Project Traffic Analysis Report (PTAR)

Alternatives Evaluation Study
Sinclair Road Extension
From Tradition Boulevard to Bella Citta Boulevard

Prepared for:

Osceola County, Florida
Department of Transportation and Transit
1 Courthouse Square, Suite 3100
Kissimmee, FL 34741

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Prepared by:

Kimley-Horn and Associates, Inc.

PROFESSIONAL ENGINEER CERTIFICATION
PROJECT TRAFFIC ANALYSIS REPORT (PTAR)

Project: Alternatives Evaluation Study
Sinclair Road Extension
From Tradition Boulevard to Bella Citta Boulevard

This project traffic analysis report contains engineering information that fulfills the purpose and need for the Alternatives Evaluation Study for Sinclair Road Extension from Tradition Boulevard to Bella Citta Boulevard in Osceola County, Florida. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience. I hereby certify that I am a registered professional engineer in the State of Florida practicing with Kimley-Horn and Associates, Inc., and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice for this project.

This document has been digitally signed and sealed by:

cn=James M Taylor, c=US, o=KIMLEY-HORN AND ASSOCIATES INC, email=james.taylor@kimley-horn.com
2023.01.25 15:07:57 -05'00'

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Kimley-Horn
189 South Orange Avenue, Suite 1000
Orlando, FL 32801
Tel: 407-898-1511
Certificate of Authorization 35106
Vendor No: S. Clifton Tate, P.E. No. 43148

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1.0 EXECUTIVE SUMMARY

The Project Traffic Analysis Report (PTAR) has been prepared to provide design traffic volumes and traffic analyses in support of the Alternatives Evaluation Study for Sinclair Road Extension from Tradition Boulevard to Goodman Road. The Sinclair Road Extension will consist of a 4-lane roadway with a center median. Bicycle and pedestrian facilities will also be included.

Traffic data were collected and analyzed to document intersection and arterial operational conditions along the future road extension and the study intersections of Sinclair Road and Tradition Boulevard and Goodman Road and Sinclair Road Extension/Bella Citta Boulevard. The study area also included multiple nearby roadways segments. This analysis evaluates Opening Year 2025 and Design Year 2045 Build conditions and determines arterial speed, arterial level of service (LOS), average travel speed, and other intersection measures of effectiveness (MOEs). The study intersections were evaluated to determine the appropriate lane configurations and traffic control types once Sinclair Road Extension is in place.

Future volumes along the study intersections were developed by comparing annual average daily traffic (AADT) obtained from the Central Florida Regional Planning Model (CFRPM v7) and adjusting the model outputs to account for the model's accuracy in replicating historical traffic volumes. The adjusted AADT was then inputted into the TURNS5 tool to generate the design hourly volume (DHV). Study intersections were evaluated based on the Highway Capacity Manual (HCM) 6th Edition methodologies using Synchro (v11) software.

Under the Build conditions, the Sinclair Road Extension is anticipated to operate acceptably. The northern T-intersection at Tradition Boulevard was found to operate acceptably under signalized control with a dedicated permissive/protected southbound left-turn lane and dedicated left- and right-turn lanes for the minor approach. The intersection at Goodman Road was found to operate acceptably under signalized control, with all approaches providing dedicated permissive/protected left-turn lanes.

Additionally, this study also recommends queue lengths for the left-turn lanes at the study intersections for the Design Year 2045, as shown in **Table ES-1** below.

Table ES-1: Recommended Turn Lane Queue Lengths

Intersection	Turn Lane Queue Length (feet)			
	EBL	WBL	NBL	SBL
Sinclair Rd & Tradition Bvld	-	250	-	300
Sinclair Rd/Bella Citta Blvd & Goodman Rd	100	500	175	175

2.0 INTRODUCTION

This Project Traffic Analysis Report (PTAR) has been prepared by Kimley-Horn and Associates, Inc. (Kimley-Horn) on behalf of Osceola County. The purpose of this PTAR is to provide design traffic volumes and traffic analyses in support of the Alternatives Evaluation Study for Sinclair Road Extension.

2.1 PROJECT DESCRIPTION

Osceola County is conducting an Alternatives Evaluation Study, which may be followed by the development of design plans for the extension of Sinclair Road from Tradition Boulevard to Bella Citta Boulevard. This project involves the construction of a new 4-lane divided roadway with pedestrian and bicycle facilities from Tradition Boulevard to South Goodman Road at Bella Citta Boulevard. Associated drainage improvements and stormwater ponds, and modifications of the intersections at each end of the project will be evaluated.

Under existing conditions, Sinclair Road, from Tradition Boulevard to SR 429, is a 4-lane local road with a posted speed limit of 35 MPH. From SR 429 to Old Lake Wilson Road, Sinclair Road is an Urban Major Collector with a posted speed limit of 35 MPH. Bella Citta Boulevard, west of Goodman Road, is a 2-lane Urban Major Collector with a posted speed limit of 40 MPH. The project is located in Osceola County, Florida and is displayed on **Exhibit 1**.

2.2 EXISTING TRANSIT SERVICE

There is no transit service in the study area.

2.3 OBJECTIVE

The objective of this report is to provide Osceola County with the annual average daily traffic (AADT), peak hour volumes (PHV), intersection and roadway volume-to-capacity (V/C) ratios, and level of service (LOS) for the Existing Year 2021, and traffic forecasts for Opening Year 2025 and the Design Year 2045 Build condition. A No-Build condition is not addressed in this report. This report includes the development of the design traffic characteristics, including standard K-factor, design hour directional demand (D), and percentage of trucks for both the design hour and daily demand (Tf, T24) for use in the operational analysis of future conditions. Intersection turning movement queue lengths are also documented.

Exhibit 1: Project Location Map

3.0 METHODOLOGY

The methodology for this analysis, dated February 2, 2022 (provided in **Appendix A**), describes the project assumptions, analysis years, measures of effectiveness (MOE), safety analysis, and future traffic development. The MOEs are as follows:

Table 1: Measures of Effectiveness (MOE) Summary

Intersection	Arterial	Safety
Queue Lengths	Travel Speed	Crash Frequency
Volume-to-Capacity Ratios	Arterial Level-of-Service	Crash Rate
Delay	--	Number of Fatalities
Level of Service	--	Crash Severity Level

While the County does not have LOS standards for transportation, they do consider V/C ratios as one of many factors (which are related to the County's mobility indicators) in establishing priorities for roadway improvements. It should be noted that while V/C ratios below 1.0 are desirable, they are not required by Osceola County.

4.0 EXISTING CONDITIONS

An analysis of existing year (2021) operating conditions was conducted for the study area segments and intersections. Data collection was conducted to establish intersection turning movement counts and segment counts. The results of this data collection are presented in the subsequent tables and exhibits.

4.1 TRAFFIC COUNT INFORMATION

Traffic volume counts were collected from existing sources and supplemented with additional counts obtained for this study. Existing sources are summarized in **Table 2**.

Table 2: Existing Traffic Counts

Source	Station	Location	Type	Date
FDOT Florida Traffic Online	921086	Goodman Rd, north of Bella Citta Blvd	Historic, Daily	7/8/2020
	921087	Goodman Rd, south of Bella Citta Blvd	Historic, Daily	7/7/2020
	927084	Bella Citta Blvd, west of Goodman Rd	Historic, Daily	7/7/2020
Osceola County	126	Goodman Rd, north of Bella Citta Blvd	Daily	4/1/2021
	121	Masters Blvd, south of Bella Citta Blvd	Daily	10/7/2021
	184	Bella Citta Blvd, west of Goodman Rd	Daily	3/24/2021
	122	Champion Gate Blvd, east of Masters Blvd	Daily	9/16/2021
	105	S Old Lake Wilson Rd, north of Sinclair Rd	Daily	3/23/2021
	103	S Old Lake Wilson Rd, south of Sinclair Rd	Daily	3/23/2021

Since Sinclair Road Extension is a planned road, traffic data collection of existing conditions was minimal, focused on the roadways on each end of the extension, as shown in **Table 3**.

Table 3: Study Traffic Count Locations

Count Type	Count Location
72-hour Bi-directional Volume Counts	Sinclair Road, north of Tradition Boulevard
	Bella Citta Boulevard, west of Goodman Road
	Goodman Road, north of Bella Citta Boulevard
	Goodman Road, south of Bella Citta Boulevard
	Happy Trail, west of Sinclair Road
8-hour Turning Movement Counts	Bella Citta Boulevard at Goodman Road

No vehicle classification counts were taken as the future conditions are expected to be different than existing traffic. Future truck percentages were estimated based on similar functioning roadways within Osceola County.

4.2 EXISTING GEOMETRY

The existing geometry in the study area was obtained through a review of aerial imagery and confirmed through field observations. The existing typical cross-section for Sinclair Road, from SR 429 to Tradition Boulevard, is four 12-foot lanes with an 18-foot median and 4-foot sidewalk on the east side of the road. Approaching Tradition Boulevard, the southbound approach on Sinclair Road narrows down to one lane. The existing typical cross-section for Tradition Boulevard is two 12-foot, undivided lanes with a 9-foot sidewalk on one side of the road. Tradition Boulevard has a gate entrance for Reunion, which is located approximately 1,200 feet from Sinclair Road.

Two intersections are included in the study area: 1) Sinclair Road and Tradition Boulevard, and 2) Goodman Road and Bella Citta Boulevard. The intersection of Sinclair Road & Tradition Boulevard currently operates as a free-flow intersection with no conflicting movements with the exception of U-turning movements. The intersection of Goodman Road and Bella Citta Boulevard operates as an unsignalized T-intersection with Bella Citta Boulevard as a stop-controlled approach. Bella Citta Boulevard is a two-lane undivided roadway with a 12-foot westbound lane, an 11-foot eastbound lane, a 4-foot bicycle lane in the westbound direction, and a 5-foot sidewalk on the north side of the road. Goodman Road is a two-lane undivided roadway with 12-foot lanes south of Bella Citta Boulevard and 10-foot lanes north of Bella Citta Boulevard.

Exhibit 2 illustrates existing geometry at each of the study intersections.

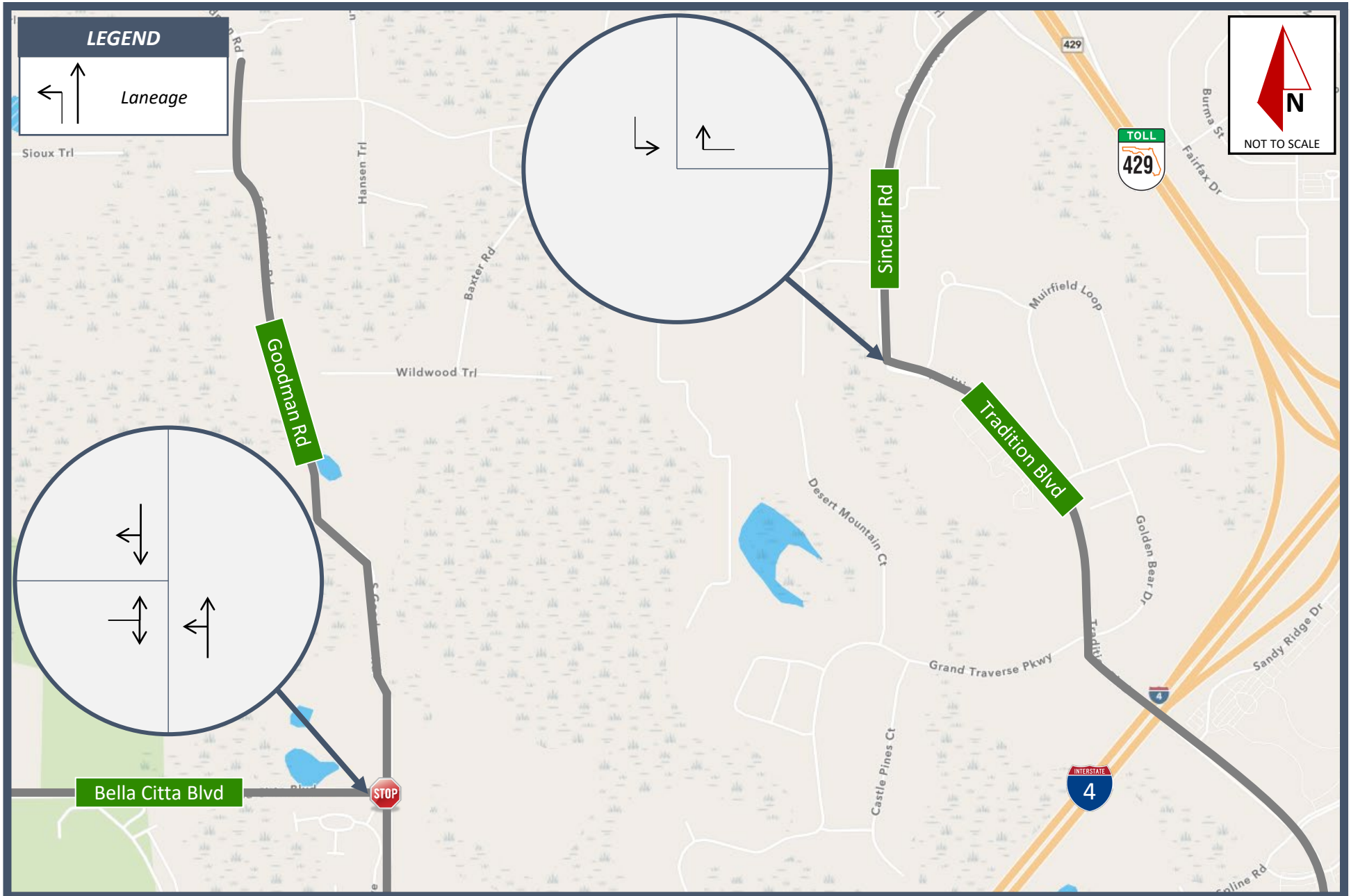

Exhibit 2: Existing (2021) Intersection Geometry

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4.3 EXISTING TRAFFIC VOLUMES

Existing traffic data was obtained from Osceola County's Traffic report and by conducting 72-hour bi-directional traffic counts collected from Tuesday, November 16, 2021, to Thursday, November 18, 2021, at the locations listed in **Table 3**. **Table 4** provides a summary of the existing volumes, Annual Average Daily Traffic (AADT) volumes, along with other roadway characteristics. The D-factors were calculated based on the hourly volume count data. Standard K-factors were used based on the area type. **Appendix B** provides the raw volume counts data. Data referenced from the Florida Department of Transportation (FDOT) Florida Traffic Online (FTO) database is included in **Appendix C**. **Exhibit 3** illustrates the existing AADT on the study roadways.

Table 4: Existing (2021) Roadway Characteristics

Roadway Segment	Average Daily Traffic (ADT)[1]				Seasonal Adj. Factor[2]	Existing AADT[3]	Two Way Peak Hour Vol.[1,4]	Peak Hour NB/EB	Peak Hour SB/WB	Measured D-Factor[5]	K-Factor[2]
	Day 1	Day 2	Day 3	Average							
Happy Trails											
west of Sinclair Road	820	794	869	828		800	70	47	23	67%	
Traditions Boulevard											
east of Sinclair Road	3,480	3,484	4,062	3,675		3,500	345	132	213	62%	
Sinclair Road											
east of Goodman Road	-	-	-	-		-	-	-	-	-	
north of Tradition Boulevard	3,480	3,484	4,062	3,675		3,500	345	132	213	62%	
east of SR 429	-	-	-	-		11,500	956	462	494	52%	
Bella Citta Boulevard											
west of S Goodman Road	9,129	9,005	10,077	9,404	0.96	9,000	740	410	330	55%	9%
S Goodman Road											
north of Bella Citta Boulevard	4,524	4,308	4,849	4,560		4,400	446	124	322	72%	
south of Bella Citta Boulevard	11,115	11,091	12,071	11,426		11,000	987	351	636	64%	
Master Boulevard											
north of Champions Gate Boulevard	-	-	-	-		12,000	987	351	636	64%	
Champions Gate Boulevard											
east of Masters Boulevard	-	-	-	-		31,500	1,793	853	940	52%	
S Old Lake Wilson Road											
north of Sinclair Road	-	-	-	-		20,000	1,669	741	928	56%	
south of Sinclair Road	-	-	-	-		18,000	1,766	713	1053	60%	

Notes:
1. From traffic data collection.
2. Per FDOT's Florida Traffic Online (FTO) database for Osceola County.
3. Annual Average Daily Traffic (AADT) obtained from Osceola County Roadway Network Capacity Report and traffic counts.
4. Volumes obtained from Osceola County 2021 Roadway Network Capacity Report.
5. D-Factor calculated for the highest peak hour (PM period).

4.4 YEAR 2021 TURNING MOVEMENT COUNTS

Intersection turning movement counts were conducted for each of the study intersections for 8-hour periods on Tuesday, November 16, 2021. Traffic count data were adjusted using the latest seasonal factor (SF) published in the FTO database for the week turning movement counts were collected. Intersection volume development worksheets are provided in **Appendix D**. **Exhibit 4** illustrates the adjusted existing 2021 turning movement volumes.

Exhibit 3: Existing (2021) Annual Average Daily Traffic (AADT)

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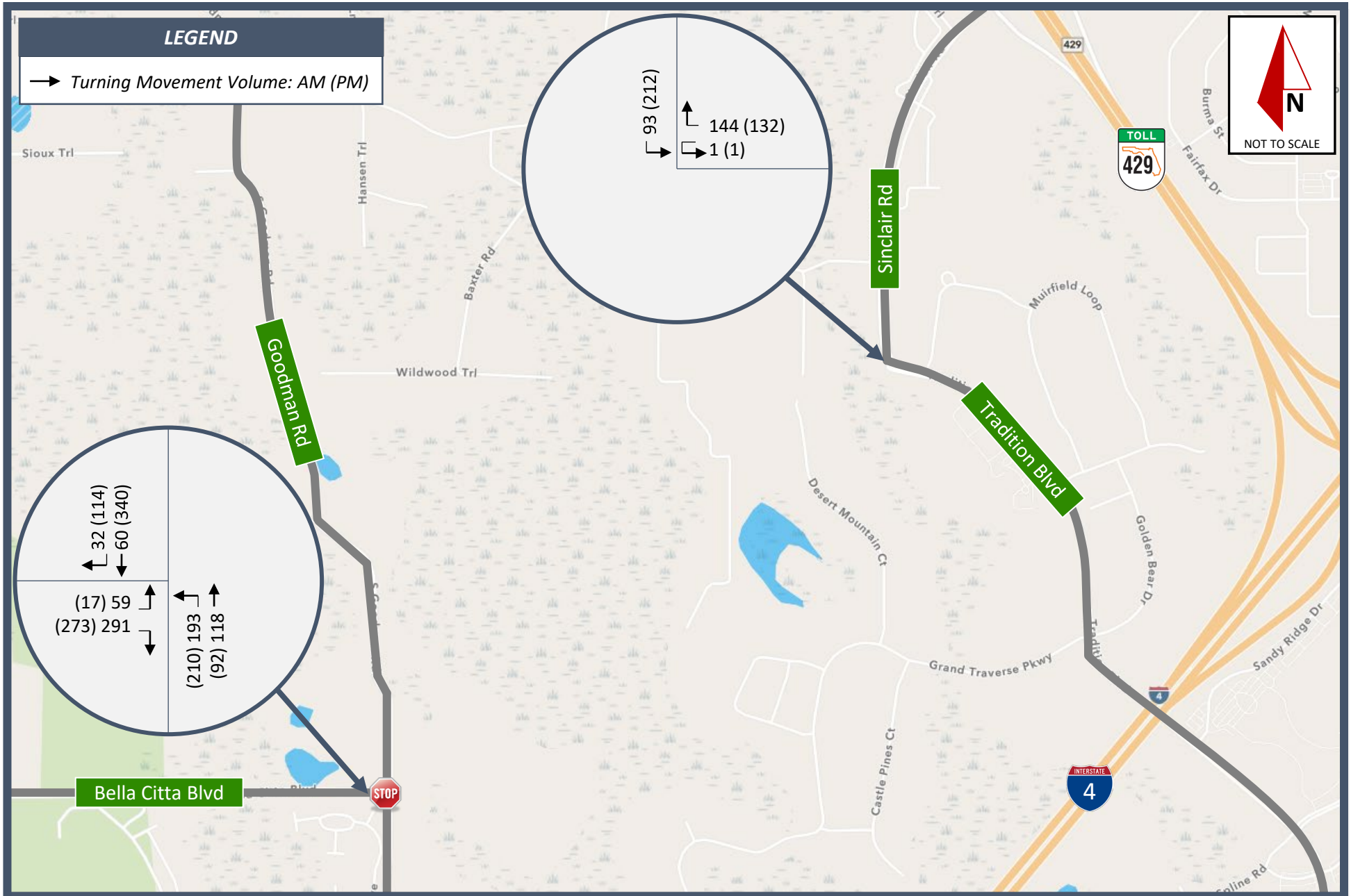

Exhibit 4: Existing (2021) Intersection Turning Movement Volumes

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4.5 YEAR 2021 LEVEL OF SERVICE ANALYSIS

Existing intersection capacity analysis was conducted for each of the study area intersections. Roadway segment arterial performance was not calculated for the proposed Sinclair Road Extension since it does not exist at this time.

4.5.1 YEAR 2021 ROADWAY LEVEL OF SERVICE ANALYSIS

Existing traffic volume, operating conditions, LOS, and V/C ratios were identified from Osceola County's 2021 Roadway Network Capacity Report, included in **Appendix E**. Existing traffic volumes were also supplemented with traffic counts conducted for this study. LOS capacities were reviewed to be consistent with FDOT 2020 generalized service volume Quality/Level of Service (QLOS) tables. **Table 5** shows the peak hour peak direction (PHPD) volume, LOS, and V/C ratios for the study roadways.

