	73	97	24 + (73) = 97
	T	0	1.00	0	1.08		0			0	0	0
	R	0	1.00	0	1.08		0	15%		43	43	(43)
SB	L	0	1.00	0	1.08		0			0	0	0
	T	0	1.00	0	1.08		0			0	0	0
	R	3	1.00	3	1.08		3			0	3	3

### Intersection= CR 48 & Access

3

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.00	0	1.08		0			0	0	0
	T	360	1.00	360	1.08		389	10%		10	399	389 + (10) = 399
	R	0	1.00	0	1.08		0	60%		58	58	(58)
WB	L	0	1.00	0	1.08		0	5%		5	5	(5)
	T	458	1.00	458	1.08		495		25%	73	568	495 + (73) = 568
	R	0	1.00	0	1.08		0			0	0	0
NB	L	0	1.00	0	1.00		0		45%	131	131	(131)
	T	0	1.00	0	1.00		0			0	0	0
	R	0	1.00	0	1.00		0	5%		15	15	(15)

### Intersection= Number 2 Road & Access

4

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.00	0	1.00		0		40%	116	116	(116)
	T	0	1.00	0	1.00		0			0	0	0
	R	0	1.00	0	1.00		0	10%		29	29	(29)
NB	L	0	1.00	0	1.08		0	10%		10	10	(10)
	T	22	1.00	22	1.08		24			0	24	24
	R	0	1.00	0	1.08		0			0	0	0
SB	L	0	1.00	0	1.08		0			0	0	0
	T	5	1.00	5	1.08		5			0	5	5
	R	0	1.00	0	1.08		0	25%		24	24	(24)

## 19075.1 McElyea Property

### Intersection Volumes (2024 PROJECTED PM)

Period	Tgen	Enter	Exit	SF	AGR	Years	Legend
PM Peak	322	189		--	Variable	4	Backg'd + (Project) = Total

### Intersection= CR 48 & US 27

1

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	161	1.02	164	1.25		205			0	205	205
	T	207	1.02	211	1.25		264	25%		81	345	264 + (81) = 345
	R	133	1.02	136	1.25		170			0	170	170
WB	L	98	1.02	100	1.08		108		15%	28	136	108 + (28) = 136
	T	203	1.02	207	1.08		224		25%	47	271	224 + (47) = 271
	R	204	1.02	208	1.08		225		30%	57	282	225 + (57) = 282
NB	L	220	1.02	224	1.22		274			0	274	274
	T	1088	1.02	1,110	1.22		1357			0	1357	1357
	R	64	1.02	65	1.22		79	15%		48	127	79 + (48) = 127
SB	L	353	1.02	360	1.22		440	30%		97	537	440 + (97) = 537
	T	1318	1.02	1,344	1.22		1643			0	1643	1643
	R	85	1.02	87	1.22		106			0	106	106

### Intersection= CR 48 & Number 2 Road

2

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	1	1.00	1	1.08		1			0	1	1
	T	487	1.00	487	1.08		526		5%	9	535	526 + (9) = 535
	R	22	1.00	22	1.08		24	10%		32	56	24 + (32) = 56
WB	L	0	1.00	0	1.08		0	15%		49	49	(49)
	T	414	1.00	414	1.08		447		5%	16	463	447 + (16) = 463
	R	4	1.00	4	1.08		4			0	4	4
NB	L	10	1.00	10	1.08		11		25%	47	58	11 + (47) = 58
	T	0	1.00	0	1.08		0			0	0	0
	R	7	1.00	7	1.08		8		15%	29	37	8 + (29) = 37
SB	L	2	1.00	2	1.08		2			0	2	2
	T	0	1.00	0	1.08		0			0	0	0
	R	5	1.00	5	1.08		5			0	5	5

### Intersection= CR 48 & Access

3

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.00	0	1.08		0			0	0	0
	T	510	1.00	510	1.08		551	10%		32	583	551 + (32) = 583
	R	0	1.00	0	1.08		0	60%		193	193	(193)
WB	L	0	1.00	0	1.08		0	5%		16	16	(16)
	T	429	1.00	429	1.08		463		25%	47	510	463 + (47) = 510
	R	0	1.00	0	1.08		0			0	0	0
NB	L	0	1.00	0	1.00		0		45%	85	85	(85)
	T	0	1.00	0	1.00		0			0	0	0
	R	0	1.00	0	1.00		0		5%	9	9	(9)