Table 5: Existing (2021) Roadway Segment Performance Summary

Roadway Segment	Lanes	Target LOS Standard	LOS Capacity	Existing year 2021		
				PHPD	V/C	LOS
Happy Trail						
west of Sinclair Road	2	E	570	47	0.08	C
Traditions Boulevard						
east of Sinclair Road	2	E	570	213	0.37	C
Sinclair Road						
east of Goodman Road	-	-	-	-	-	F
north of Tradition Boulevard	4	E	1,680	213	0.13	C
east of SR 429	4	E	1,680	494	0.29	C
Bella Citta Boulevard						
west of S Goodman Road	2	E	570	410	0.72	D
S Goodman Road						
north of Bella Citta Boulevard	2	D	790	322	0.41	C
south of Bella Citta Boulevard	2	D	790	636	0.81	C
Master Boulevard						
north of Champions Gate Boulevard	2	D	830	636	0.77	C
Champions Gate Boulevard						
east of Masters Boulevard	4	D	1,530	940	0.61	C
S Old Lake Wilson Road						
north of Sinclair Road	4	D	1,760	928	0.53	C
south of Sinclair Road	2	D	790	1,053	1.33	F

4.5.2 YEAR 2021 INTERSECTION OPERATIONAL ANALYSIS

Intersection operational analyses were conducted for the existing 2021 AM and PM peak hours conditions using procedures outlined in the Highway Capacity Manual 6th Edition with Synchro (v11) software. Synchro outputs are included in **Appendix F**.

As shown in **Tables 6 and 7** below, both intersections are shown to operate acceptably during the AM and PM peak hour conditions.

Table 6: Existing (2021) Intersection Performance – AM Peak Hour

Intersection	MOE	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Sinclair Road @ Tradition Boulevard (Unsignalized)	Delay	--	--	--	--	--	0.0	--	--	--	0.0	--	--	0.0
	LOS	--	--	--	--	--	A	--	--	--	A	--	--	--
	V/C	--	--	--	--	--	0.0	--	--	--	0.0	--	--	--
	Queue (veh)	--	--	--	--	--	0	--	--	--	0	--	--	--
Bella Citta Boulevard @ Goodman Road (Unsignalized	Delay	16.7	--	16.7	--	--	--	7.9	0.0	--	--	0.0	0.0	9.8
	LOS	C	--	C	--	--	--	A	A	--	--	A	A	--
	V/C	0.59	--	0.59	--	--	--	0.16	0.0	--	--	0.0	0.0	--
	Queue (veh)	4	--	4	--	--	--	1	0	--	--	0	0	--

Table 7: Existing (2021) Intersection Performance – PM Peak Hour

Intersection	MOE	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Sinclair Road @ Tradition Boulevard (Unsignalized)	Delay	--	--	--	--	--	0.0	--	--	--	0.0	--	--	0.0
	LOS	--	--	--	--	--	A	--	--	--	A	--	--	--
	V/C	--	--	--	--	--	0.0	--	--	--	0.0	--	--	--
	Queue (veh)	--	--	--	--	--	0	--	--	--	0	--	--	--
Bella Citta Boulevard @ Goodman Road (Unsignalized)	Delay	20.3	--	20.3	--	--	--	9.3	0.0	--	--	0.0	0.0	7.5
	LOS	C	--	C	--	--	--	A	A	--	--	A	A	--
	V/C	0.59	--	0.59	--	--	--	0.22	0.0	--	--	0.0	0.0	--
	Queue (veh)	4	--	4	--	--	--	1	0	--	--	0	0	--

5.0 SAFETY ANALYSIS

Historical crash data were obtained at the study intersections for a five-year period from January 1, 2016, to December 31, 2020. The crash data was obtained from the University of Florida's Signal Four Analytics online crash database, which compiles statewide crash data from the Florida Highway Patrol (FHP) and local law enforcement agencies. The data was analyzed to identify specific crash patterns and locations that may indicate a potential safety problem within the study area. The proposed roadway extension was also reviewed to identify any potential safety implications to the corridor. The study area includes the intersections of Sinclair Road and Tradition Boulevard, and Goodman Road and Bella Citta Boulevard. All identified crashes were reviewed; summary crash data tables are included in **Appendix G**.

5.1 EXISTING CRASH DATA STATISTICS

A total of nine (9) crashes were reported for the five-year period, of which only one involved an injury. Five crashes occurred at night, and four occurred during the day, all under clear and dry weather conditions. All of the crashes that occurred at the intersection of Sinclair Road and Tradition Boulevard involved one vehicle impacting roadway infrastructure (e.g., utility pole, guardrail, traffic sign, etc.). Crashes located at the intersection of Goodman Road and Bella Citta Boulevard involved two vehicles. **Table 8** summarizes the total number of crashes that occurred within the study area.

Table 8: Summary of Crashes

Year	Total Number of Crashes		Number of Injury Crashes		Number of Dark Crashes		Number of Off-Road Crashes	
	#1	#2	#1	#2	#1	#2	#1	#2
2016	0	1	0	0	0	0	0	1
2017	0	1	0	0	0	1	0	0
2018	2	0	1	0	2	0	2	0
2019	0	1	0	0	0	0	0	0
2020	2	2	0	0	2	0	2	0
Total	**4**	**5**	**1**	**0**	**4**	**1**	**4**	**1**
Average per year	0.8	1	0.2	0	0.8	0.2	0.8	0.2
Percent			*25%*	*0%*	*100%*	*20%*	*100%*	*20%*

Note:
#1 Sinclair Road & Tradition Boulevard intersection
#2 Bella Citta Boulevard & Goodman Road intersection

5.2 EXISTING CRASH DATA BY CRASH TYPE

The crash data was organized to determine any significant trend in the circumstances involved in the crashes. The crash data was organized by crash type throughout the five-year study period. As shown in **Table 9**, approximately 55.6% of crashes were off-road (run-off-the-road) crashes.

Table 9: Summary of Crashes by Type

Crash Type	2016		2017		2018		2019		2020		Total		Percent	
	#1	#2	#1	#2	#1	#2	#1	#2	#1	#2	#1	#2	#1	#2
Left Turn	0	0	0	1	0	0	0	0	0	1	**0**	**2**	*0%*	*40%*
Off-Road	0	1	0	0	2	0	0	0	2	0	**4**	**1**	*100%*	*20%*
Rear End	0	0	0	0	0	0	0	1	0	0	**0**	**1**	*0%*	*20%*
Sideswipe	0	0	0	0	0	0	0	0	0	1	**0**	**1**	*0%*	*20%*

Note:
#1 Sinclair Road & Tradition Boulevard intersection
#2 Bella Citta Boulevard & Goodman Road intersection

5.3 EXISTING CRASH DATA BY INTERSECTIONS

Four (4) crashes were reported at the intersection of Sinclair Road and Tradition Boulevard within the five-year period. All crashes reported at this intersection were off-road crashes. The off-road crashes occurred by vehicles approaching the curve where Sinclair Road meets Tradition Boulevard and losing control. These types of crashes were shown to occur early in the day (between 3:00 AM and 8:00 AM) and late at night after 10:00 PM. These crashes occurred during clear weather and dry surface conditions. Potential contributing factors to the occurrence of crashes at this intersection are listed below:

- Intersection lighting may not be adequate,
- Retroreflective signage may not be adequate,
- Lack of appropriate warning signage, and steep slope

Five (5) crashes were reported at the intersection of Goodman Road and Bella Citta Boulevard within the five-year period. Two (2) left turn crashes were reported to be caused by vehicles performing a left turn movement from Goodman Road onto Bella Citta Boulevard and colliding with a vehicle on the conflicting movement. One of the crashes involved a minor street movement, and the other crash involved a major street movement. Potential contributing factors to the occurrence of crashes at this intersection are listed below:

- Unprotected movements for all approaches,
- Gaps along the major approach may be difficult to find or judge during peak times, and
- Narrow north leg at Goodman Road with minimal clearance

The other three (3) crashes were off-road, sideswipe, and rear-end. All of these crashes occurred during clear and dry conditions, except for the sideswipe which occurred during cloudy weather.

5.4 EXISTING CRASH DATA BY SEGMENTS

Crashes along the Sinclair Road Extension were predicted based on the Highway Safety Manual (HSM) methodology, as shown in the subsequent section.

5.5 OVERVIEW OF FATAL CRASHES

No fatal crashes were reported within the study area intersections.

5.6 CRASH FREQUENCY AND CRASH RATE DEVELOPMENT

The crash rates and crash frequencies (crashes per year) at the study area intersections were developed based on the five-year crash data. The crash rates are expressed in the number of crashes per million vehicles entered (million entering vehicles [MEV]), based on the following equations:

$$MEV = \frac{Total\ Entering\ Volume\ \times 365 \times Number\ of\ Years}{1{,}000{,}000}$$

$$Crash\ Rate = \frac{Number\ of\ Crashes\ per\ n\ Years}{MEV}$$

The total entering volumes (TEV) were developed by averaging the total entering volume for the three-day period that data was collected and adjusting it by the seasonal factor as provided by FDOT's FTO database. As shown in **Table 10**, the intersection of Goodman Road and Bella Citta Boulevard has a slightly higher crash frequency and a lower crash rate than the intersection of Sinclair Road and Tradition Boulevard. Statewide average crash rates were obtained from FDOT's Crash Analysis Reporting (CAR) System database. As shown in **Table 10**, the intersection of Goodman Road and Bella Citta Boulevard has a slightly lower crash rate than the statewide average for a similar area and facility type; however, the crash rate for the intersection of Sinclair Road and Tradition Boulevard is significantly higher than the statewide average. See Section 5.3 regarding potential contributing factors.

Table 10: Crash Frequency and Crash Rate Summary

Intersection		TEV	Number of Crashes	Crash Frequency (Crashes per Year)	Crash Rate	Statewide Average Crash Rate
1	Sinclair Road and Tradition Boulevard	3,528	4	0.8	0.62	0.29
2	Goodman Road and Bella Citta Boulevard	12,187	5	1.0	0.22	0.29

6.0 DEVELOPMENT OF DESIGN TRAFFIC CHARACTERISTICS

Design traffic characteristics were developed in accordance with the Project Traffic Forecasting (PTF) Handbook, January 2019. The primary design characteristics are the Peak Hour Factor (PHF), the standard K-factor, the D-factor, and the percentage of trucks for both the design hour and daily conditions (T_f, T_{24}). These characteristics were used in developing future traffic volumes and conducting future operational analyses.

6.1 STANDARD K-FACTOR

The K-factor defines the proportion between the design hour volume (DHV) and daily volume. As explained in the PTF Handbook, the K-factor "defines the volume of traffic for which the road is designed to handle." FDOT has adopted a standard K-factor to use in analyses based on area and facility type. For arterials and highways within an urbanized area, the standard K-factor is 9.0%. Therefore, a K-factor of 9.0% was used.

6.2 D-FACTOR

The D-factor is used to determine the directional split of traffic during the design hour. The D-factors were calculated for all approaches of the study intersections, which were obtained from the traffic counts and are shown in the intersection volume development worksheet in **Appendix D**. FDOT's PTF Handbook recommends a range of D-factors based on the facility type.

The calculated D-factors for the existing portion of Sinclair Road and Bella Citta Boulevard, previously shown in **Table 4**, which will be part of the main corridor, fall within the FDOT recommended D values. The calculated D-factors were used in the analysis, with a D-factor of 61.0% used for Sinclair Road Extension. A D-factor of 53% was used for the westbound approach during the PM peak hour at the intersection of Sinclair Road/Bella Citta Boulevard & Goodman Road. During the AM peak hour, the peak direction along Sinclair Road is the northbound approach and the during the PM peak hour the peak direction is the southbound approach. Similar distribution can be observed along Goodman Road during the peak periods. Bella Citta Boulevard's peak direction during the AM and PM peak hours are the westbound and eastbound approaches, respectively.

6.3 T FACTORS

Truck percentages were calculated for both daily (T_{24}) and peak hour (T_f) conditions at the study intersections. The T_f is estimated to be at least half of T_{24}. Based on the collected traffic counts, the truck percentage during the peak hour at the intersection of Sinclair Road and Tradition Boulevard was 5%. Therefore, it can be assumed the daily truck percentage is 10% at this intersection. During the peak hour at the intersection of Goodman Road and Bella Citta Boulevard, the truck percentage was 2.6%. Therefore, it can be assumed the daily truck percentage is 5.2% at this intersection. The truck percentages for all intersection movements were calculated and are shown in the intersection volume development worksheet. A minimum truck percentage of 2% was utilized for the operational analysis. The truck factor for the Sinclair Road Extension was assumed as the average of both intersections, which results in a peak hour truck percentage (T_f) of 3.5% and a daily truck percentage (T_{24}) of 7.0%. This is consistent with the recommendation from the PTF Handbook that the T_f value should be at least half of the T_{24}.

6.4 RECOMMENDED DESIGN TRAFFIC CHARACTERISTICS

The recommended design traffic characteristics for Sinclair Road Extension are identified in **Table 11.** These are based on a review of FDOT recommended values and measured design traffic characteristics.

Table 11: Recommended Design traffic Characteristics

Roadway Segment	K-Factor	D-Factor	T_{24} Factor	T_f Factor
Sinclair Road Extension	9.0%	61.0%	7.0%	3.5%

7.0 SUB-AREA MODEL VALIDATION

7.1 INTRODUCTION

A sub-area model validation analysis was performed to determine the accuracy of the travel demand within and adjacent to the study area. Base Year 2015 model volumes were compared to historical 2015 AADT. Model outputs were analyzed and considered when developing Design Year 2045 volumes. The travel demand model sub-area is shown on **Exhibit 5**.

7.2 BASE YEAR 2015 MODEL VALIDATION

Model validation was performed to ensure that the model is accurate enough to forecast reasonable roadway daily volumes. The accuracy of the model was assessed by calculating validation criteria, such as V/C ratio and root mean square error (RMSE).

Exhibit 5: Travel Demand Model Sub-Area

7.2.1 BASE YEAR 2015 MODEL ADJUSTMENTS

Raw Base Year 2015 model volumes were extracted and adjusted by applying a Model Output Conversion Factor (MOCF) of 0.91 for Osceola County as provided in FDOT's FTO database, resulting in the 2015 Model Volume.. The model underrepresented the volumes along Goodman Road south of Bella Citta Boulevard and along Bella Citta Boulevard west of Goodman Road with a volume-to-count (VoC) ratio of 0.50. The model also underrepresented the volume along Masters Boulevard with a VoC ratio of 0.50, and overrepresented the volume along Goodman Road north of Bella Citta Boulevard with a VoC ratio of 4.14, as shown in **Table 12**. These observations were considered when developing future year 2045 volumes, as described in the subsequent section. No adjustments were made in the model to roadway segment attributes (speed, area type, facility type, etc.).

7.2.2 BASE YEAR 2015 MODEL VALIDATION RESULTS

As shown in **Table 12,** the 2015 model shows higher volumes along most of the roadway segments. The overall percent deviation of the travel demand model sub-area is 12%, with an overall volume-to-count of 1.12.

Table 12: Comparison of Model Volumes to Actual Traffic Count Data

Roadway Segment	Raw 2015 Model Vol.	2015 Model Vol.	Historical 2015 AADT	2015 Volume Diff. (Hist. AADT - Model Vol.)	2015 Model Vol./ 2015 Count	Percent Deviation
Happy Trail						
west of Sinclair Rd	2,983	2,700	-	-	-	-
Tradition Boulevard						
east of Sinclair Road	2,272	2,100	-	-	-	-
Sinclair Road						
east of Goodman Road	-	-	-	-	-	-
north of Tradition Boulevard	2,272	2,100	-	-	-	-
east of SR 429	8,255	7,500	4,200	-3,300	1.79	79%
Bella Citta Boulevard						
west of Goodman Road	2,637	2,400	4,800	2,400	0.50	-50%
Goodman Rd						
north of Bella Citta Blvd	3,216	2,900	700	-2,200	4.14	314%
south of Bella Citta Blvd	2,788	2,500	8,000	5,500	0.31	-69%
Masters Boulevard						
north of Champions Gate Boulevard	4,353	4,000	8,000	4,000	0.50	-50%
Champions Gate Boulevard						
east of Masters Boulevard	25,236	23,000	17,500	-5,500	1.31	31%
S Old Lake Wilson Road						
north of Sinclair Road	16,270	15,000	12,000	-3,000	1.25	25%
south of Sinclair Road	20,858	19,000	13,000	-6,000	1.46	46%
Overall	**83,613**	**76,300**	**68,200**		**1.12**	**12%**

Exhibit 6 shows a comparison of the base year 2015 model volumes and historical 2015 volumes at the study area intersections' approaches. **Appendix H** includes base year (2015) model volumes.

Exhibit 6: Year 2015 Volume Comparison

Sinclair Road Extension | Project Traffic Analysis Report (PTAR)

7.2.3 ROOT MEAN SQUARE ERROR

The percent RMSE quantifies the difference between the model volumes and traffic counts. The RMSE is a measure of dispersion, and it tends to normalize model error better than volume-to-count ratios that allow for high ratios to offset low ratios. 2015 model volumes (prior to any adjustments beyond applying the MOCF) were used to develop the areawide RMSE. As shown in **Table 13**, the areawide RMSE is 22% higher than the acceptable standard. Preferred and acceptable RMSE standards were obtained from Table 3-2 of the FDOT Project Traffic Forecasting Handbook (2019). This deviation in the model was considered when generating 2045 model volumes.

Table 13: Percent Root Mean Square Error by Volume Group

Volume Group	Count AADT	Model AADT	RMSE	Standard		Sample Size
				Preferred	Acceptable	
Less than 5,000	16,500	19,500	65%	45%	100%	6
5,000 - 9,999	20,000	14,000	65%	35%	45%	3
10,000 - 14,999	25,000	19,000	76%	27%	35%	2
15,000 - 19,999	30,500	42,000	38%	25%	30%	2
20,000 - 29,999	17,500	23,000	31%	15%	37%	1
30,000 - 49,999	0	0	n/a	15%	25%	0
50,000 - 59,999	0	0	n/a	10%	20%	0
Over 60,000	0	0	n/a	10%	19%	0
RMSE Areawide	**93,000**	**98,000**	**67%**	**35%**	**45%**	

7.3 BASE YEAR 2015 MODEL VALIDATION CONCLUSION

The Base 2015 model for CRFPMv7 was reviewed and compared against historic counts within the study area to model volumes. Most of the regional roadways within the study area (i.e., I-4, SR 429, CR 532/Champions Gate Boulevard, and CR 545/Old Lake Wilson Road) were shown to have reasonable 2015 volume-to-count ratios so the model was not recalibrated. The model did show low volumes along Goodman Road south of Bella Citta Boulevard, and Bella Citta Boulevard west of Goodman Road, when compared to limited 2015 count data. Recalibration of these roads would have negatively impacted well-calibrated regional roads; therefore, no modifications were performed to the Base 2015 model network. There were also no modifications made to TAZs within the study area to avoid affecting the model's calibration. Instead, the 2045 Cost Feasible model results were adjusted to address model underrepresentation on Goodman Road and Bella Citta Boulevard (See Section 8.4).

The overall percent deviation for the travel demand sub-area is 12%, with an overall volume-to-count ratio of 1.12. As stated in the FDOT Project Traffic Forecasting (PTF) Handbook, the acceptable volume-to-count ratio for arterial roadways is ±15%. For collector roads, a larger difference of ±25% is acceptable. The areawide RMSE for the travel demand sub-area is 67%, 20% higher than the acceptable standard. These observations were considered when developing year 2045 volumes, as described in the subsequent section. No modifications were performed to the base year 2015 model. 2045 Build volumes were carefully adjusted to consider the results from the Base Year 2015 model as described in Section 8.4.

8.0 FUTURE TRAFFIC FORECASTS

8.1 STUDY ALTERNATIVES

Two Cost Feasible (CF) 2045 models were run to determine the impacts of the Sinclair Road extension: a No-Build Scenario (without Sinclair Road Extension) and a Build scenario (with the Sinclair Road extension). This study evaluates a Build alternative for the Opening (2025) and Design (2045) years. Both the No-Build and Build model runs included all modifications made to the CF 2045 model as described in the subsequent sections. The Build alternative consisted of Sinclair Road as a 4-lane road extending from Tradition Boulevard to the intersection of Goodman Road and Bella Citta Boulevard.

8.2 TRAVEL DEMAND MODEL

The latest adopted Central Florida Regional Planning Model (CFRPM) version 7 was used to forecast unadjusted Design Year 2045 daily traffic volumes at the future intersection approaches. Adjustments to the model outputs were performed based on a review of the Base Year 2015 model, which was shown to underrepresent the volumes along some of the adjacent roadways. Adjusted volumes are shown on **Exhibit 6**. Model outputs for the No-Build and Build scenario are included in **Appendix H**.

8.2.1 NEARBY DEVELOPMENTS

The following nearby planned developments were identified within the study area:

- Reunion
- Goodman Road Charter School – (850 students) in the northeast corner of the intersection of Goodman Road and Bella Citta Boulevard
- Elevation/Dewan Property – (444 Multifamily Dwelling Units) located on the south side of the Sinclair Road Extension, east of Goodman Road
- Sinclair Road Property – (446 Multifamily Dwelling Units, 3,500 square foot restaurant, and a 10-vehicle fueling positions gas station with convenience market) located in the southwest quadrant of the Sinclair Road interchange with SR 429
- Illuminate Church – (42,000 square feet) located north of Sinclair Road, east of SR 429

8.2.2 SOCIOECONOMIC DATA

The Cost Feasible (CF) 2045 socioeconomic data (dwelling units, employment, etc.) in the 2045 model are approved by the metropolitan planning organizations (MPOs) and local governments. The socioeconomic data forecasts utilize the population forecasts developed by the Bureau of Economic and Business Research (BEBR) at the county level. These forecasts are spread across each County's TAZs based on assumptions by the local governments. With Osceola County's historic and projected high level of growth, some areas within the County are anticipated to have higher intensity and density of development in the future than what currently exists today. While it is recognized that not all the actual 2045 development will be located in the specific TAZs assumed, these forecasts are as accurate as possible given the available information at the time they are developed.

However, the Cost Feasible (CF) 2045 socioeconomic data (ZDATA) was reviewed to determine if all known existing and future developments were accounted for in the model. Upon review, the 2045 ZDATA sufficiently accounted for all planned developments in the area except for the Goodman Road Charter School. A separate TAZ (5525) was coded into the network with a connection to Goodman Road north of Sinclair Road to represent the school's access. The TAZ located south of Sinclair Road and north

of I-4 (5468) was divided into three separate TAZs (5468, 5526, and 5527) to better represent future developments' access points along Sinclair Road. The original model did not have any connections within the Reunion Development, which did not allow for internal circulation. The Reunion Development is a gated community and does not allow for background/cut-thru traffic between Tradition Boulevard and S Old Lake Wilson and Osceola Polk Line Road (CR 532). Tradition Boulevard currently provides access between the northern and southern portions of Reunion via an overpass on I-4 and allows for vehicles on either side of I-4 to access Sinclair Road, S Old Lake Wilson Road, and CR 532. The TAZ connectors for the Reunion Development (5468 and 5449) were modeled to represent the access points better and the internal circulation between the Reunion West and Reunion East while restricting cut-thru/background traffic through Reunion.

The TAZ and ZDATA edits are summarized in **Table 14** and the location of the modified TAZs is illustrated on **Exhibit 7**. Additionally, a technical memorandum, included in **Appendix I**, was performed further describing the socioeconomic adjustments to the model and illustrating how Reunion correlates to the model.

Table 14: CF 2045 TAZ and ZDATA Revisions

TAZ	Dwelling Units						Employees						Students	
	Single-Family		Multifamily		Hotel/Motel		Commercial		Service		Industrial		K-12	
	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised
5468	509	509	1206	**316**	834	834	334	**328**	495	**481**	25	25	0	0
5483	154	154	340	340	33	33	153	153	649	649	4	4	0	0
5484 [1]	500	500	0	0	97	97	52	52	240	240	12	12	0	0
5525 [2]	-	0	-	0	-	0	-	0	-	0	-	0	-	**2550**
5526 [3]	-	0	-	**533**	-	0	-	0	-	0	-	0	-	0
5527 [3]	-	0	-	**1383**	-	0	-	**19**	-	**43**	-	0	-	0
5442	711	711	1656	1656	1320	1320	579	579	2444	2444	4	4	0	0
5449	401	401	2978	2978	3276	3276	2620	2620	4022	4022	2	2	1986	1986
5466	197	197	241	241	36	36	161	161	224	224	0	0	0	0
5472	427	427	474	474	711	711	0	0	782	782	0	0	0	0

Notes:

1. Planned Illuminate Church is accounted for within the initial 2045 ZDATA.

2. New TAZ, split from 5483 for the planned Goodman Road Charter School (850 students) (includes a factor of 3.0 to align with ITE trip generation)

3. New TAZ, split from 5468 for Dewan/Elevation (444 Multifamily DU) and Sinclair Road Property (446 Multifamily DU, 3.5 KSF restaurant, and 10 pump gas station) (includes a factor of 1.2 for TAZ 5526 and 3.1 for TAZ 5527 to better reflect ITE estimated daily trips).

**Reunion TAZs are highlighted in blue.*

8.2.3 PLANNED AND PROGRAMMED IMPROVEMENTS

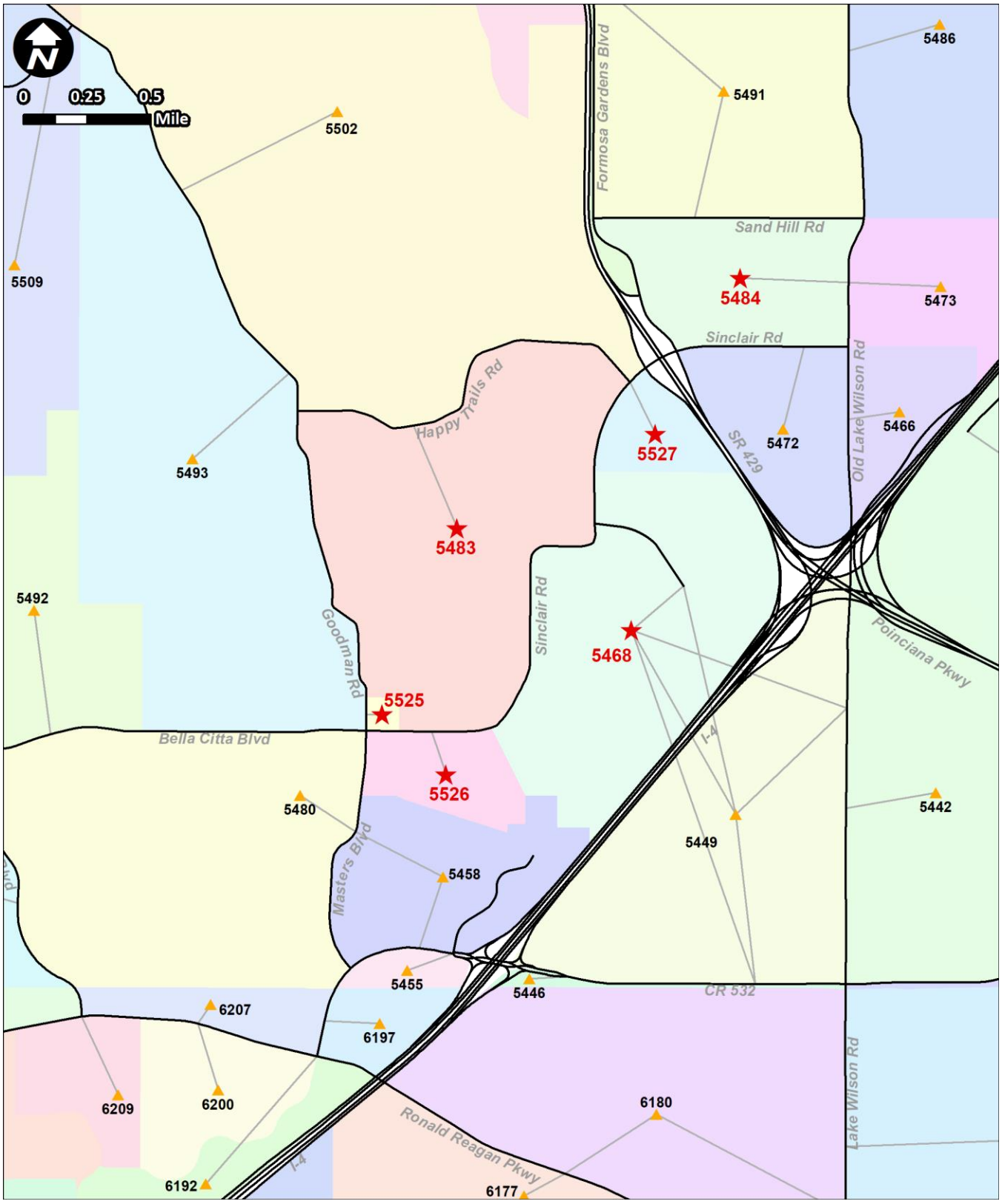
Prior to conducting the CF 2045 No-Build and Build model runs, the roadway network was revised to determine if planned and programmed improvements were accounted for within the study area. The following revisions were made to the CF 2045 roadway network:

- The 2045 CF roadway network did not include the Poinciana Parkway Extension north of CR 532 (Osceola Polk Line Road) to the Interstate 4 (I-4)/SR 429 interchange; therefore, the connection from CR 532 and Interstate 4 (I-4)/SR 429 was coded into the network. The connection at the I-4/SR 429 interchange was assumed to be full access.
- Sinclair Road Extension was coded into the model as a 4-lane road with similar attributes to the existing portion of Sinclair Road north of Tradition Boulevard.
- A segment of Tradition Boulevard was added to the model to represent the existing/future T-intersection at Sinclair Road.

- Westside Boulevard is planned to be fully connected to the north and south by the year 2045, and it was coded in the model as a 4-lane road connecting from and to Bella Citta Boulevard and Sand Mine Road.

The modified roadway network is illustrated on **Exhibit 7**.

Exhibit 7: CF 2045 Modified TAZs and Roadway Network



8.2.4 MODEL-BASED GROWTH RATES

Table 15 shows a summary of the model-based growth rates derived using Base Year 2015 and Design Year 2045 volumes for the Build condition. As shown in the table below, the Sinclair Road Extension is shown to reduce traffic along some segments, such as Happy Trail, Goodman Road, Masters Boulevard, and Champions Gate Boulevard. Traffic along S. Old Lake Wilson Road is not shown to change much as a result of the Sinclair Road Extension.

Table 15: Model-Based Growth Rate Summary

Roadway Segment	2015 Model Vol.	Year 2045 No Build		Year 2045 Build		Vol. % Difference
		Adj. Model Volume	Annual Growth Rate	Adj. Model Volume	Annual Growth Rate	
Happy Trail						
west of Sinclair Rd	2,700	11,500	4.9%	10,500	4.6%	-9.5%
Tradition Boulevard						
east of Sinclair Road	2,100	10,500	5.5%	12,000	6.0%	12.5%
Sinclair Road						
east of Goodman Road	-	-	-	15,500	-	-
north of Tradition Boulevard	2,100	10,500	5.5%	20,500	7.9%	48.8%
east of SR 429	7,500	23,000	3.8%	23,500	3.9%	2.1%
Bella Citta Boulevard						
west of Goodman Road	2,400	5,700	2.9%	12,500	5.7%	54.4%
Goodman Rd						
north of Bella Citta Blvd	2,900	6,000	2.5%	5,000	1.8%	-20.0%
south of Bella Citta Blvd	2,500	9,300	4.5%	8,800	4.3%	-5.7%
Masters Boulevard						
north of Champions Gate Boulevard	4,000	13,000	4.0%	10,000	3.1%	-30.0%
Champions Gate Boulevard						
east of Masters Boulevard	23,000	36,500	1.6%	35,000	1.4%	-4.3%
S Old Lake Wilson Road						
north of Sinclair Road	15,000	42,000	3.5%	42,000	3.5%	0.0%
south of Sinclair Road	19,000	40,000	2.5%	40,000	2.5%	0.0%

8.2.5 BEBR GROWTH RATES

The University of Florida's Bureau of Economics and Business Research (BEBR) projections were obtained for Osceola County to develop the annual growth rates for the Design year 2045. BEBR low, medium, and high population projections were considered in the development of the design year 2045 Build volumes. **Table 16** shows the BEBR population growth rates. An excerpt of the BEBR population projection data referenced (Volume 54, Bulletin 198, April 2021) is included as **Appendix J**. The growth rate was calculated using the Compound Annual Growth Rate (CAGR) equation.

Table 16: BEBR Population Growth Rates

County	BEBR Pop Estimate April 1, 2020	BEBR Population Projections		Growth Rate (CAGR)
		Range	2045	2045
Osceola	387,055	Low	518,300	1.17%
		Medium	643,100	2.05%
		High	798,500	2.94%

Source: BEBR Volume 54, Bulletin 198, April 2021 (page 8).

8.3 HISTORICAL TRAFFIC TRENDS

Historical AADT was obtained from Osceola County's traffic count database and FDOT's FTO database. Historical AADT was obtained for five years, from 2015 to 2019, as available. 2020 AADT was not considered due to the impact on travel patterns caused by the COVID-19 pandemic. Historical growth trends were determined based on a linear trend. **Table 17** shows a summary of the annual growth trend to Design Year 2045 for the roadway segments within the study area. **Appendix K** shows the trend analysis spreadsheet.

Table 17: Trend-Based Growth Rates

Roadway Segment	Count Sta.	2015	2016	2017	2018	2019	R^2	Annual Growth Rate
Happy Trail								
west of Sinclair Rd	-	-	-	-	-	-	-	-
Tradition Boulevard								
east of Sinclair Road	-	-	-	-	-	-	-	-
Sinclair Road								
east of Goodman Road	-	-	-	-	-	-	-	-
north of Tradition Boulevard	-	-	-	-	-	-	-	-
east of SR 429	106	4,171	5,852	6,138	6,636	8,728	90.0%	11.9%
Bella Citta Boulevard								
west of Goodman Road	927084	4,800	6,000	5,400	5,600	5,800	30.2%	2.8%
Goodman Rd								
north of Bella Citta Blvd	126	698	1,836	2,537	2,886	3,207	93.3%	18.0%
south of Bella Citta Blvd	921087	5,200	5,400	6,700	6,900	7,100	88.6%	7.3%
Masters Boulevard								
north of Champions Gate Boulevard	121	8,039	7,746	8,995	9,942	9,586	78.1%	5.5%
Champions Gate Boulevard								
east of Masters Boulevard	928034	17,300	17,900	18,600	21,500	22,500	92.5%	6.3%
S Old Lake Wilson Road								
north of Sinclair Road	105	12,084	12,152	14,419	15,596	18,901	91.7%	9.4%
south of Sinclair Road	103	13,016	14,200	15,726	17,644	20,093	97.9%	9.0%

8.4 RECOMMENDED TRAFFIC FORECASTS

Model output data from the two CF 2045 model runs were extracted and analyzed to determine the impacts of the proposed Sinclair Road Extension. Model volumes were adjusted using the Osceola County MOCF. The MOCF is identified in the FDOT FTO seasonal factor sheet (included in **Appendix C**). The Sinclair Road Extension is shown to serve as an attractive connection between Polk County to the west of Reunion and the major freeway interchange of Interstate 4 (I-4) and SR 429. The proposed Sinclair Road Extension is shown to reduce traffic along most parallel routes from/to I-4/SR429 and Bella Citta Boulevard and US 27.

No-Build and Build 2045 volumes were adjusted to account for the base year 2015 model underrepresentation of volumes along portions of Goodman Road and Bella Citta Boulevard. Two sets of adjustments were performed:

- **Adjustment #1:** Historical 2015 AADTs were compared to the adjusted 2015 daily model volume. The model showed to underrepresent the volumes along Goodman Road south of Bella Citta Boulevard and Bella Citta Boulevard west of Goodman Road. The difference in volume (historical 2015 AADT – 2015 model volume) was added to the Build 2045 model daily volume and the volumes were rounded.
- **Adjustment #2:**
    - For the Build 2045 scenario, the major corridor volumes (Sinclair Road west of SR 429, and Bella Citta Boulevard west of Goodman Road) were increased by ±10% of the highest volume along the segment (2,000 daily trips) to reflect the growth in underrepresented traffic volumes. Volumes were rounded where applicable.
    - For the No-Build 2045 scenario, the major corridor volumes (Goodman Road south of Bella Citta Boulevard, and Bella Citta Boulevard west of Goodman Road) were increased by 2,000 daily trips to reflect the growth in underrepresented traffic volumes. Volumes were rounded where applicable.

Growth rates were calculated using a Compound Annual Growth Rate (exponential growth) equation.

Table 18 shows a summary of the No-Build and Build 2045 volume development. **Exhibit 8** illustrates the future Year 2045 AADT.

Table 18: Future (2045) Roadway Volume Development

Roadway Segment	Raw 2015 Model Vol.	2015 Model Vol.	Historical 2015 AADT	2015 Volume Diff. (Hist. AADT - Model Vol.)	Existing 2021 AADT	Actual Growth Rate (2015 to 2021)	2045 AADT Model Volume			No-Build 2045 AADT Volume Determination				Build 2045 AADT Volume Determination			
							No-Build Model Vol.	Build Model Vol.	Model Vol. Diff.	No-Build 2045 Model AADT	Adj. #1 No-Build 2045 Model AADT	Adj. #2 No-Build 2045 Model AADT	Growth Rate (2021 to 2045)	Build 2045 Model AADT	Adj. #1 Build 2045 Model AADT	Adj. #2 Build 2045 Model AADT	Growth Rate (2021 to 2045)
Happy Trail																	
west of Sinclair Rd	2,983	2,700	-	-	800	-	11,500	10,500	-1,000	11,500	11,500	11,500	11.75%	10,500	10,500	10,500	11.32%
Tradition Boulevard																	
east of Sinclair Road	2,272	2,100	-	-	3,500	-	10,500	12,000	1,500	10,500	10,500	10,500	4.68%	12,000	12,000	12,000	5.27%
Sinclair Road																	
east of Goodman Road	-	-	-	-	-	-	-	15,500	15,500	-	-	-	-	15,500	15,500	17,500	-
north of Tradition Boulevard	2,272	2,100	-	-	3,500	-	10,500	20,500	10,000	10,500	10,500	10,500	4.68%	20,500	20,500	22,500	8.06%
east of SR 429	8,255	7,500	4,171	-3,329	11,500	18.4%	23,000	23,500	500	23,000	23,000	23,000	2.93%	23,500	23,500	23,500	3.02%
Bella Citta Boulevard																	
west of Goodman Road	2,637	2,400	4,800	2,400	9,000	11.0%	5,700	12,500	6,800	5,700	8,100	10,000	0.44%	12,500	14,900	17,000	2.69%
Goodman Rd																	
north of Bella Citta Blvd	3,216	2,900	698	-2,202	4,400	35.9%	6,000	5,000	-1,000	6,000	6,000	6,000	1.30%	5,000	5,000	5,000	0.53%
south of Bella Citta Blvd	2,788	2,500	8,039	5,539	11,000	5.4%	9,300	8,800	-500	9,300	14,800	17,000	1.83%	8,800	14,300	14,500	1.16%
Masters Boulevard																	
north of Champions Gate Boulevard	4,353	4,000	8,039	4,039	12,000	6.9%	13,000	10,000	-3000	13,000	17,000	17,000	1.46%	10,000	14,000	14,000	0.64%
Champions Gate Boulevard																	
east of Masters Boulevard	25,236	23,000	17,300	-5,700	31,500	10.5%	36,500	35,000	-1500	36,500	36,500	36,500	0.62%	35,000	35,000	35,000	0.44%
S Old Lake Wilson Road																	
north of Sinclair Road	16,270	14,800	12,084	-2,716	20,000	8.8%	42,000	42,000	0	42,000	42,000	42,000	3.14%	42,000	42,000	42,000	3.14%
south of Sinclair Road	20,858	19,000	13,016	-5,984	18,000	5.6%	40,000	40,000	0	40,000	40,000	40,000	3.38%	40,000	40,000	40,000	3.38%

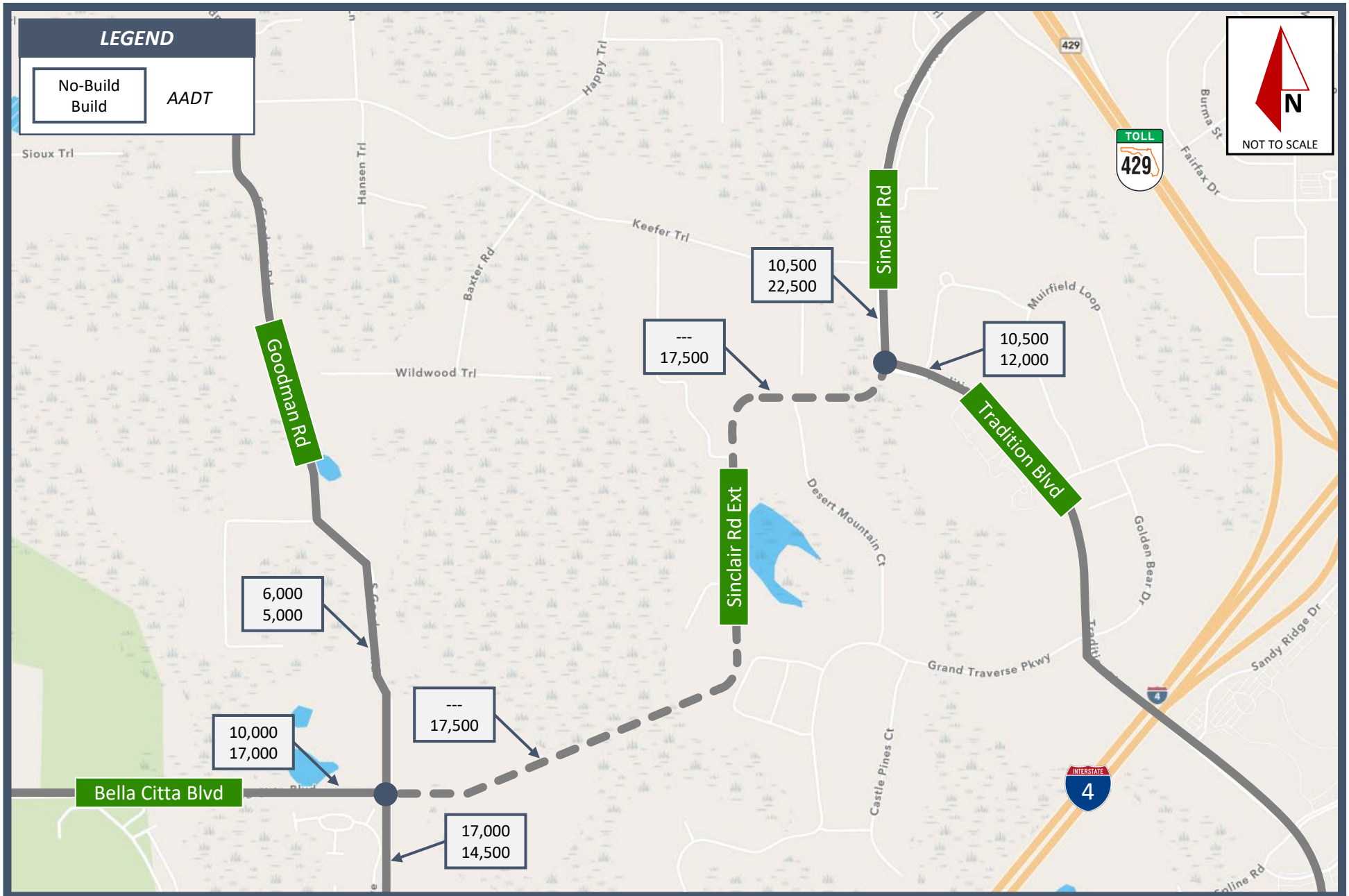


Exhibit 8: Future (2045) No-Build and Build Annual Average Daily Traffic (AADT) Volumes

8.5 INTERSECTION DESIGN HOUR VOLUMES

Future Design Hourly Volume (DHV) for Opening Year 2025 and Design Year 2045 were developed using TURNS5. Adjusted Build 2045 model volumes, shown in **Table 18** above, and recommended traffic characteristics were inputted in TURNS5 to generate future DHV for the AM and PM peak hours. TURNS5 output sheets are included in **Appendix L**. DHVs were reviewed to determine if any necessary adjustments were needed. Overall, the DHV for both the study intersections reflected reasonable distribution and anticipated growth. No adjustments were performed to the future intersection turning movement volumes.