### Intersection= Number 2 Road & Access

4

Approach	Mvmt	Raw	SF	Adjusted	GR	Redirect	Adj Bg'd	%Proj Ent	%Proj Ext	Project	Total	Formula
EB	L	0	1.00	0	1.00		0		40%	76	76	(76)
	T	0	1.00	0	1.00		0			0	0	0
	R	0	1.00	0	1.00		0	10%		19	19	(19)
NB	L	0	1.00	0	1.08		0	10%		32	32	(32)
	T	17	1.00	17	1.08		18			0	18	18
	R	0	1.00	0	1.08		0			0	0	0
SB	L	0	1.00	0	1.08		0			0	0	0
	T	22	1.00	22	1.08		24			0	24	24
	R	0	1.00	0	1.08		0	25%		81	81	(81)

**Appendix M**  
NCHRP Report 457 Output

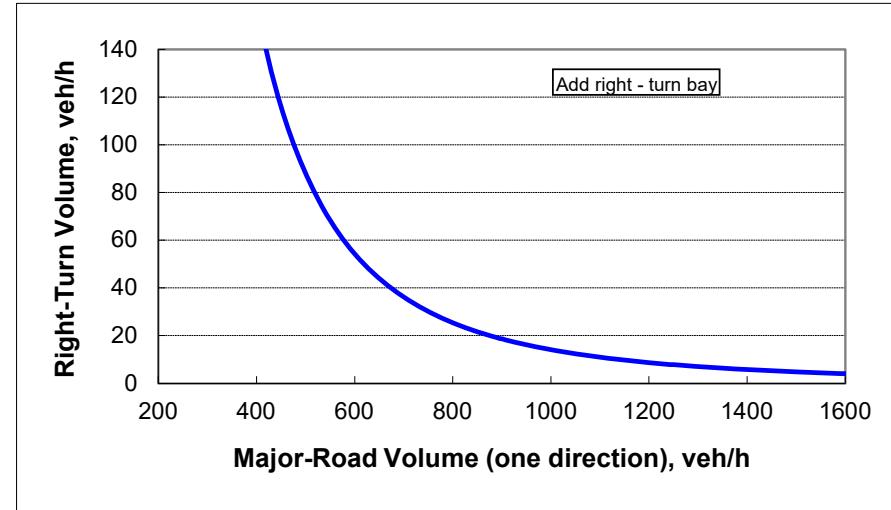
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

**INPUT**

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	776
Right-turn volume, veh/h:	193

**OUTPUT**

Variable	Value
Limiting right-turn volume, veh/h:	28
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Add right-turn bay.</b>	



CR 48 Full Access  
Left Turn Lane Warrant

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

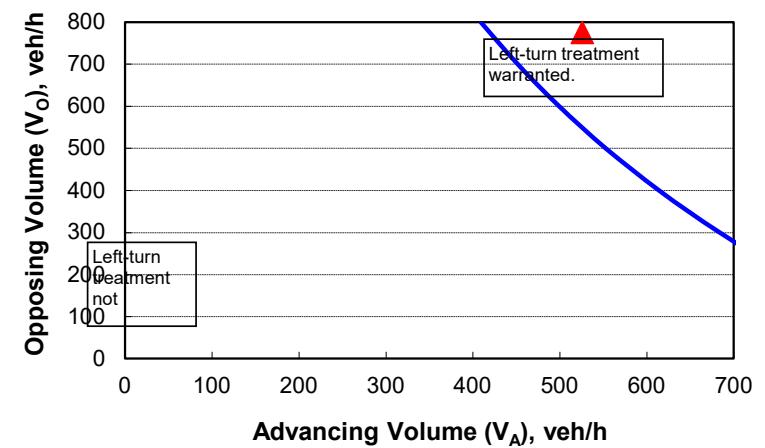
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	40
Percent of left-turns in advancing volume ( $V_A$ ), %:	3%
Advancing volume ( $V_A$ ), veh/h:	526
Opposing volume ( $V_O$ ), veh/h:	776

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	419
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment warranted.</b>	



**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Number 2 Road Full Access  
Right Turn Warrant

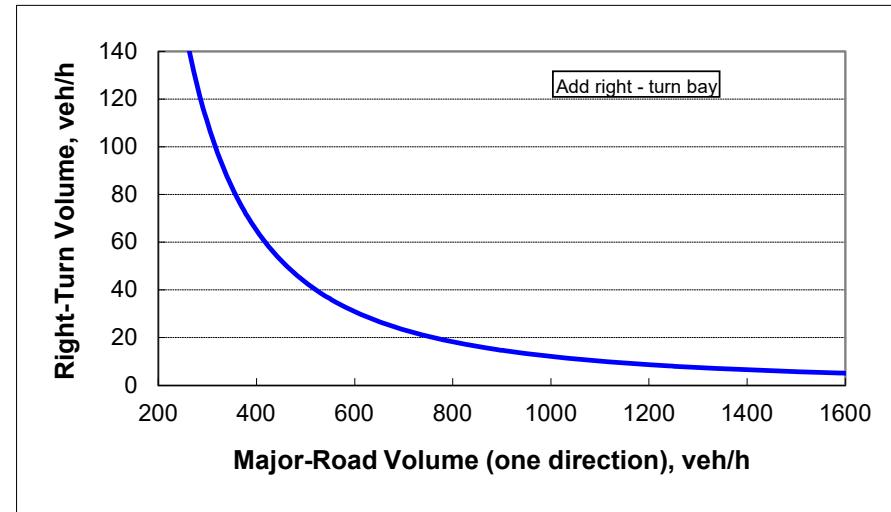
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