Exhibits 9 and 10 show the Opening Year 2025 and Design Year 2045 Build intersection volumes.

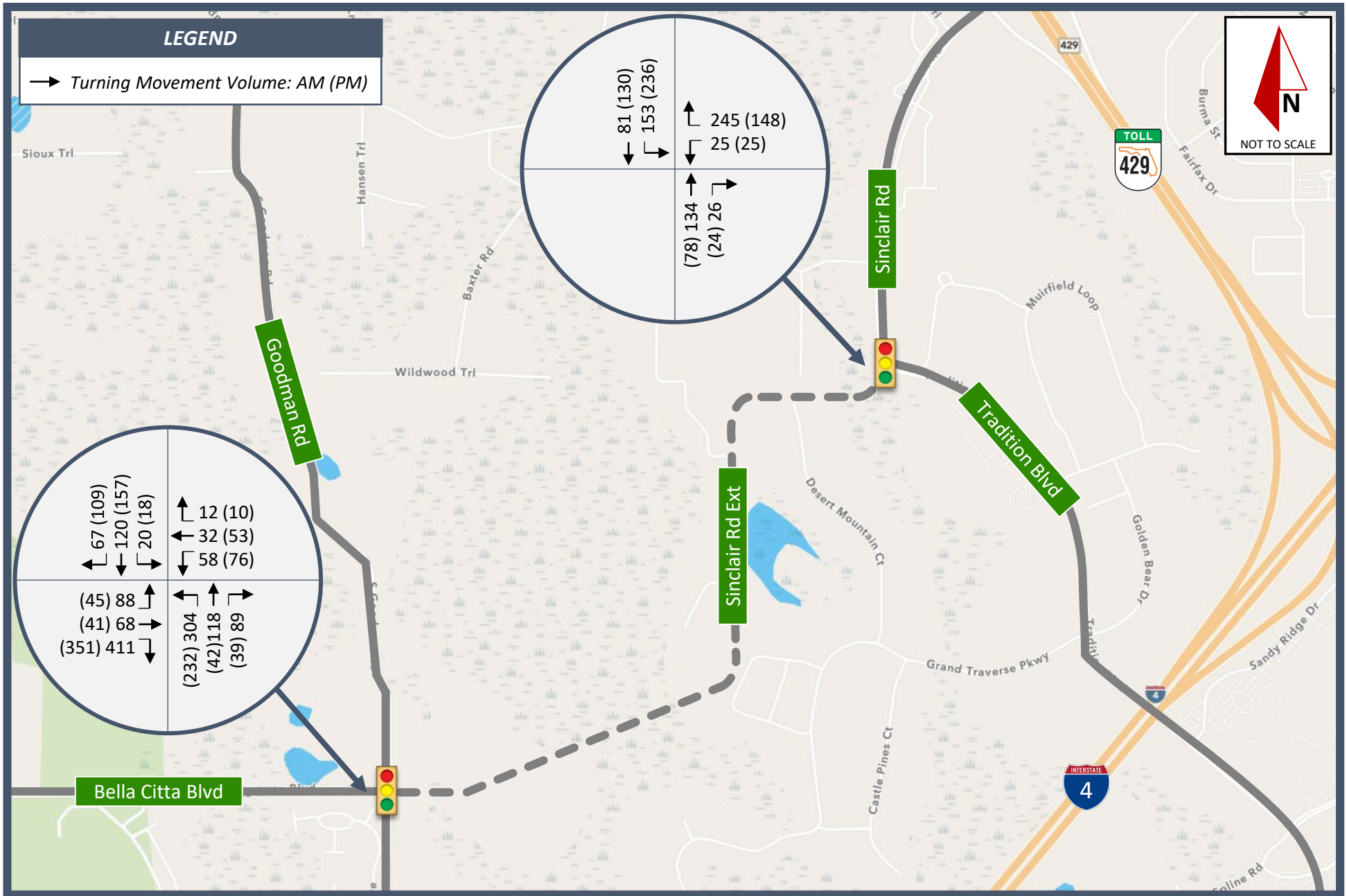


Exhibit 9: Opening Year (2025) Build Intersection Turning Movement Volumes

Exhibit 10: Design Year (2045) Build Intersection Turning Movement Volumes

9.0 FUTURE CONDITION ANALYSIS

Future conditions were analyzed for the Build condition for the Opening Year 2025 and Design Year 2045. The Build Condition consists of the extension of Sinclair Road as a four-lane road from Tradition Boulevard to the intersection of Goodman Road and Bella Citta Boulevard. Operating conditions for the arterial and for intersections were calculated using Synchro (v11) software. A roadway LOS analysis was performed for the roadway segments within the study area. This analysis is consistent with the Sinclair Road Preliminary Traffic Analysis technical memorandum, included in **Appendix M**.

9.1 BUILD ALTERNATIVE OPERATIONAL ANALYSIS

9.1.1 ROADWAY LEVEL OF SERVICE ANALYSIS – BUILD

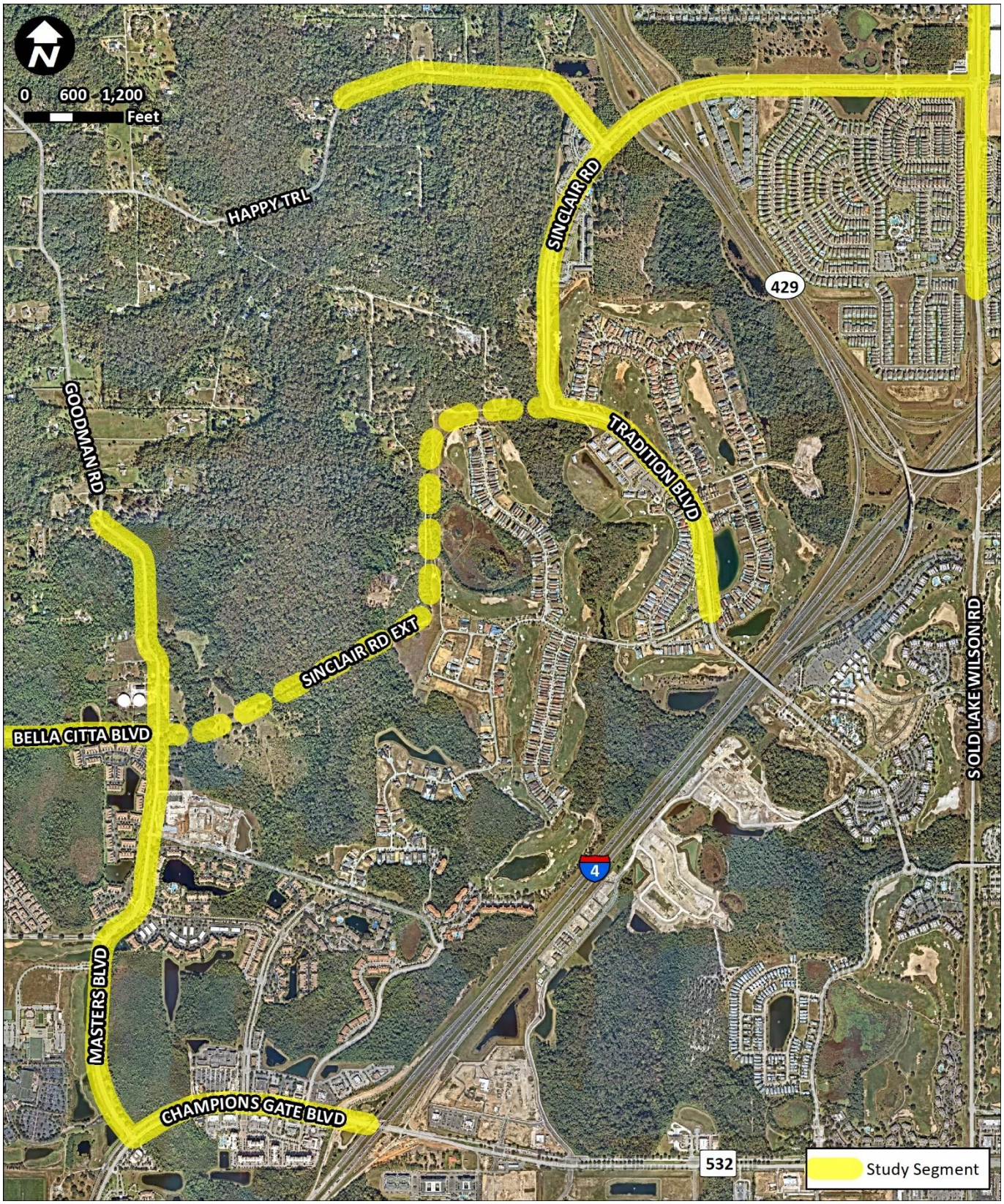
A roadway LOS analysis was performed for the roadway segments within the study area, as shown on **Exhibit 11**. Future Peak Hour Peak Direction (PHPD) volumes were developed by forecasting existing peak hour volumes using the calculated exponential growth rates from **Table 18**. Roadway segment characteristics and LOS capacities were obtained from Osceola County's 2020 Roadway Network Capacity Report and FDOT's Generalized Service Volume Tables.

Table 19 shows the analysis of the roadway LOS analysis.

Table 19: Future (2025 and 2045) Roadway Segment Performance Summary

Roadway Segment	Lanes	Target LOS Standard	LOS Capacity	Opening Year 2025			Lanes	Target LOS Standard	LOS Capacity	Design Year 2045		
				PHPD	V/C	LOS				PHPD	V/C	LOS
Happy Trail												
west of Sinclair Road	2	E	570	72	0.13	C	2	E	570	617	1.08	F
Traditions Boulevard												
east of Sinclair Road	2	E	570	262	0.46	C	2	E	570	730	1.28	F
Sinclair Road												
east of Goodman Road	-	-	-	-	-	-	4	E	1,680	949	0.56	D
north of Tradition Boulevard	4	E	1,680	290	0.17	C	4	E	1,680	1,369	0.82	D
east of SR 429	4	E	1,680	556	0.33	D	4	E	1,680	1,009	0.60	D
Bella Citta Boulevard												
west of S Goodman Road	2	E	570	456	0.80	D	4	E	1,280	774	0.61	D
S Goodman Road												
north of Bella Citta Boulevard	2	D	790	329	0.42	C	2	D	790	366	0.46	C
south of Bella Citta Boulevard	2	D	790	666	0.84	C	2	D	790	838	1.06	F
Master Boulevard												
north of Champions Gate Boulevard	2	D	830	653	0.79	C	2	D	830	742	0.89	C
Champions Gate Boulevard												
east of Masters Boulevard	4	D	1,530	957	0.63	C	4	D	1,530	1,044	0.68	C
S Old Lake Wilson Road												
north of Sinclair Road	4	D	1,760	1,050	0.60	C	4	D	1,760	1,949	1.11	F
south of Sinclair Road	2	D	790	1,203	1.52	F	4	D	1,760	2,340	1.33	F

Exhibit 11: Study Roadway Segments



9.1.2 FUTURE ARTERIAL PERFORMANCE MEASURES – BUILD

An arterial performance analysis was performed for the extension of Sinclair Road under the Build conditions for the Opening Year 2025 and Design Year 2045 conditions. The arterial analysis was performed using Synchro (v11) software. Arterial performance measures such as speed and LOS, are shown in **Table 20**. As shown below, the Sinclair Road Extension is anticipated to operate below the targeted LOS E.

Table 20: Arterial Performance Measures Summary

Year / Time Period	Build			
	Speed (mph)		LOS	
	NB/EB	WB/SB	NB/EB	WB/SB
AM Peak Hour				
2025	29	28	B	B
2045	26	27	B	B
PM Peak Hour				
2025	29	27	B	B
2045	27	26	B	B

9.1.3 INTERSECTION LEVEL OF SERVICE ANALYSIS – BUILD

Intersection operational analyses were conducted for AM and PM peak hour conditions for both analysis years, 2025 and 2045. Volumes from TURNS5 were used in the operational analysis for the study intersections. The study intersections were evaluated with multiple control types (unsignalized and signalized) and lane configurations to determine the appropriate intersection configuration needed during the horizon year (2045). The signalized intersection control was selected to evaluate both intersections. The same intersection control was assumed for the Opening Year 2025.

As shown in **Tables 21 through 24**, all study intersection movements are shown to operate with acceptable LOS and V/C ratio less than one (1.0) during the peak hours with the following lane configuration:

Sinclair Road (N/S) and Tradition Boulevard (E/W)

- Northbound: 1 through lane and 1 shared through/right lane
- Southbound: 1 left-turn lane and 2 through lanes
- Westbound: 1 left-turn lane and 1 right-turn lane

Sinclair Road/Bella Citta Boulevard and S Goodman Road

- Northbound: 1 left-turn lane and 1 shared through/right lane
- Southbound: 1 left-turn lane and 1 shared through/right lane
- Westbound: 1 left-turn lane, 1 through lane, and 1 shared through/right lane
- Eastbound: 1 left-turn lane, 1 through lane, and 1 shared through/right lane

Table 21: Opening Year (2025) Intersection Performance – AM Peak Hour

Intersection	MOE	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Sinclair Road @ Tradition Boulevard (Signalized)	Delay	--	--	--	25.8	--	36.8	--	9.7	9.8	6.8	4.8	--	19.0
	LOS	--	--	--	C	--	D	--	A	A	A	A	--	B
	V/C	--	--	--	0.08	--	0.85	--	0.10	0.10	0.21	0.04	--	--
	Queue (veh)	--	--	--	1	--	9	--	1	1	2	0	--	--
Bella Citta Boulevard @ Goodman Road (Signalized)	Delay	14.7	17.5	32.2	18.6	16.7	16.7	62.5	0.0	25.6	27.1	0.0	37.3	35.6
	LOS	B	B	C	B	B	B	E	A	C	C	A	D	D
	V/C	0.16	0.13	0.87	0.28	0.04	0.04	0.96	0.00	0.53	0.08	0.00	0.79	--
	Queue (veh)	2	2	15	1	1	1	15	0	7	1	0	8	--

Table 22: Opening Year (2025) Intersection Performance – PM Peak Hour

Intersection	MOE	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Sinclair Road @ Tradition Boulevard (Signalized)	Delay	--	--	--	33.6	--	39.9	--	8.6	8.6	5.6	3.8	--	14.7
	LOS	--	--	--	C	--	D	--	A	A	A	A	--	B
	V/C	--	--	--	0.10	--	0.66	--	0.05	0.06	0.27	0.06	--	--
	Queue (veh)	--	--	--	1	--	7	--	1	1	3	1	--	--
Bella Citta Boulevard @ Goodman Road (Signalized)	Delay	16.9	19.1	28.4	18.8	17.8	17.8	23.1	0.0	18.4	22.3	0.0	32.2	25.5
	LOS	B	B	C	B	B	B	C	A	B	C	A	C	C
	V/C	0.09	0.09	0.83	0.30	0.06	0.06	0.67	0.00	0.16	0.05	0.00	0.80	--
	Queue (veh)	1	1	11	2	1	1	6	0	2	1	0	9	--

Table 23: Design Year (2045) Intersection Performance – AM Peak Hour

Intersection	MOE	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Sinclair Road @ Tradition Boulevard (Signalized)	Delay	--	--	--	22.6	--	59.5	--	58.4	58.6	62.6	13.8	--	47.7
	LOS	--	--	--	C	--	E	--	E	E	E	B	--	D
	V/C	--	--	--	0.27	--	0.96	--	0.94	0.94	0.95	0.30	--	--
	Queue (veh)	--	--	--	5	--	24	--	23	23	12	6	--	--
Bella Citta Boulevard @ Goodman Road (Signalized)	Delay	28.5	73.1	74.7	71.8	26.3	26.4	38.5	0.0	76.7	60.0	0.0	39.0	59.6
	LOS	C	E	E	E	C	C	D	A	E	E	A	D	E
	V/C	0.24	0.96	0.96	0.93	0.29	0.30	0.65	0.00	0.97	0.78	0.00	0.34	--
	Queue (veh)	4	29	27	20	8	8	6	0	28	7	0	8	--

Table 24: Design Year (2045) Intersection Performance – PM Peak Hour

Intersection	MOE	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Sinclair Road @ Tradition Boulevard (Signalized)	Delay	--	--	--	36.6	--	61.5	--	18.7	18.8	14.0	6.7	--	19.7
	LOS	--	--	--	D	--	E	--	B	B	B	A	--	B
	V/C	--	--	--	0.54	--	0.89	--	0.41	0.42	0.78	0.36	--	--
	Queue (veh)	--	--	--	8	--	13	--	9	8	9	6	--	--
Bella Citta Boulevard @ Goodman Road (Signalized)	Delay	21.1	31.0	33.0	44.5	17.0	17.0	31.5	0.0	35.7	29.6	0.0	42.2	32.1
	LOS	C	C	C	D	B	B	C	A	D	C	A	D	C
	V/C	0.12	0.73	0.80	0.93	0.32	0.32	0.64	0.0	0.68	0.39	0.0	0.81	--
	Queue (veh)	1	12	12	14	6	6	7	0	8	4	0	9	--

9.1.4 QUEUE LENGTH ANAYSIS

The 95th-percentile queues at the left-turning movements at the study intersections were obtained from Synchro outputs. The higher of the AM and PM peak hour was used determine the recommended queue storage lengths for Design Year (2045) conditions. An average vehicle length of 25 feet was assumed. The calculations of the recommended turn lane queue lengths are shown in **Table 25**.

Table 25: Turn Lane Queue Length Determination

	Sinclair Rd & Tradition Bvld			Sinclair Rd/Bella Citta Blvd & Goodman Rd		
Movement	**95th % Queue (vehicles)[1]**	**Vehicle Length (feet)**	**Turn Lane Queue Length (feet)**	**95th % Queue (vehicles)[1]**	**Vehicle Length (feet)**	**Turn Lane Queue Length (feet)**
EBL	0	25	-	4	25	100
WBL	10	25	250	20	25	500
NBL	0	25	-	7	25	175
SBL	12	25	300	7	25	175

Note:
1. 95th-percentile queue as reported in the Synchro outputs (**Appendix F**).

9.2 PREDICTIVE CRASH ANALYSIS

A Highway Safety Manual (HSM) analysis was conducted for the 2045 Build alternative using predictive crash methods in order to quantify future crashes along the Sinclair Road Extension and the study intersections. The predictive crash analysis was performed using the HSM Chapter 12 methodology for urban/suburban arterial and intersections. The HSM includes Safety Performance Functions (SPFs) as bases for crash predictions; SPFs are equations used to estimate the average crash frequency per year as a function of traffic volume and roadway characteristics. The HSM methodology allows for the result of the standard SPF predictive models (predicted crashes) to be adjusted by incorporating historical crash data using Empirical-Bayes to obtain a more site-specific composite crash frequency (expected crashes). Historic crash data was not incorporated in this analysis. The results reflect predicted crashes only. **Appendix N** includes the HSM analysis spreadsheet outputs.

Sinclair Road Extension was assumed as a 35 MPH 4-lane divided roadway. The future roadway extends approximately 1.5 miles. The proposed roadway was assumed with lighting present, no on-street parking, and two residential driveways. These driveways represent the Dewan/Elevation residential development located on the south side of Sinclair. The two signalized intersections located at the extremity of the future Sinclair Road Extension were assumed to have the lane configurations listed in the previous section.

Based on the assumptions stated herein and the HSM methodology, Sinclair Road is predicted to have an average crash frequency of 4.6 crashes per year. The two study intersections are predicted to increase their crash frequency by year 2045 as a result of the increased traffic. A summary of the predicted crashes is shown in **Table 26**.