**INPUT**

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	105
Right-turn volume, veh/h:	81

**OUTPUT**

Variable	Value
Limiting right-turn volume, veh/h:	754
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
Do NOT add right-turn bay.	



**Number 2 Road Full Access**  
**Left Turn Lane Warrant**

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

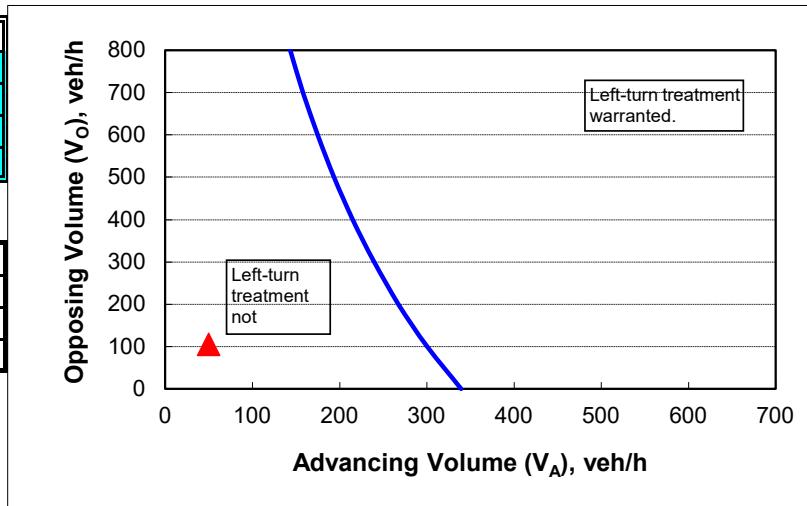
**2-lane roadway (English)**

**INPUT**

Variable	Value
85 <sup>th</sup> percentile speed, mph:	45
Percent of left-turns in advancing volume ( $V_A$ ), %:	64%
Advancing volume ( $V_A$ ), veh/h:	50
Opposing volume ( $V_O$ ), veh/h:	105

**OUTPUT**

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	299
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Intersection of CR 48 and Number Two Road  
Right Turn Warrant

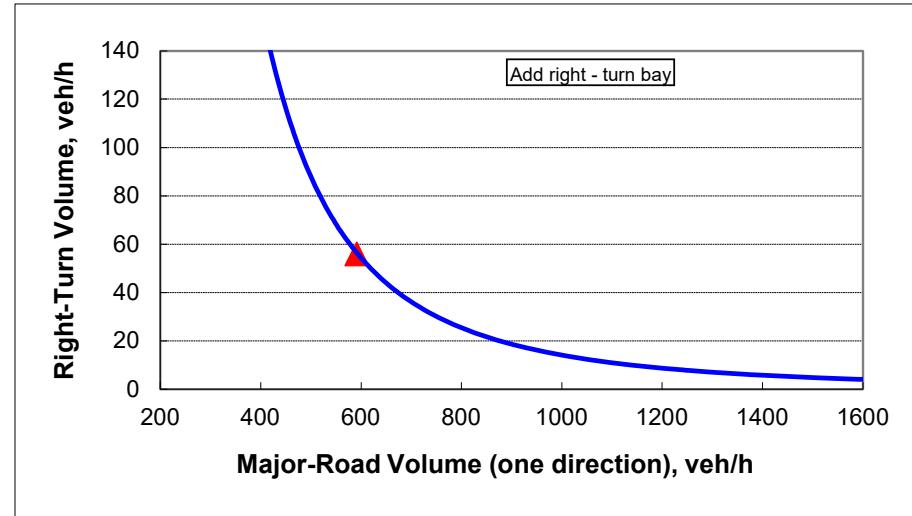
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

**INPUT**

Roadway geometry:	<input type="checkbox"/>	2-lane roadway	<input type="button" value="▼"/>
Variable		Value	
Major-road speed, mph:		40	
Major-road volume (one direction), veh/h:		592	
Right-turn volume, veh/h:		56	

**OUTPUT**

Variable	Value
Limiting right-turn volume, veh/h:	56
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<b>Do NOT add right-turn bay.</b>	



**Appendix N**  
Lake County Land Development Regulations

## LAKE COUNTY STANDARD TURN LANES