Table 26: Crash Prediction Summary

Facility	Crashes per Year - Build 2045		
	Property Damage Only (PDO)	Fatal and Injury	KABCO
Segment			
Sinclair Rd Extension	3.3	1.3	4.6
Intersections			
Sinclair Rd & Tradition Blvd	1.7	0.9	2.6
Sinclair Rd & Goodman/Bella Citta Blvd	2.1	1.1	3.2

10.0 RECOMMENDATIONS

Based on the analysis performed for the Design Year 2045 Build traffic conditions, it is recommended that both study intersections be signalized and provide the following lane configuration:

Sinclair Road (N/S) and Tradition Boulevard (E/W)

- Northbound: 1 through lane and 1 shared through/right lane
- Southbound: 1 left-turn lane and 2 through lanes
- Westbound: 1 left-turn lane and 1 right-turn lane

Sinclair Road/Bella Citta Boulevard and S Goodman Road

- Northbound: 1 left-turn lane and 1 shared through/right lane
- Southbound: 1 left-turn lane and 1 shared through/right lane
- Westbound: 1 left-turn lane, 1 through lane, and 1 shared through/right lane
- Eastbound: 1 left-turn lane, 1 through lane, and 1 shared through/right lane

Both intersections should operate with permissive/protected left turning movements. Recommended left-turn lane queue lengths are shown in **Table 27**.

Table 27: Recommended Turn Lane Queue Lengths

Intersection	Turn Lane Queue Length (feet)			
	EBL	WBL	NBL	SBL
Sinclair Rd & Tradition Bvld	-	250	-	300
Sinclair Rd/Bella Citta Blvd & Goodman Rd	100	500	175	175

APPENDIX A

Traffic Analysis Methodology

Traffic Analysis Methodology for Project Traffic Analysis Report (PTAR)

Alternatives Evaluation Study
Sinclair Road Extension
From Tradition Boulevard to Bella Citta Boulevard

Prepared for:

Osceola County, Florida
Department of Transportation and Transit
1 Courthouse Square, Suite 3100
Kissimmee, FL 34741

FEBRUARY 2022

Prepared by:

Kimley-Horn and Associates, Inc.

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1.0 PROJECT DESCRIPTION

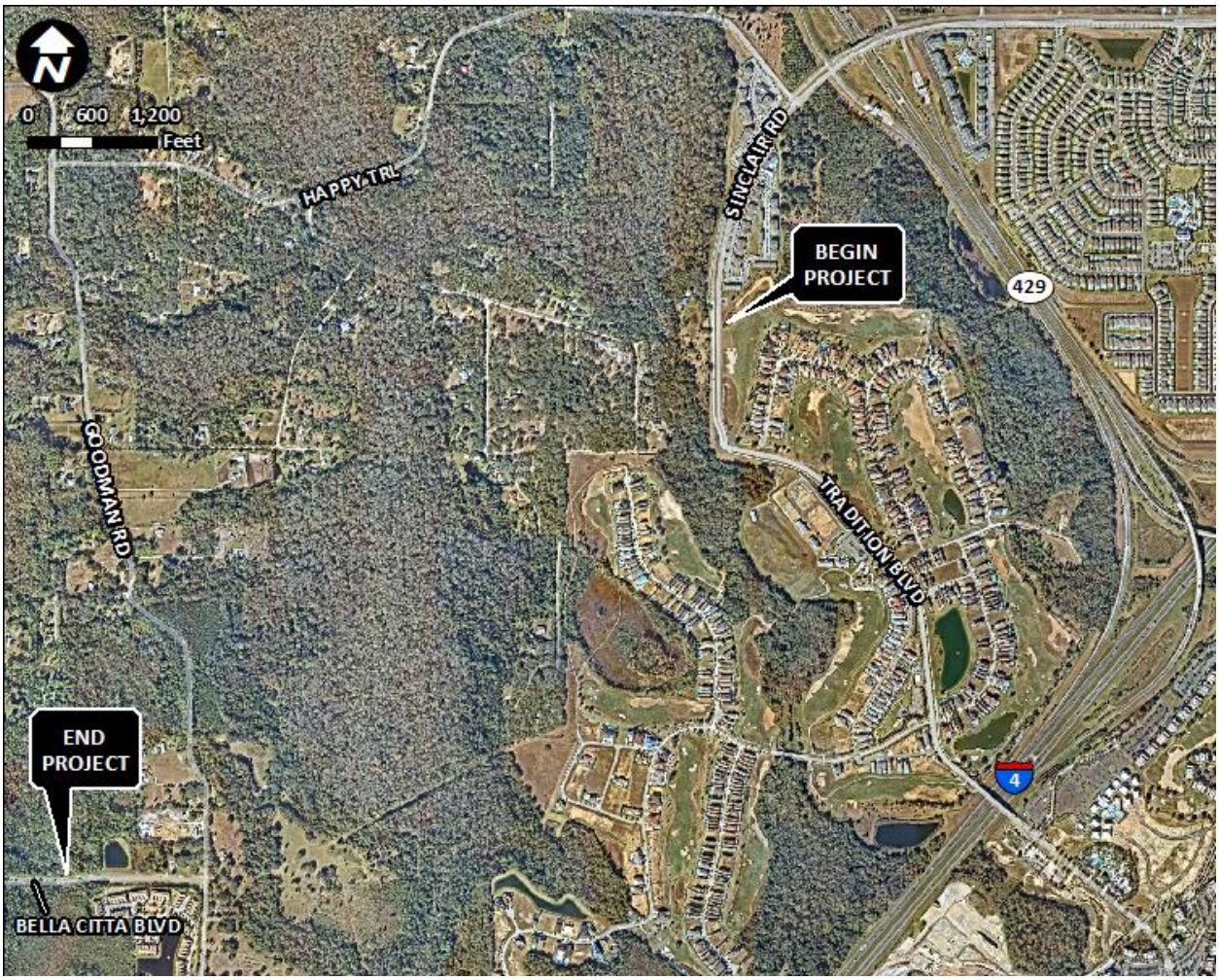
1.1 PROJECT BACKGROUND

Osceola County is conducting an Alternatives Evaluation Study, which will be followed by a development of design plans for the extension of Sinclair Road from Tradition Boulevard to Bella Citta Boulevard. This project involves the construction of a new roadway from Tradition Boulevard to S Goodman Road, initially as a two-lane facility, with the option to widen to four lanes at some time in the future. This traffic analysis will evaluate when the roadway will warrant expansion to 4-lanes. Multimodal accommodations, associated drainage improvements and stormwater ponds, and modification of the intersections at each end of the project will be evaluated.

In the existing conditions, Sinclair Road, from Tradition Boulevard to SR 429, is a 4-lane local road with a posted speed limit of 35 MPH. From SR 429 to Old Lake Wilson Road, Sinclair Road is an Urban Major Collector with a posted speed limit of 35 MPH. Bella Citta Road, west of Goodman Road is a 2-lane Urban Major Collector with a posted speed limit of 40 MPH. The project is located in Osceola County, and is displayed on **Exhibit 1**.

This document provides details of the technical approach for Project Traffic Analysis for the Sinclair Road Extension. The traffic analysis will be conducted based on methods and procedures described in the 2020 Florida Department of Transportation (FDOT) Project Development & Environment (PD&E) Manual, the 2021 FDOT Traffic Analysis Handbook, and the 2019 FDOT Project Traffic Forecasting Handbook. This traffic analysis will be documented in the Project Traffic Analysis Report (PTAR).

Exhibit 1: Project Location Map



2.0 DATA COLLECTION

Data will be collected within the project area. There are two adjacent studies underway, and the study team will coordinate with these studies and obtain available data for consideration during Part A. These studies include:

- The Poinciana Parkway Extension Project Development and Environment (PD&E) study (by Florida's Turnpike) will be evaluating the Sinclair Road interchange with SR 429.
- The S. Old Lake Wilson Road PD&E study (by Osceola County) will be evaluating the Sinclair Road intersection with S. Old Lake Wilson Road.

2.1 TRAFFIC COUNT SOURCES

Traffic volume counts will be collected from existing sources and supplemented with additional counts obtained for this study. Existing sources are summarized in **Table 1**.

Table 1: Existing Traffic Counts

Source	Station	Location	Type	Date
FDOT Florida Traffic Online	921086	Goodman Road, north of Bella Citta Boulevard	Historic, Daily	7/8/2020
	921087	Goodman Road, south of Bella Citta Boulevard	Historic, Daily	7/7/2020
	927084	Bella Citta Boulevard, west of Goodman Road	Historic, Daily	7/7/2020
Osceola County	126	Goodman Road, north of Bella Citta Boulevard	Daily	10/7/2020
	121	Goodman Road, south of Bella Citta Boulevard	Daily	10/7/2020
	184	Bella Citta Boulevard, west of Goodman Road	Daily	3/10/2020

Since Sinclair Road Extension is a planned road, traffic data collection of existing conditions will be minimal, focused on the roadways on each end of the extension, as shown in **Table 2**.

Table 2: Study Traffic Count Locations

Count Type	Count Location
72-hour Bi-directional Volume Counts	Sinclair Road, north of Tradition Boulevard
	Bella Citta Boulevard, west of Goodman Road
	Goodman Road, north of Bella Citta Boulevard
	Goodman Road, south of Bella Citta Boulevard
	Happy Trail, west of Sinclair Road
8-hour Turning Movement Counts	Bella Citta Boulevard at Goodman Road

No vehicle classification counts will be taken as the future conditions with the extension are expected to be different than existing traffic. Future truck percentages will be estimated based on similar functioning roadways within Osceola County.

2.2 PEDESTRIAN, BICYCLE & OTHER MULTIMODAL DATA

Pedestrian and bicycle data will be extracted from the turning movement counts as shown in **Table 2**. Pedestrian and bicycle data for the intersection of Sinclair Road at Tradition Boulevard will be collected in the field in September 2021 (or later) when the Osceola County schools reopen after the summer break. Currently, there are no transit stops (or routes) within project limits. Based on the latest Osceola County Comprehensive Plan - 2040 Transit System plans, transit-related improvements are not planned within the project limits.

2.3 EXISTING TRAFFIC DEVELOPMENT

2.3.1 ANNUAL AVERAGE DAILY TRAFFIC (AADT)

The traffic counts collected in 2021 will be used to develop AADTs for existing conditions. Segments will include:

- Sinclair Road, north of Tradition Boulevard
- Bella Citta Road, west of Goodman Road
- Tradition Boulevard, east of Sinclair Road
- Goodman Road, north of Bella Citta Boulevard
- Goodman Road, south of Bella Citta Boulevard

In addition, as requested by the County, AADTs for existing conditions outside the project area will be identified for informational purposes:

- Sinclair Road, from SR 429 to S. Old Lake Wilson Road (County Station #106)
- S. Old Lake Wilson Road, north of Sinclair Road (County Station #105)
- S. Old Lake Wilson Road, south of Sinclair Road (County Station #103)
- Masters Boulevard, north of Champions Gate Boulevard (County Station #121)
- Champions Gate Boulevard, from Masters Boulevard to I-4 (County Station #122)

2.3.2 INTERSECTION PEAK HOUR VOLUMES (FROM TMC)

Eight-hour turning movement counts (TMCs) will be collected for the intersection of Bella Citta Boulevard and Goodman Road. The peak eight hours will be identified from the 72-hour traffic volume counts on the intersection legs. Since the “intersection” of Sinclair Road and Tradition Boulevard only has two legs, the 72-hour traffic volume count at this location will be used to develop the “turning movements” at this intersection. The TMCs will be adjusted to represent design traffic for AM and PM peak hours.

3.0 PROJECT ASSUMPTIONS

3.1 ANALYSIS YEARS

The corridor will be analyzed for the following years:

- Existing Year 2021
- Opening Year 2025
- Design Year 2045

In addition, the year the corridor warrants providing a 4-lane facility will be identified.

3.2 PROJECT ALTERNATIVES

The study will evaluate the following alternative:

- **Build Alternative**: The Build alternative will represent the construction of Sinclair Road extension as a two-lane facility within the study limits along with committed and planned improvements near the project area.

A No-Build Alternative will not be addressed.

3.3 TRAVEL DEMAND MODEL

The latest version of the Central Florida Regional Planning Model (CFRPM) [version 7.0], FDOT's adopted regional planning model, with the base year 2015 and the horizon year 2045 will be used in developing the future traffic projections within the project area.

3.4 TARGET LEVEL OF SERVICE (LOS)

LOS targets per the Osceola County Comprehensive Plan are summarized below:

- Sinclair Road Extension and Study Intersections: LOS E

3.5 ANALYSIS TOOL(S)

Synchro/SimTraffic 11 will be used to perform the LOS operational analyses for the study intersections and arterial. Highway Capacity Manual (HCM), 6th Edition-based analysis results (if available) will be provided for both the signalized and unsignalized intersections. Roadway segment LOS will be computed using Synchro/SimTraffic reported average speed and criteria from Exhibit 18-1 of the HCM, 6th Edition.

3.6 DESIGN HOUR TRAFFIC FACTORS FOR FUTURE ANALYSIS

- Peak Hour Factor (PHF)
  - Will be determined in the PTAR and compared against acceptable ranges found in the Project Traffic Forecasting Handbook
- K Factor (proportion of the AADT that occurs during the design hour):
  - Will be determined in the PTAR and compared against acceptable ranges found in the Project Traffic Forecasting Handbook
- D Factor (percentage of the total, two-way design hour traffic traveling in the peak direction)
  - Will be determined in the PTAR and compared against acceptable ranges found in the Project Traffic Forecasting Handbook

- T Factor (percentage of the AADT volume generated by trucks or commercial vehicles)
    - Will be determined in the PTAR and compared against acceptable ranges found in the Project Traffic Forecasting Handbook

3.7 STUDY MEASURES OF EFFECTIVENESS (MOES)

The analysis results will include the following performance measures:

- Study Intersection:
    - Overall LOS and Lane Group LOS,
    - Overall Volume-to-Capacity (V/C) ratio and Lane Group V/C,
    - Overall Delay (seconds per vehicle) and Lane Group delay, and
    - 95th percentile queues for turn lanes (for future storage length requirements)
- Arterial:
    - Speed, and
    - LOS

3.8 SAFETY ANALYSIS

Historical Crash Data from 2016 to 2020 will be evaluated for the intersections of:

- Sinclair Road at Tradition Boulevard
- Goodman Road at Bella Citta Boulevard

Source:

- From Osceola County
- Signal Four Analytics

4.0 FUTURE TRAFFIC DEVELOPMENT

The traffic forecasting methodology will be consistent with the procedures outlined in the 2019 FDOT Project Traffic Forecasting Handbook. This section discusses the detailed methodology for the future year traffic forecast development process for the Build conditions.

4.1 SUB-AREA MODEL VALIDATION

CFRPM version 7.0 with the base year 2015, and the horizon year 2045 will be used in developing the future traffic projections within the project area. The proposed sub-area, shown on **Exhibit 2**, in the CFRPM model will be calibrated and validated for the existing year 2021 conditions. The Socio-Economic (SE) data for the year 2020 will be used. As part of the sub-area validation, land use and roadway network data, roadway speeds, capacities, travel patterns, pathfinding algorithms will be examined, and necessary model updates will be made to better validate model results within the prooject area. The model validation and calibration of the CFRPM model will follow the guidance provided in the “FSUTMS-Cube Framework Phase II Model Calibration and Validation Standards”.

Exhibit 2: Proposed Travel Demand Model Sub-Area

4.2 FUTURE YEAR MODEL DEVELOPMENT

After the subarea base year validation, the same model updates will be applied to the 2025 and 2045 future year models. For future conditions, a build alternative will be modeled for the years 2025 and 2045.

4.2.1 STAKEHOLDER COORDINATION

Before conducting the year 2025 and 2045 model runs, the socio-economic data and the roadway network (Cost Feasible 2045 CFRPM) will be updated to account for any new developments and network connectivity identified by the County. The future year travel demand model will consider programmed and planned improvements in the vicinity of the project area that are consistent with regional transportation plans, including the following:

- FDOT Five Year Work Program and MetroPlan Orlando Transportation Improvement Program
- FDOT Strategic Intermodal System (SIS) plans
- Committed improvements from local and private sources
- Adopted LRTPs and Comprehensive Plans
- Central Florida Expressway Authority (CFX) Masterplan

Specifically, the project team will coordinate with the County, CFX, and Florida's Turnpike Enterprise (FTE) on the following important planned improvements, including their expected opening date:

- Poinciana Parkway Extension, from CR 532 to SR 429 at I-4 (by FTE)
- Southport Connector Expressway (by CFX)

4.3 FUTURE TRAFFIC FORECASTS

Since the Sinclair Road Extension will be a new roadway connection, the opening year 2025 and design year 2045 traffic volumes will be estimated using the model forecasted volumes (using the approved 2025 and 2045 datasets for CFRPM 7.0), with consideration of historical growth rates on surrounding roadways and Bureau of Economics & Business Research (BEBR) low, medium, and high population projections.

Should there be future traffic estimates that are not consistent with the historical trends or reasonable expectations for growth in the study corridor, these issues will be reviewed with the County, and an acceptable solution will be reached on any revisions necessary.

In addition, as requested by the County, AADTs for 2025 and 2045 conditions for roadways outside the project area, for build and no-build conditions, will be identified for informational purposes:

- Sinclair Road, from SR 429 to S. Old Lake Wilson Road
- S. Old Lake Wilson Road, north of Sinclair Road
- S. Old Lake Wilson Road, south of Sinclair Road
- Masters Boulevard, north of Champions Gate Boulevard
- Champions Gate Boulevard, from Ronald Reagan Parkway to Masters Boulevard
- Champions Gate Boulevard, from Masters Boulevard to I-4

4.4 DESIGN TRAFFIC CHARACTERISTICS

The recommended standard "K" factor of 9.0% will be used for all the study roadway segments. The "D" and "T" factors will be developed using historical data reported by FDOT Florida Traffic Online (FTO), previous counts, and the recommended ranges identified in the 2019 Project Traffic Forecasting Handbook.

4.5 DESIGN HOUR VOLUMES

The recommended design traffic characteristics, existing intersection turning movement volumes and the future traffic projections will be used as inputs to the TURNS5 spreadsheet to develop the intersection design hour volumes. The output of the TURNS5 will be adjusted to account for reasonability and balancing purposes.

5.0 OPERATIONAL ANALYSIS

5.1 TRAFFIC OPERATIONAL ANALYSIS

Detailed operational analyses will be performed for all analysis years for both AM and PM peak hours using Synchro. Based on input from the County, SimTraffic simulation may be conducted for the intersections of Bella Citta Boulevard and Goodman Road, and Sinclair Road and Tradition Boulevard. Analyses will be performed for the following scenarios:

- Existing Year 2021
- Opening Year 2025 – Build Conditions
- Design Year 2045 – Build Conditions

The need for future signalization at the stop-controlled intersections will be based on the volume-based Manual on Uniform Traffic Control Devices (MUTCD) signal warrants (1-3).

5.2 ALTERNATIVE ANALYSIS

The study intersection alternatives will be developed and assessed under the Build condition based on traffic demand. Turn lane and storage length requirements will be based on the operational analyses of the future Build alternative.

6.0 SAFETY ANALYSIS

6.1 CRASH DATA ANALYSIS

Detailed crash data within the project area will be analyzed and documented. The safety analysis will summarize location of crashes, crash types, contributing causes of these crashes, most common types of crashes, crash rates, and safety ratios.

6.2 SAFETY ANALYSIS

The safety analysis will be performed following Part 2, Chapter 2 of the PD&E Manual. Based on the information obtained from the crash data, the project safety needs associated with the existing and future conditions will be identified. Furthermore, a Build Highway Safety Manual (HSM) safety analysis will be conducted utilizing Crash Modification Factors (CMFs), if available, and predictive crash methods to estimate potential future crashes.

7.0 DOCUMENTATION

A PTAR will be prepared to document the data collection task, results of the existing conditions analysis, results of the CFRPM model validation, the year 2025 and 2045 travel demand modeling efforts, development of future AADTs, and design hour volumes, safety analysis, Build alternative analysis results, and final recommendations.

APPENDIX B

Raw Traffic Count

Prepared by NDS/ATD

VOLUME

Sinclair Rd N/O Tradition Blvd

Day: Tuesday
Date: 11/16/2021

City: Kissimmee
Project #: FL21_130268_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,549	1,931	0	0	3,480

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	2		2						4		12:00	33		16						49	
00:15	4		3						7		12:15	22		23						45	
00:30	4		0						4		12:30	15		27						42	
00:45	1	11	2	7					3	18	12:45	30	100	20	86					50	186
01:00	0		2						2		13:00	29		25						54	
01:15	2		1						3		13:15	18		19						37	
01:30	1		1						2		13:30	18		28						46	
01:45	0	3	1	5					1	8	13:45	21	86	14	86					35	172
02:00	0		2						2		14:00	29		17						46	
02:15	1		3						4		14:15	35		32						67	
02:30	1		0						1		14:30	33		25						58	
02:45	0	2	0	5					0	7	14:45	33	130	33	107					66	237
03:00	1		1						2		15:00	29		43						72	
03:15	0		1						1		15:15	21		31						52	
03:30	2		1						3		15:30	21		38						59	
03:45	3	6	0	3					3	9	15:45	23	94	34	146					57	240
04:00	0		0						0		16:00	19		52						71	
04:15	1		1						2		16:15	36		51						87	
04:30	5		1						6		16:30	30		49						79	
04:45	4	10	1	3					5	13	16:45	35	120	64	216					99	336
05:00	4		1						5		17:00	49		41						90	
05:15	3		0						3		17:15	27		51						78	
05:30	1		2						3		17:30	31		66						97	
05:45	2	10	5	8					7	18	17:45	32	139	39	197					71	336
06:00	6		2						8		18:00	14		49						63	
06:15	9		2						11		18:15	25		44						69	
06:30	6		9						15		18:30	11		54						65	
06:45	18	39	20	33					38	72	18:45	13	63	56	203					69	266
07:00	21		25						46		19:00	14		59						73	
07:15	18		23						41		19:15	19		46						65	
07:30	21		28						49		19:30	14		21						35	
07:45	27	87	27	103					54	190	19:45	14	61	22	148					36	209
08:00	32		28						60		20:00	9		20						29	
08:15	44		20						64		20:15	5		17						22	
08:30	32		20						52		20:30	4		21						25	
08:45	34	142	34	102					68	244	20:45	8	26	12	70					20	96
09:00	44		24						68		21:00	2		22						24	
09:15	25		30						55		21:15	12		17						29	
09:30	32		27						59		21:30	9		10						19	
09:45	30	131	21	102					51	233	21:45	6	29	10	59					16	88
10:00	31		22						53		22:00	6		13						19	
10:15	31		24						55		22:15	5		7						12	
10:30	38		25						63		22:30	8		9						17	
10:45	21	121	20	91					41	212	22:45	4	23	12	41					16	64
11:00	28		24						52		23:00	6		3						9	
11:15	27		23						50		23:15	3		4						7	
11:30	28		20						48		23:30	1		2						3	
11:45	23	106	31	98					54	204	23:45	0	10	3	12					3	22
TOTALS		668		560						1228	TOTALS		881		1371						2252
SPLIT %		54.4%		45.6%						35.3%	SPLIT %		39.1%		60.9%						64.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,549	1,931	0	0	3,480

AM Peak Hour	08:15	08:45			08:15	PM Peak Hour	16:15	16:45			16:45
AM Pk Volume	154	115			252	PM Pk Volume	150	222			364
Pk Hr Factor	0.875	0.846			0.926	Pk Hr Factor	0.765	0.841			0.919
7 - 9 Volume	229	205	0	0	434	4 - 6 Volume	259	413	0	0	672
7 - 9 Peak Hour	08:00	07:15			08:00	4 - 6 Peak Hour	16:15	16:45			16:45
7 - 9 Pk Volume	142	106	0	0	244	4 - 6 Pk Volume	150	222	0	0	364
Pk Hr Factor	0.807	0.946	0.000	0.000	0.897	Pk Hr Factor	0.765	0.841	0.000	0.000	0.919

Prepared by NDS/ATD

VOLUME

Sinclair Rd N/O Tradition Blvd

Day: Wednesday
Date: 11/17/2021

City: Kissimmee
Project #: FL21_130268_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,554	1,930	0	0	3,484

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	6		2						8		12:00	26		22						48	
00:15	0		1						1		12:15	23		22						45	
00:30	3		4						7		12:30	18		20						38	
00:45	1	10	0	7					1	17	12:45	32	99	18	82					50	181
01:00	1		1						2		13:00	33		23						56	
01:15	3		1						4		13:15	24		26						50	
01:30	0		1						1		13:30	19		27						46	
01:45	2	6	0	3					2	9	13:45	32	108	31	107					63	215
02:00	0		0						0		14:00	23		24						47	
02:15	0		1						1		14:15	31		22						53	
02:30	0		1						1		14:30	36		21						57	
02:45	1	1	1	3					2	4	14:45	23	113	25	92					48	205
03:00	0		0						0		15:00	24		36						60	
03:15	1		0						1		15:15	15		32						47	
03:30	1		0						1		15:30	28		43						71	
03:45	0	2	0						0	2	15:45	32	99	42	153					74	252
04:00	2		0						2		16:00	41		58						99	
04:15	1		1						2		16:15	34		44						78	
04:30	2		0						2		16:30	35		71						106	
04:45	2	7	5	6					7	13	16:45	35	145	62	235					97	380
05:00	2		1						3		17:00	23		59						82	
05:15	0		0						0		17:15	25		47						72	
05:30	2		1						3		17:30	23		48						71	
05:45	2	6	3	5					5	11	17:45	30	101	65	219					95	320
06:00	4		1						5		18:00	30		58						88	
06:15	7		0						7		18:15	21		42						63	
06:30	13		10						23		18:30	14		42						56	
06:45	14	38	12	23					26	61	18:45	18	83	46	188					64	271
07:00	15		19						34		19:00	21		32						53	
07:15	24		30						54		19:15	16		20						36	
07:30	24		22						46		19:30	4		19						23	
07:45	27	90	29	100					56	190	19:45	16	57	19	90					35	147
08:00	26		25						51		20:00	8		21						29	
08:15	36		29						65		20:15	15		19						34	
08:30	33		25						58		20:30	6		19						25	
08:45	30	125	31	110					61	235	20:45	9	38	20	79					29	117
09:00	28		35						63		21:00	9		16						25	
09:15	21		33						54		21:15	13		13						26	
09:30	29		27						56		21:30	11		18						29	
09:45	31	109	30	125					61	234	21:45	6	39	10	57					16	96
10:00	36		17						53		22:00	3		8						11	
10:15	29		18						47		22:15	5		9						14	
10:30	43		27						70		22:30	4		12						16	
10:45	17	125	29	91					46	216	22:45	4	16	8	37					12	53
11:00	32		25						57		23:00	2		4						6	
11:15	36		24						60		23:15	5		7						12	
11:30	27		18						45		23:30	5		9						14	
11:45	28	123	30	97					58	220	23:45	2	14	1	21					3	35
TOTALS		642		570						1212	TOTALS		912		1360						2272
SPLIT %		53.0%		47.0%						34.8%	SPLIT %		40.1%		59.9%						65.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,554	1,930	0	0	3,484

AM Peak Hour	09:45		08:45						08:15		PM Peak Hour	16:00		16:30						16:00	
AM Pk Volume	139		126						247		PM Pk Volume	145		239						380	
Pk Hr Factor	0.808		0.900						0.950		Pk Hr Factor	0.884		0.842						0.896	
7 - 9 Volume	215		210		0		0		425		4 - 6 Volume	246		454		0		0		700	
7 - 9 Peak Hour	08:00		08:00						08:00		4 - 6 Peak Hour	16:00		16:30						16:00	
7 - 9 Pk Volume	125		110		0		0		235		4 - 6 Pk Volume	145		239		0		0		380	
Pk Hr Factor	0.868		0.887		0.000		0.000		0.904		Pk Hr Factor	0.884		0.842		0.000		0.000		0.896	

Prepared by NDS/ATD

VOLUME

Sinclair Rd N/O Tradition Blvd

Day: Thursday
Date: 11/18/2021

City: Kissimmee
Project #: FL21_130268_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,674	2,388	0	0	4,062

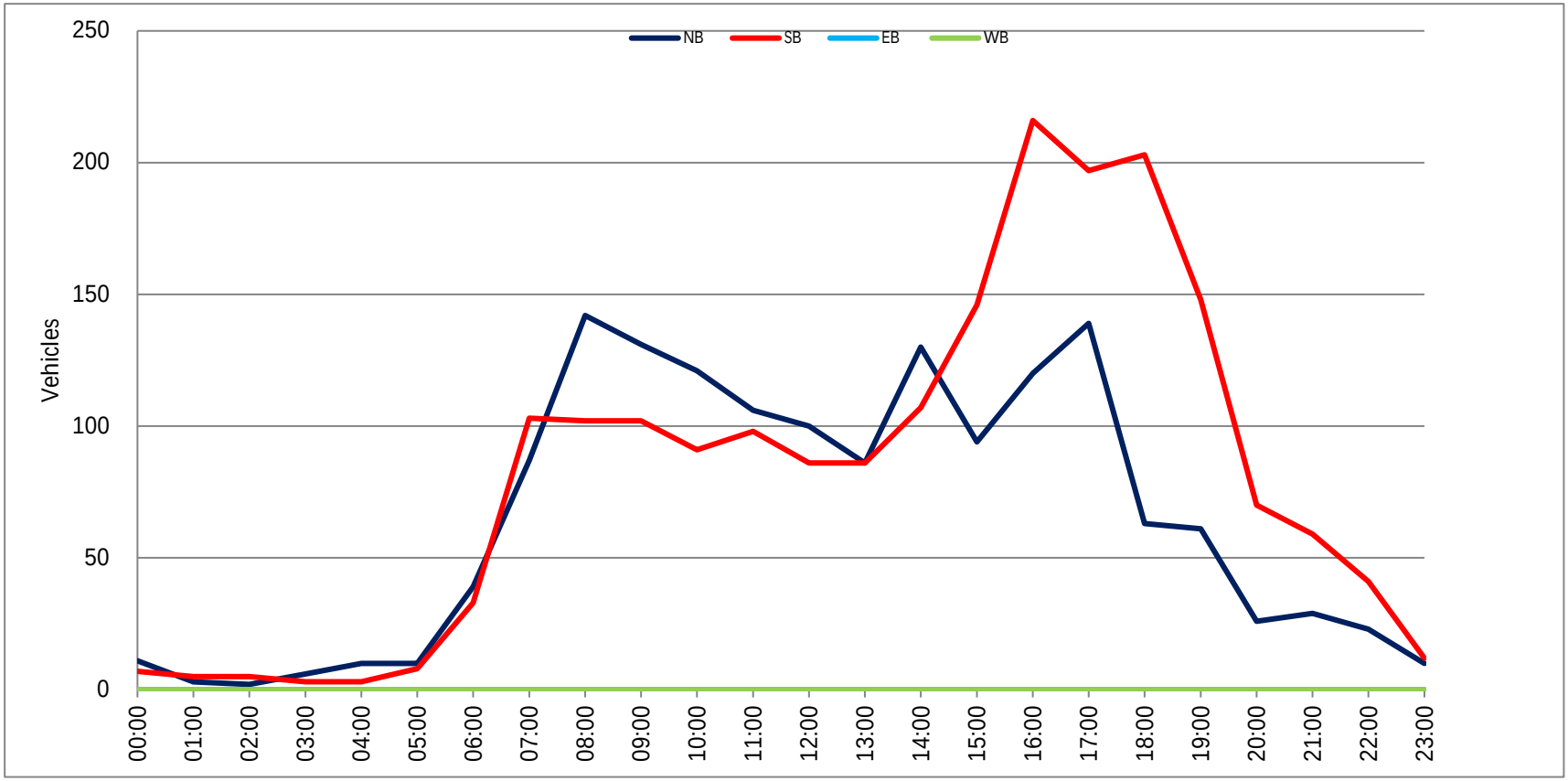
AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	4		3						7		12:00	26		17						43	
00:15	4		4						8		12:15	25		22						47	
00:30	3		3						6		12:30	15		22						37	
00:45	0	11	2	12					2	23	12:45	26	92	25	86					51	178
01:00	1		2						3		13:00	30		28						58	
01:15	1		3						4		13:15	18		20						38	
01:30	1		1						2		13:30	31		31						62	
01:45	1	4	0	6					1	10	13:45	38	117	33	112					71	229
02:00	0		2						2		14:00	43		28						71	
02:15	1		0						1		14:15	22		29						51	
02:30	1		2						3		14:30	22		33						55	
02:45	1	3	0	4					1	7	14:45	43	130	37	127					80	257
03:00	1		0						1		15:00	31		58						89	
03:15	0		1						1		15:15	40		51						91	
03:30	0		0						0		15:30	32		64						96	
03:45	0	1	0	1					0	2	15:45	23	126	57	230					80	356
04:00	0		0						0		16:00	36		71						107	
04:15	0		0						0		16:15	40		78						118	
04:30	2		1						3		16:30	33		67						100	
04:45	1	3	4	5					5	8	16:45	34	143	85	301					119	444
05:00	4		1						5		17:00	19		75						94	
05:15	3		0						3		17:15	45		81						126	
05:30	1		2						3		17:30	30		57						87	
05:45	3	11	1	4					4	15	17:45	36	130	61	274					97	404
06:00	4		2						6		18:00	31		67						98	
06:15	10		5						15		18:15	23		62						85	
06:30	16		6						22		18:30	25		60						85	
06:45	14	44	11	24					25	68	18:45	25	104	78	267					103	371
07:00	17		23						40		19:00	19		52						71	
07:15	19		26						45		19:15	20		59						79	
07:30	16		14						30		19:30	14		52						66	
07:45	28	80	29	92					57	172	19:45	9	62	20	183					29	245
08:00	26		32						58		20:00	11		35						46	
08:15	43		18						61		20:15	12		19						31	
08:30	29		25						54		20:30	10		28						38	
08:45	28	126	31	106					59	232	20:45	15	48	27	109					42	157
09:00	26		21						47		21:00	8		27						35	
09:15	30		25						55		21:15	12		17						29	
09:30	37		30						67		21:30	0		15						15	
09:45	39	132	20	96					59	228	21:45	9	29	12	71					21	100
10:00	26		26						52		22:00	7		11						18	
10:15	28		26						54		22:15	7		9						16	
10:30	34		19						53		22:30	9		18						27	
10:45	32	120	27	98					59	218	22:45	3	26	16	54					19	80
11:00	26		20						46		23:00	5		12						17	
11:15	38		18						56		23:15	9		8						17	
11:30	27		23						50		23:30	6		13						19	
11:45	20	111	26	87					46	198	23:45	1	21	6	39					7	60
TOTALS		646		535						1181	TOTALS		1028		1853						2881
SPLIT %		54.7%		45.3%						29.1%	SPLIT %		35.7%		64.3%						70.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,674	2,388	0	0	4,062

AM Peak Hour	09:00		08:45						09:15		PM Peak Hour	14:45		16:30						16:00	
AM Pk Volume	132		107						233		PM Pk Volume	146		308						444	
Pk Hr Factor	0.846		0.863						0.869		Pk Hr Factor	0.849		0.906						0.933	
7 - 9 Volume	206		198		0		0		404		4 - 6 Volume	273		575		0		0		848	
7 - 9 Peak Hour	07:45		08:00						08:00		4 - 6 Peak Hour	16:00		16:30						16:00	
7 - 9 Pk Volume	126		106		0		0		232		4 - 6 Pk Volume	143		308		0		0		444	
Pk Hr Factor	0.733		0.828		0.000		0.000		0.951		Pk Hr Factor	0.894		0.906		0.000		0.000		0.933	

Prepared by NDS/ATD

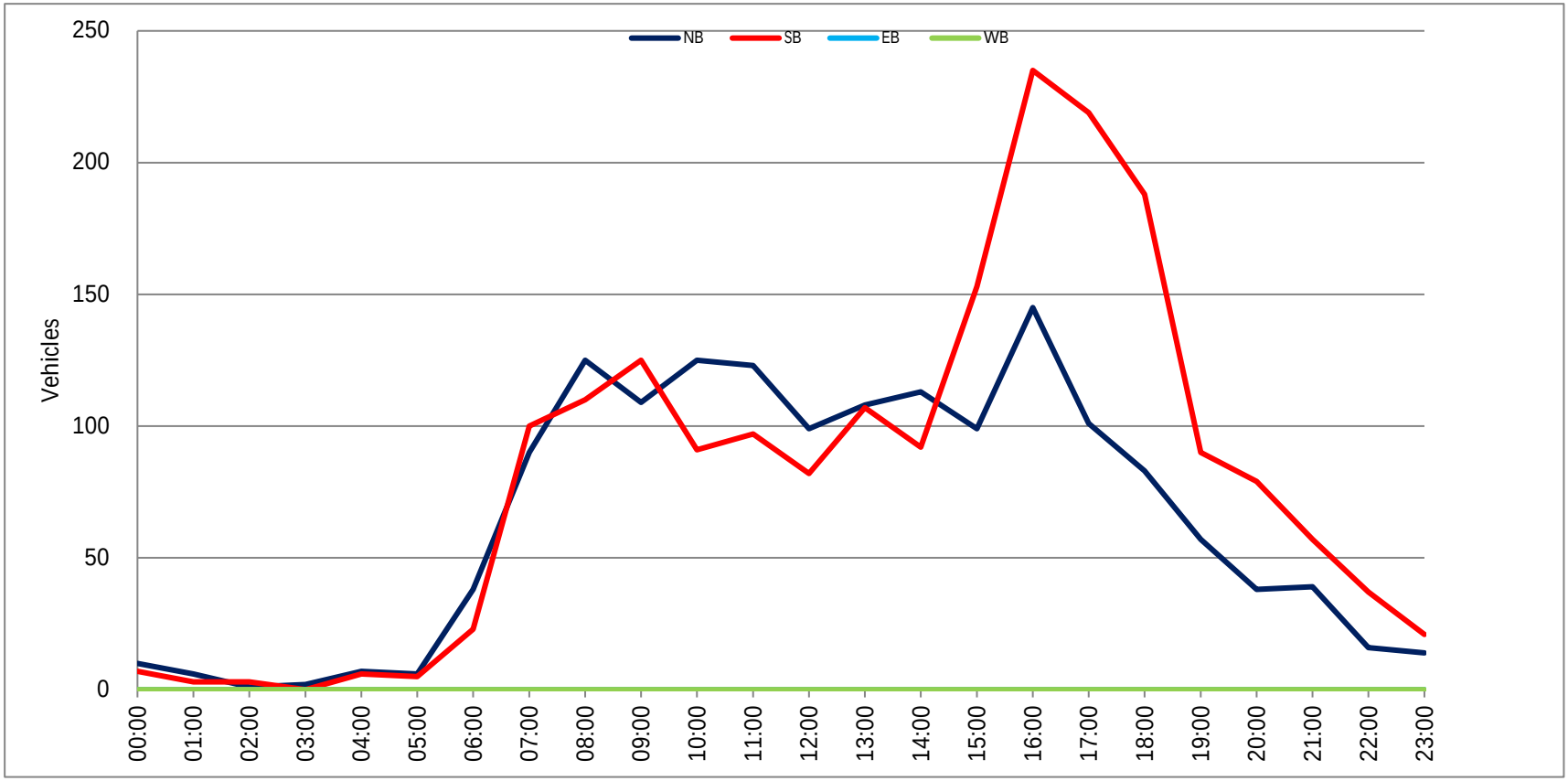
Project #: FL21_130268_001	City: Kissimmee
Location: Sinclair Rd N/O Tradition Blvd	Date: 11/16/2021



Prepared by NDS/ATD

Project #: FL21_130268_001 City: Kissimmee

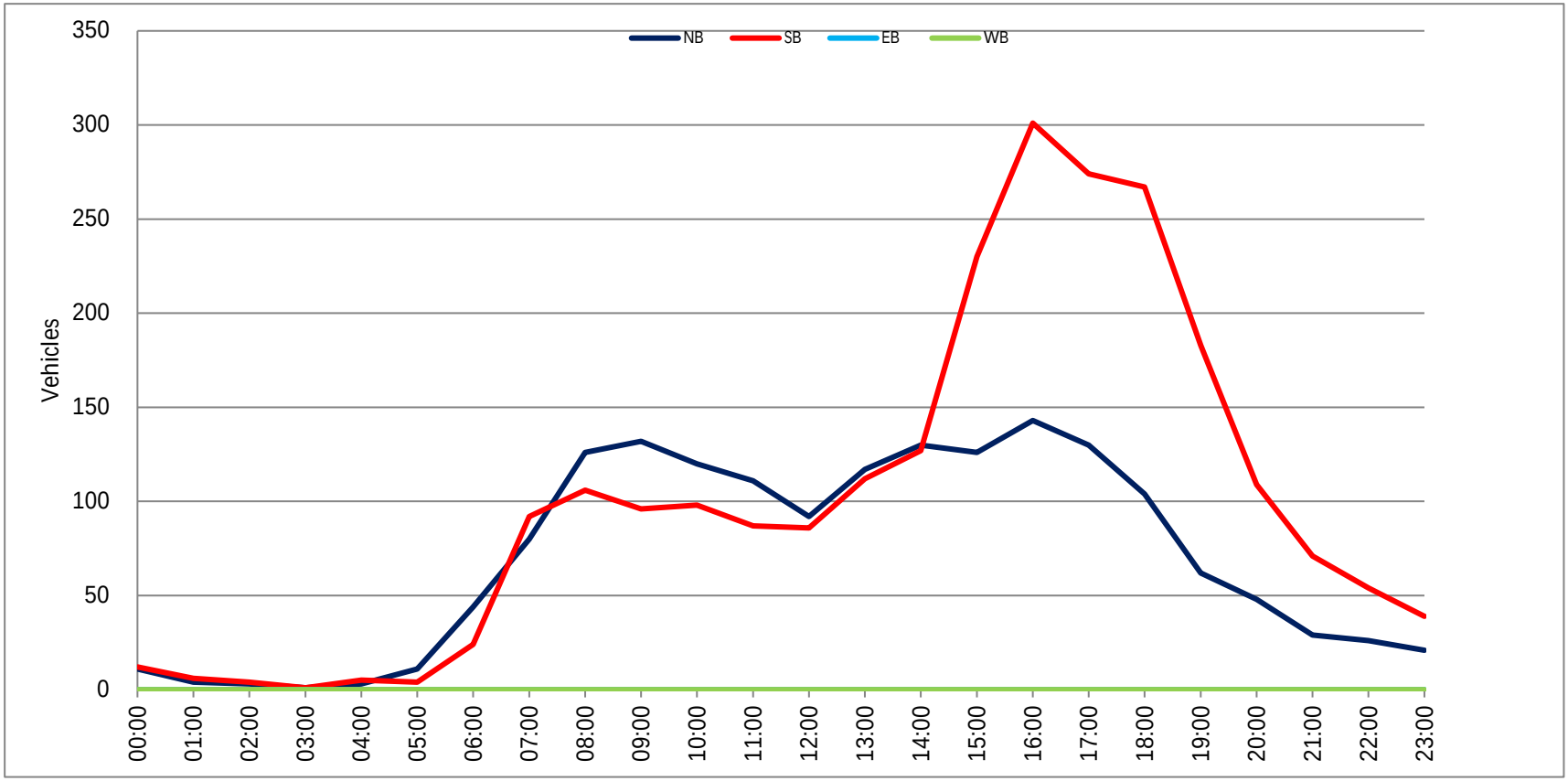
Location: Sinclair Rd N/O Tradition Blvd Date: 11/17/2021



Prepared by NDS/ATD

Project #: FL21_130268_001 City: Kissimmee

Location: Sinclair Rd N/O Tradition Blvd Date: 11/18/2021



Prepared by National Data & Surveying Services

VOLUME

Happy Trail W/O Sinclair Rd

Day: Tuesday
Date: 11/16/2021

City: Davenport
Project #: FL21_130268_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	492	328	820

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		3		4		12:00			8		6		14	
00:15			0		0		0		12:15			6		4		10	
00:30			1		1		2		12:30			4		4		8	
00:45			1	3	1	5	2	8	12:45			2	20	4	18	6	38
01:00			1		0		1		13:00			4		2		6	
01:15			0		0		0		13:15			9		4		13	
01:30			2		0		2		13:30			6		4		10	
01:45			0	3	0		0	3	13:45			5	24	4	14	9	38
02:00			2		1		3		14:00			8		5		13	
02:15			1		1		2		14:15			7		5		12	
02:30			1		0		1		14:30			13		8		21	
02:45			0	4	0	2	0	6	14:45			9	37	5	23	14	60
03:00			0		0		0		15:00			17		10		27	
03:15			0		2		2		15:15			11		3		14	
03:30			0		0		0		15:30			12		4		16	
03:45			1	1	0	2	1	3	15:45			2	42	4	21	6	63
04:00			0		0		0		16:00			6		13		19	
04:15			1		0		1		16:15			8		10		18	
04:30			1		1		2		16:30			8		9		17	
04:45			1	3	0	1	1	4	16:45			9	31	10	42	19	73
05:00			3		2		5		17:00			5		8		13	
05:15			1		0		1		17:15			5		8		13	
05:30			4		0		4		17:30			8		8		16	
05:45			4	12	0	2	4	14	17:45			5	23	11	35	16	58
06:00			3		1		4		18:00			9		7		16	
06:15			5		1		6		18:15			8		8		16	
06:30			7		2		9		18:30			7		11		18	
06:45			13	28	1	5	14	33	18:45			2	26	3	29	5	55
07:00			14		3		17		19:00			4		8		12	
07:15			10		1		11		19:15			2		4		6	
07:30			13		4		17		19:30			3		6		9	
07:45			13	50	3	11	16	61	19:45			5	14	5	23	10	37
08:00			14		4		18		20:00			2		4		6	
08:15			11		2		13		20:15			4		3		7	
08:30			14		7		21		20:30			2		2		4	
08:45			11	50	3	16	14	66	20:45			2	10	4	13	6	23
09:00			13		3		16		21:00			2		4		6	
09:15			14		1		15		21:15			1		2		3	
09:30			7		0		7		21:30			3		0		3	
09:45			5	39	3	7	8	46	21:45			0	6	2	8	2	14
10:00			8		7		15		22:00			0		4		4	
10:15			5		3		8		22:15			1		1		2	
10:30			13		7		20		22:30			2		0		2	
10:45			3	29	4	21	7	50	22:45			1	4	1	6	2	10
11:00			9		3		12		23:00			0		1		1	
11:15			7		6		13		23:15			1		1		2	
11:30			8		3		11		23:30			1		1		2	
11:45			7	31	9	21	16	52	23:45			0	2	0	3	0	5
TOTALS				253		93		346	TOTALS				239		235		474
SPLIT %				73.1%		26.9%		42.2%	SPLIT %				50.4%		49.6%		57.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	492	328	820

AM Peak Hour				07:45		11:15		07:45	PM Peak Hour				14:30		16:00		14:30
AM Pk Volume				52		24		68	PM Pk Volume				50		42		76
Pk Hr Factor				0.929		0.667		0.810	Pk Hr Factor				0.735		0.808		0.704
7 - 9 Volume	0	0		100		27		127	4 - 6 Volume	0	0		54		77		131
7 - 9 Peak Hour				07:45		07:45		07:45	4 - 6 Peak Hour				16:00		16:00		16:00
7 - 9 Pk Volume	0	0		52		16		68	4 - 6 Pk Volume	0	0		31		42		73
Pk Hr Factor	0.000	0.000		0.929		0.571		0.810	Pk Hr Factor	0.000	0.000		0.861		0.808		0.961

Prepared by National Data & Surveying Services

VOLUME

Happy Trail W/O Sinclair Rd

Day: Wednesday
Date: 11/17/2021

City: Davenport
Project #: FL21_130268_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	472	322	794

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					0		2		2		12:00					10		7		17	
00:15					1		1		2		12:15					6		6		12	
00:30					0		0		0		12:30					8		6		14	
00:45					0	1	1	4	1	5	12:45					3	27	4	23	7	50
01:00					0		0		0		13:00					3		3		6	
01:15					0		1		1		13:15					13		5		18	
01:30					0		0		0		13:30					7		4		11	
01:45					0		0	1	0	1	13:45					7	30	6	18	13	48
02:00					0		0		0		14:00					7		2		9	
02:15					0		0		0		14:15					7		9		16	
02:30					2		0		2		14:30					12		5		17	
02:45					0	2	1	1	1	3	14:45					8	34	6	22	14	56
03:00					1		1		2		15:00					8		3		11	
03:15					0		0		0		15:15					6		8		14	
03:30					0		1		1		15:30					5		6		11	
03:45					2	3	2	4	4	7	15:45					6	25	9	26	15	51
04:00					1		1		2		16:00					4		7		11	
04:15					1		0		1		16:15					4		13		17	
04:30					1		0		1		16:30					3		11		14	
04:45					2	5	0	1	2	6	16:45					7	18	4	35	11	53
05:00					2		0		2		17:00					12		4		16	
05:15					2		0		2		17:15					7		9		16	
05:30					2		0		2		17:30					4		6		10	
05:45					5	11	0		5	11	17:45					5	28	3	22	8	50
06:00					6		0		6		18:00					12		12		24	
06:15					4		0		4		18:15					5		8		13	
06:30					5		0		5		18:30					6		6		12	
06:45					13	28	5	5	18	33	18:45					11	34	8	34	19	68
07:00					14		2		16		19:00					8		10		18	
07:15					17		5		22		19:15					3		4		7	
07:30					7		1		8		19:30					4		2		6	
07:45					10	48	3	11	13	59	19:45					2	17	3	19	5	36
08:00					13		2		15		20:00					4		3		7	
08:15					7		2		9		20:15					0		5		5	
08:30					9		7		16		20:30					1		3		4	
08:45					4	33	2	13	6	46	20:45					2	7	6	17	8	24
09:00					20		4		24		21:00					5		1		6	
09:15					8		8		16		21:15					1		0		1	
09:30					5		4		9		21:30					2		1		3	
09:45					8	41	3	19	11	60	21:45					1	9	6	8	7	17
10:00					15		0		15		22:00					1		1		2	
10:15					7		2		9		22:15					4		3		7	
10:30					5		1		6		22:30					0		1		1	
10:45					3	30	3	6	6	36	22:45					0	5	1	6	1	11
11:00					10		3		13		23:00					0		0		0	
11:15					5		5		10		23:15					1		2		3	
11:30					7		5		12		23:30					1		1		2	
11:45					12	34	9	22	21	56	23:45					0	2	2	5	2	7
TOTALS					236		87		323		TOTALS					236		235		471	
SPLIT %					73.1%		26.9%		40.7%		SPLIT %					50.1%		49.9%		59.3%	

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	472	322	794

AM Peak Hour			06:45	11:45	06:45	PM Peak Hour			14:15	15:45	18:00
AM Pk Volume			51	28	64	PM Pk Volume			35	40	68
Pk Hr Factor			0.750	0.778	0.727	Pk Hr Factor			0.729	0.769	0.708
7 - 9 Volume	0	0	81	24	105	4 - 6 Volume	0	0	46	57	103
7 - 9 Peak Hour			07:00	07:45	07:00	4 - 6 Peak Hour			16:45	16:00	16:15
7 - 9 Pk Volume	0	0	48	14	59	4 - 6 Pk Volume	0	0	30	35	58
Pk Hr Factor	0.000	0.000	0.706	0.500	0.670	Pk Hr Factor	0.000	0.000	0.625	0.673	0.853

Prepared by National Data & Surveying Services

VOLUME

Happy Trail W/O Sinclair Rd

Day: Thursday
Date: 11/18/2021

City: Davenport
Project #: FL21_130268_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	511	358	869

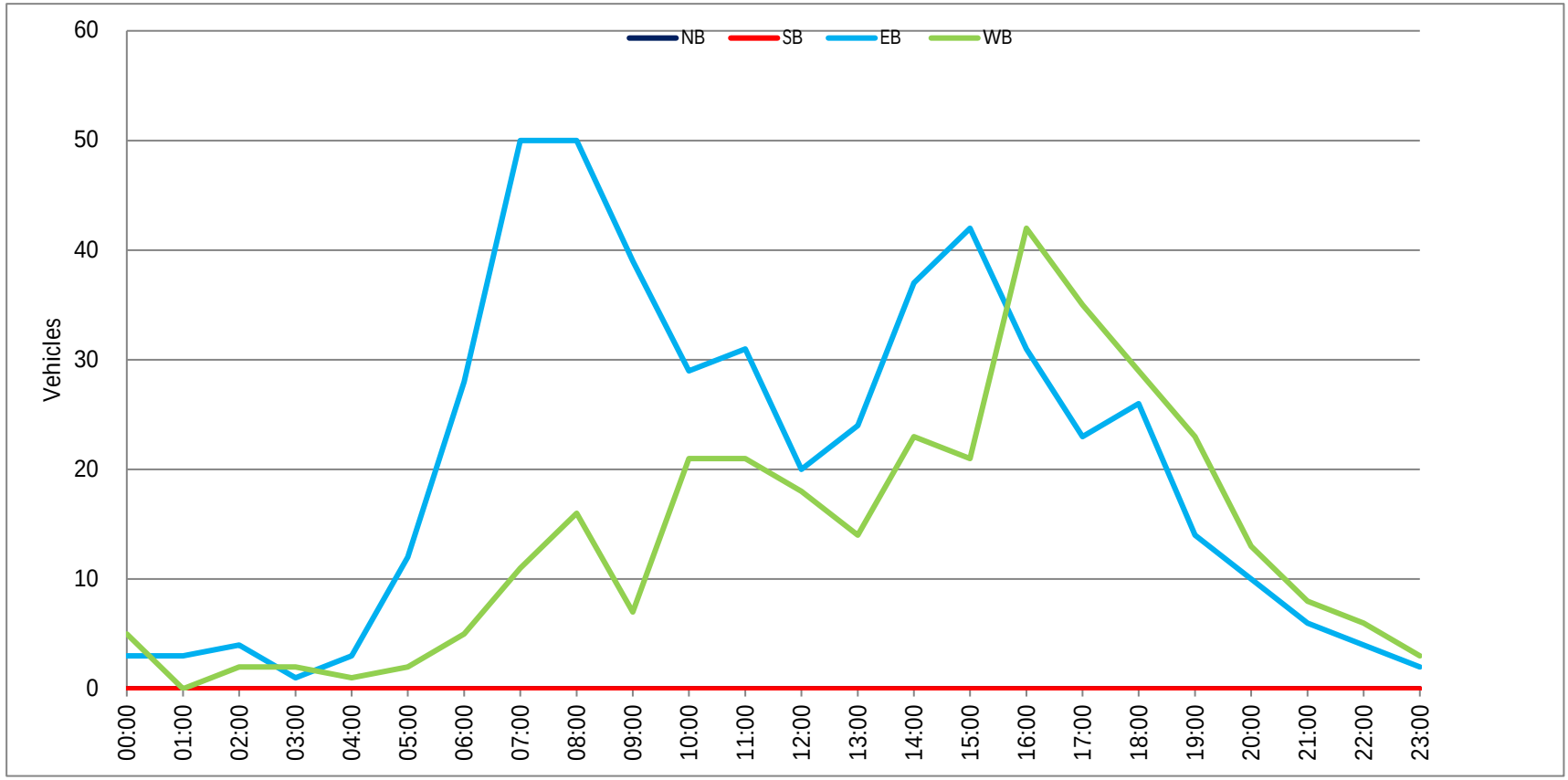
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			2	3	5	12:00			7	7	14
00:15			0	2	2	12:15			6	3	9
00:30			0	1	1	12:30			5	9	14
00:45			0	0	0	12:45			3	5	8
			2	6	8				21	24	45
01:00			0	0	0	13:00			5	5	10
01:15			1	0	1	13:15			9	10	19
01:30			5	1	6	13:30			6	8	14
01:45			1	1	2	13:45			11	3	14
			7	2	9				31	26	57
02:00			0	0	0	14:00			7	6	13
02:15			0	0	0	14:15			7	2	9
02:30			2	2	4	14:30			6	5	11
02:45			0	1	1	14:45			5	8	13
			2	3	5				25	21	46
03:00			0	0	0	15:00			5	10	15
03:15			0	1	1	15:15			14	7	21
03:30			1	0	1	15:30			3	4	7
03:45			1	0	1	15:45			13	13	26
			2	1	3				35	34	69
04:00			1	0	1	16:00			11	7	18
04:15			0	0	0	16:15			4	4	8
04:30			1	0	1	16:30			10	8	18
04:45			0	0	0	16:45			8	9	17
			2	0	2				33	28	61
05:00			1	0	1	17:00			6	7	13
05:15			2	0	2	17:15			7	9	16
05:30			3	0	3	17:30			6	14	20
05:45			3	0	3	17:45			6	5	11
			9	0	9				25	35	60
06:00			4	0	4	18:00			8	9	17
06:15			8	0	8	18:15			13	12	25
06:30			5	1	6	18:30			8	8	16
06:45			6	3	9	18:45			4	8	12
			23	4	27				33	37	70
07:00			11	0	11	19:00			6	8	14
07:15			12	3	15	19:15			6	2	8
07:30			19	1	20	19:30			4	4	8
07:45			9	4	13	19:45			4	9	13
			51	8	59				20	23	43
08:00			18	2	20	20:00			5	2	7
08:15			15	5	20	20:15			4	2	6
08:30			15	5	20	20:30			2	6	8
08:45			3	6	9	20:45			3	2	5
			51	18	69				14	12	26
09:00			7	6	13	21:00			0	2	2
09:15			18	7	25	21:15			8	2	10
09:30			11	3	14	21:30			2	4	6
09:45			9	3	12	21:45			3	4	7
			45	19	64				13	12	25
10:00			9	6	15	22:00			0	1	1
10:15			6	5	11	22:15			0	4	4
10:30			5	2	7	22:30			1	6	7
10:45			6	6	12	22:45			2	0	2
			26	19	45				3	11	14
11:00			7	2	9	23:00			1	3	4
11:15			8	4	12	23:15			1	1	2
11:30			9	1	10	23:30			1	1	2
11:45			10	3	13	23:45			1	0	1
			34	10	44				4	5	9
TOTALS			254	90	344	TOTALS			257	268	525
SPLIT %			73.8%	26.2%	39.6%	SPLIT %			49.0%	51.0%	60.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	511	358	869

AM Peak Hour			07:30	08:30	07:30	PM Peak Hour			15:15	17:30	17:30
AM Pk Volume			61	24	73	PM Pk Volume			41	40	73
Pk Hr Factor			0.803	0.857	0.913	Pk Hr Factor			0.732	0.714	0.730
7 - 9 Volume	0	0	102	26	128	4 - 6 Volume	0	0	58	63	121
7 - 9 Peak Hour			07:30	08:00	07:30	4 - 6 Peak Hour			16:00	16:45	16:45
7 - 9 Pk Volume	0	0	61	18	73	4 - 6 Pk Volume	0	0	33	39	66
Pk Hr Factor	0.000	0.000	0.803	0.750	0.913	Pk Hr Factor	0.000	0.000	0.750	0.696	0.825

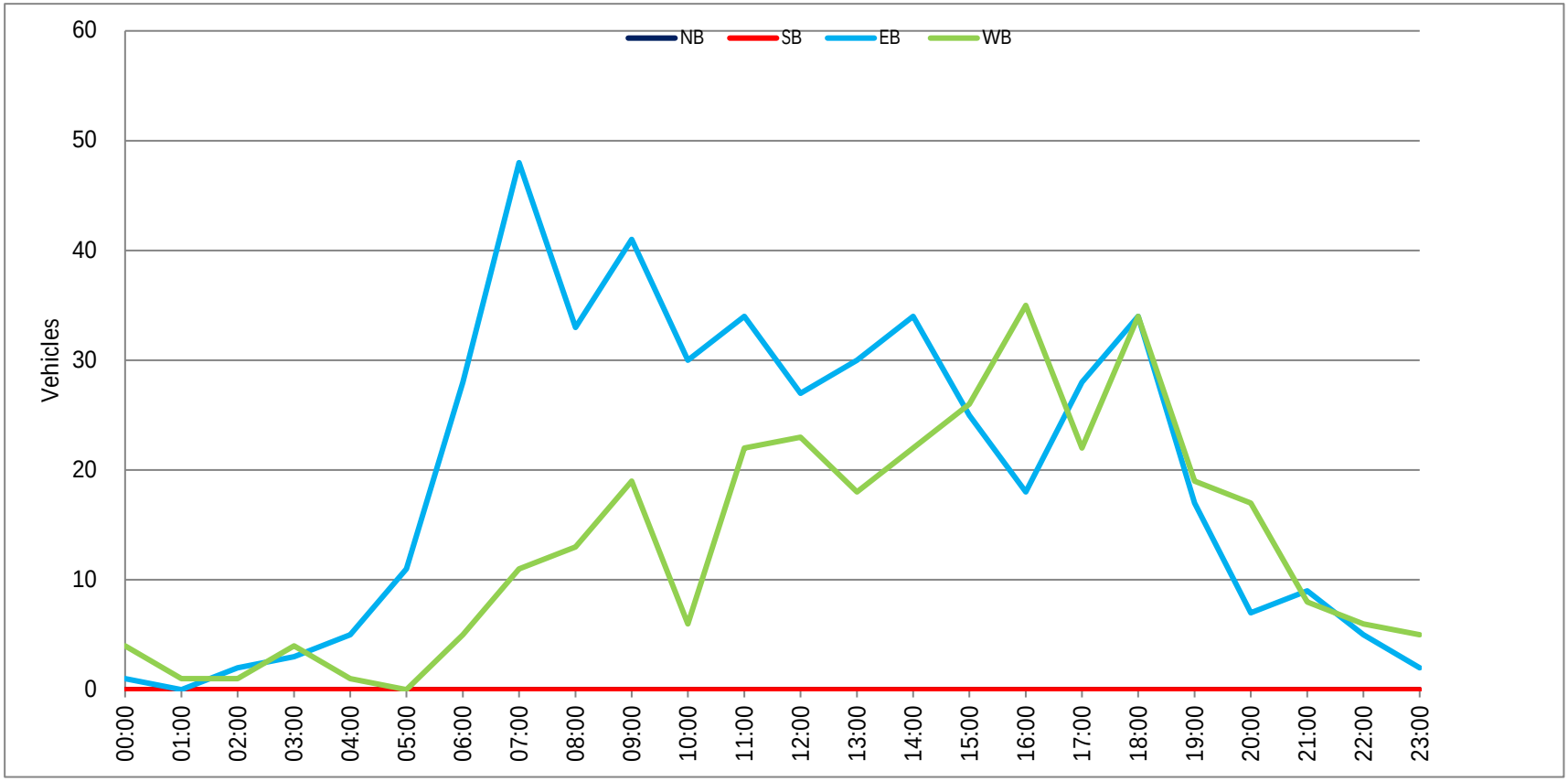
Prepared by National Data & Surveying Services

Project #: FL21_130268_002	City: Davenport
Location: Happy Trail W/O Sinclair Rd	Date: 11/16/2021



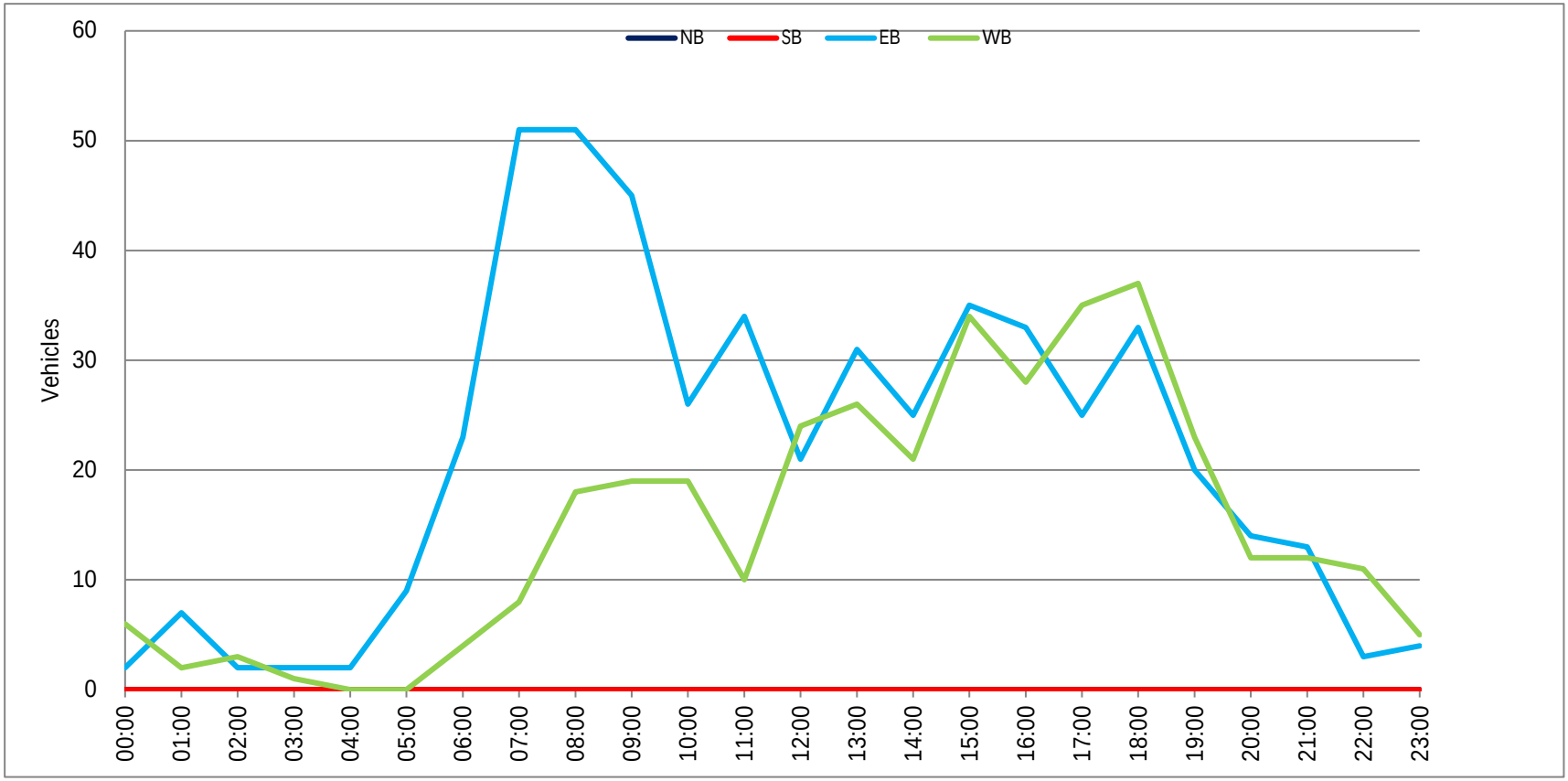
Prepared by National Data & Surveying Services

Project #: FL21_130268_002	City: Davenport
Location: Happy Trail W/O Sinclair Rd	Date: 11/17/2021



Prepared by National Data & Surveying Services

Project #: FL21_130268_002	City: Davenport
Location: Happy Trail W/O Sinclair Rd	Date: 11/18/2021



Prepared by NDS/ATD

VOLUME

Bella Citta Blvd W/O S Goodman Rd

Day: Tuesday
Date: 11/16/2021

City: Davenport
Project #: FL21_130268_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,551	4,578	9,129

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			12		28		40		12:00			75		62		137	
00:15			10		38		48		12:15			71		64		135	
00:30			10		32		42		12:30			65		58		123	
00:45			7	39	29	127	36	166	12:45			65	276	54	238	119	514
01:00			5		22		27		13:00			71		66		137	
01:15			7		13		20		13:15			55		62		117	
01:30			7		15		22		13:30			81		76		157	
01:45			4	23	9	59	13	82	13:45			74	281	73	277	147	558
02:00			4		17		21		14:00			50		70		120	
02:15			2		15		17		14:15			64		73		137	
02:30			1		9		10		14:30			59		81		140	
02:45			4	11	11	52	15	63	14:45			72	245	89	313	161	558
03:00			8		5		13		15:00			137		89		226	
03:15			6		6		12		15:15			109		78		187	
03:30			5		7		12		15:30			87		65		152	
03:45			3	22	4	22	7	44	15:45			72	405	75	307	147	712
04:00			12		4		16		16:00			74		86		160	
04:15			9		6		15		16:15			94		60		154	
04:30			21		8		29		16:30			88		62		150	
04:45			16	58	14	32	30	90	16:45			73	329	94	302	167	631
05:00			26		9		35		17:00			85		91		176	
05:15			30		10		40		17:15			76		79		155	
05:30			29		11		40		17:30			75		77		152	
05:45			29	114	13	43	42	157	17:45			66	302	89	336	155	638
06:00			45		17		62		18:00			75		95		170	
06:15			67		14		81		18:15			65		84		149	
06:30			74		17		91		18:30			53		64		117	
06:45			84	270	43	91	127	361	18:45			46	239	66	309	112	548
07:00			56		53		109		19:00			40		68		108	
07:15			55		75		130		19:15			56		56		112	
07:30			89		84		173		19:30			38		70		108	
07:45			133	333	54	266	187	599	19:45			33	167	63	257	96	424
08:00			56		54		110		20:00			39		63		102	
08:15			91		42		133		20:15			29		46		75	
08:30			91		37		128		20:30			29		53		82	
08:45			82	320	45	178	127	498	20:45			26	123	50	212	76	335
09:00			74		56		130		21:00			34		68		102	
09:15			54		54		108		21:15			31		48		79	
09:30			76		51		127		21:30			19		67		86	
09:45			66	270	40	201	106	471	21:45			18	102	49	232	67	334
10:00			57		45		102		22:00			14		61		75	
10:15			71		38		109		22:15			18		49		67	
10:30			66		54		120		22:30			15		37		52	
10:45			65	259	52	189	117	448	22:45			8	55	52	199	60	254
11:00			54		41		95		23:00			13		29		42	
11:15			72		50		122		23:15			13		33		46	
11:30			72		59		131		23:30			9		43		52	
11:45			67	265	47	197	114	462	23:45			8	43	34	139	42	182
TOTALS				1984		1457		3441	TOTALS				2567		3121		5688
SPLIT %				57.7%		42.3%		37.7%	SPLIT %				45.1%		54.9%		62.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,551	4,578	9,129

AM Peak Hour			07:45	07:15	07:30	PM Peak Hour			14:45	17:30	14:45
AM Pk Volume			371	267	603	PM Pk Volume			405	345	726
Pk Hr Factor			0.697	0.795	0.806	Pk Hr Factor			0.739	0.908	0.803
7 - 9 Volume	0	0	653	444	1097	4 - 6 Volume	0	0	631	638	1269
7 - 9 Peak Hour			07:45	07:15	07:30	4 - 6 Peak Hour			16:15	16:45	16:45
7 - 9 Pk Volume	0	0	371	267	603	4 - 6 Pk Volume	0	0	340	341	650
Pk Hr Factor	0.000	0.000	0.697	0.795	0.806	Pk Hr Factor	0.000	0.000	0.904	0.907	0.923

Prepared by NDS/ATD

VOLUME

Bella Citta Blvd W/O S Goodman Rd

Day: Wednesday
Date: 11/17/2021

City: Davenport
Project #: FL21_130268_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,497	4,508	9,005

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			8		25		33		12:00			82		64		146	
00:15			5		23		28		12:15			58		64		122	
00:30			4		22		26		12:30			76		58		134	
00:45			4	21	18	88	22	109	12:45			73	289	70	256	143	545
01:00			5		15		20		13:00			74		53		127	
01:15			1		16		17		13:15			76		63		139	
01:30			5		11		16		13:30			67		60		127	
01:45			2	13	6	48	8	61	13:45			68	285	69	245	137	530
02:00			0		5		5		14:00			69		60		129	
02:15			0		9		9		14:15			67		72		139	
02:30			3		9		12		14:30			62		67		129	
02:45			1	4	8	31	9	35	14:45			59	257	95	294	154	551
03:00			6		5		11		15:00			132		78		210	
03:15			8		4		12		15:15			116		79		195	
03:30			7		6		13		15:30			69		78		147	
03:45			7	28	5	20	12	48	15:45			88	405	65	300	153	705
04:00			8		1		9		16:00			51		84		135	
04:15			13		6		19		16:15			75		72		147	
04:30			12		3		15		16:30			78		72		150	
04:45			11	44	16	26	27	70	16:45			77	281	84	312	161	593
05:00			24		7		31		17:00			81		89		170	
05:15			35		13		48		17:15			70		70		140	
05:30			18		8		26		17:30			77		88		165	
05:45			35	112	9	37	44	149	17:45			88	316	93	340	181	656
06:00			50		12		62		18:00			68		83		151	
06:15			54		15		69		18:15			65		86		151	
06:30			75		30		105		18:30			70		76		146	
06:45			74	253	35	92	109	345	18:45			49	252	69	314	118	566
07:00			62		41		103		19:00			41		59		100	
07:15			72		77		149		19:15			47		65		112	
07:30			100		94		194		19:30			26		65		91	
07:45			115	349	51	263	166	612	19:45			50	164	68	257	118	421
08:00			76		49		125		20:00			32		62		94	
08:15			90		43		133		20:15			35		57		92	
08:30			92		48		140		20:30			26		49		75	
08:45			85	343	49	189	134	532	20:45			22	115	61	229	83	344
09:00			69		48		117		21:00			26		51		77	
09:15			54		46		100		21:15			14		53		67	
09:30			67		56		123		21:30			22		48		70	
09:45			68	258	41	191	109	449	21:45			23	85	55	207	78	292
10:00			61		53		114		22:00			12		55		67	
10:15			71		51		122		22:15			12		43		55	
10:30			67		56		123		22:30			18		43		61	
10:45			78	277	53	213	131	490	22:45			12	54	45	186	57	240
11:00			55		46		101		23:00			11		44		55	
11:15			55		57		112		23:15			8		39		47	
11:30			77		60		137		23:30			9		33		42	
11:45			66	253	62	225	128	478	23:45			11	39	29	145	40	184
TOTALS				1955		1423		3378	TOTALS				2542		3085		5627
SPLIT %				57.9%		42.1%		37.5%	SPLIT %				45.2%		54.8%		62.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,497	4,508	9,005

AM Peak Hour				07:30	07:15	07:15		PM Peak Hour				15:00	17:30	14:45
AM Pk Volume				381	271	634		PM Pk Volume				405	350	706
Pk Hr Factor				0.828	0.721	0.817		Pk Hr Factor				0.767	0.941	0.840
7 - 9 Volume	0	0		692	452	1144		4 - 6 Volume	0	0		597	652	1249
7 - 9 Peak Hour				07:30	07:15	07:15		4 - 6 Peak Hour				17:00	17:00	17:00
7 - 9 Pk Volume	0	0		381	271	634		4 - 6 Pk Volume	0	0		316	340	656
Pk Hr Factor	0.000	0.000		0.828	0.721	0.817		Pk Hr Factor	0.000	0.000		0.898	0.914	0.906

Prepared by NDS/ATD

VOLUME

Bella Citta Blvd W/O S Goodman Rd

Day: Thursday
Date: 11/18/2021

City: Davenport
Project #: FL21_130268_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,447	4,630	10,077

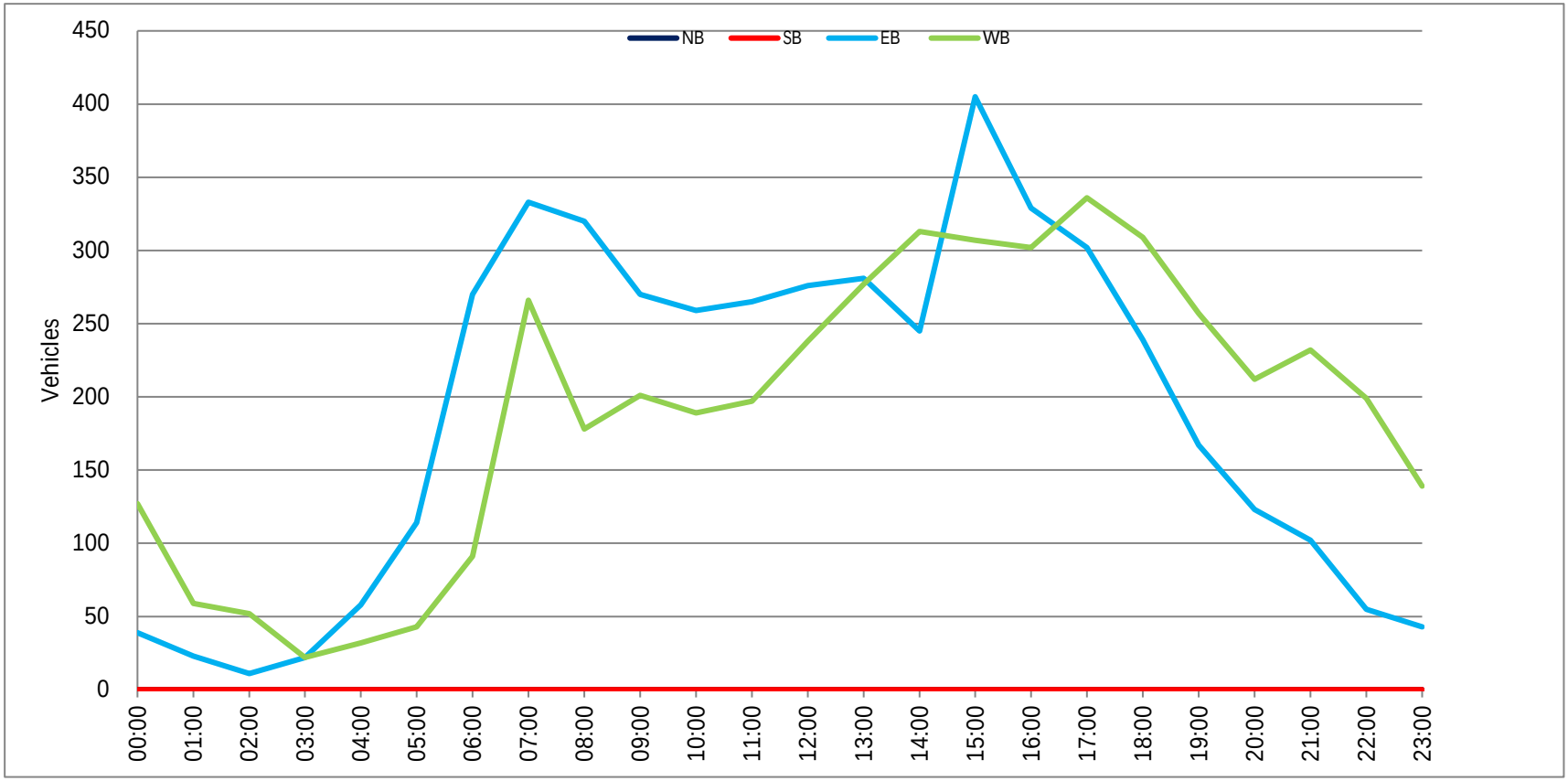
AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			6		34		40		12:00			57		72		129	
00:15			10		25		35		12:15			79		55		134	
00:30			7		18		25		12:30			69		57		126	
00:45			4	27	21	98	25	125	12:45			69	274	67	251	136	525
01:00			4		6		10		13:00			73		62		135	
01:15			3		9		12		13:15			80		86		166	
01:30			1		3		4		13:30			71		70		141	
01:45			2	10	11	29	13	39	13:45			66	290	67	285	133	575
02:00			3		7		10		14:00			76		70		146	
02:15			2		6		8		14:15			71		83		154	
02:30			2		7		9		14:30			62		69		131	
02:45			1	8	6	26	7	34	14:45			78	287	80	302	158	589
03:00			4		5		9		15:00			125		74		199	
03:15			6		4		10		15:15			125		61		186	
03:30			7		2		9		15:30			113		74		187	
03:45			7	24	3	14	10	38	15:45			133	496	61	270	194	766
04:00			9		3		12		16:00			135		71		206	
04:15			14		6		20		16:15			143		51		194	
04:30			19		4		23		16:30			129		84		213	
04:45			12	54	15	28	27	82	16:45			125	532	94	300	219	832
05:00			23		6		29		17:00			111		75		186	
05:15			22		9		31		17:15			124		84		208	
05:30			34		11		45		17:30			126		81		207	
05:45			33	112	12	38	45	150	17:45			121	482	95	335	216	817
06:00			48		13		61		18:00			128		91		219	
06:15			63		24		87		18:15			119		87		206	
06:30			63		26		89		18:30			82		80		162	
06:45			72	246	34	97	106	343	18:45			93	422	80	338	173	760
07:00			53		52		105		19:00			76		66		142	
07:15			64		75		139		19:15			86		74		160	
07:30			90		79		169		19:30			53		74		127	
07:45			107	314	52	258	159	572	19:45			52	267	65	279	117	546
08:00			105		47		152		20:00			42		67		109	
08:15			85		41		126		20:15			49		71		120	
08:30			98		42		140		20:30			58		62		120	
08:45			69	357	38	168	107	525	20:45			46	195	64	264	110	459
09:00			63		51		114		21:00			32		63		95	
09:15			57		47		104		21:15			26		49		75	
09:30			61		56		117		21:30			30		52		82	
09:45			80	261	54	208	134	469	21:45			29	117	59	223	88	340
10:00			71		58		129		22:00			23		51		74	
10:15			62		55		117		22:15			19		57		76	
10:30			76		50		126		22:30			21		48		69	
10:45			71	280	55	218	126	498	22:45			23	86	44	200	67	286
11:00			66		61		127		23:00			16		57		73	
11:15			65		63		128		23:15			24		48		72	
11:30			57		46		103		23:30			20		35		55	
11:45			50	238	63	233	113	471	23:45			8	68	28	168	36	236
TOTALS				1931		1415		3346	TOTALS				3516		3215		6731
SPLIT %				57.7%		42.3%		33.2%	SPLIT %				52.2%		47.8%		66.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,447	4,630	10,077

AM Peak Hour				07:45	07:00	07:15		PM Peak Hour				15:45	17:30	17:15
AM Pk Volume				395	258	619		PM Pk Volume				540	354	850
Pk Hr Factor				0.923	0.816	0.916		Pk Hr Factor				0.944	0.932	0.970
7 - 9 Volume	0	0		671	426	1097		4 - 6 Volume	0	0		1014	635	1649
7 - 9 Peak Hour				07:45	07:00	07:15		4 - 6 Peak Hour				16:00	16:30	16:00
7 - 9 Pk Volume	0	0		395	258	619		4 - 6 Pk Volume	0	0		532	337	832
Pk Hr Factor	0.000	0.000		0.923	0.816	0.916		Pk Hr Factor	0.000	0.000		0.930	0.896	0.950

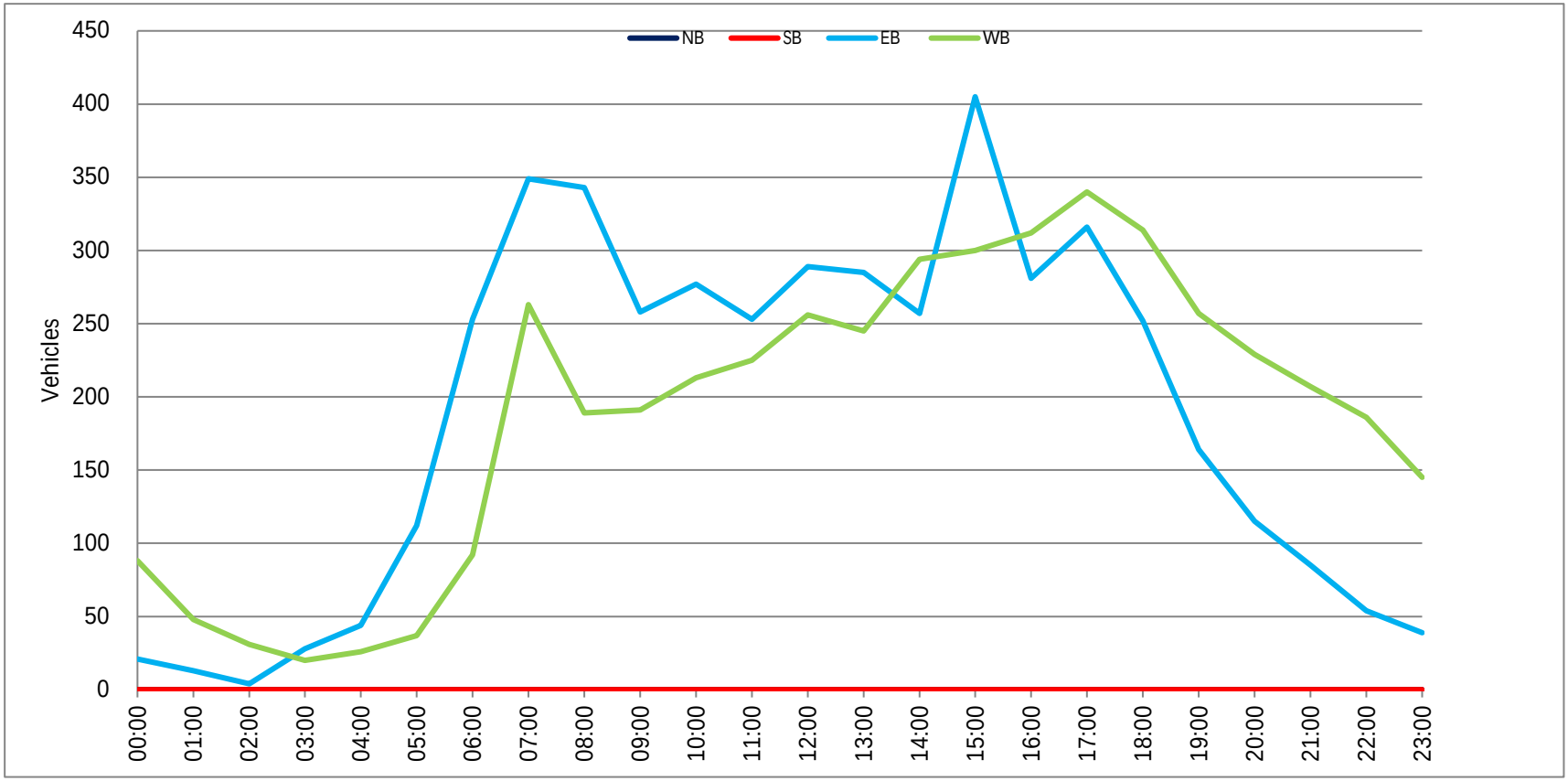
Prepared by NDS/ATD

Project #: FL21_130268_003	City: Davenport
Location: Bella Citta Blvd W/O S Goodman Rd	Date: 11/16/2021



Prepared by NDS/ATD

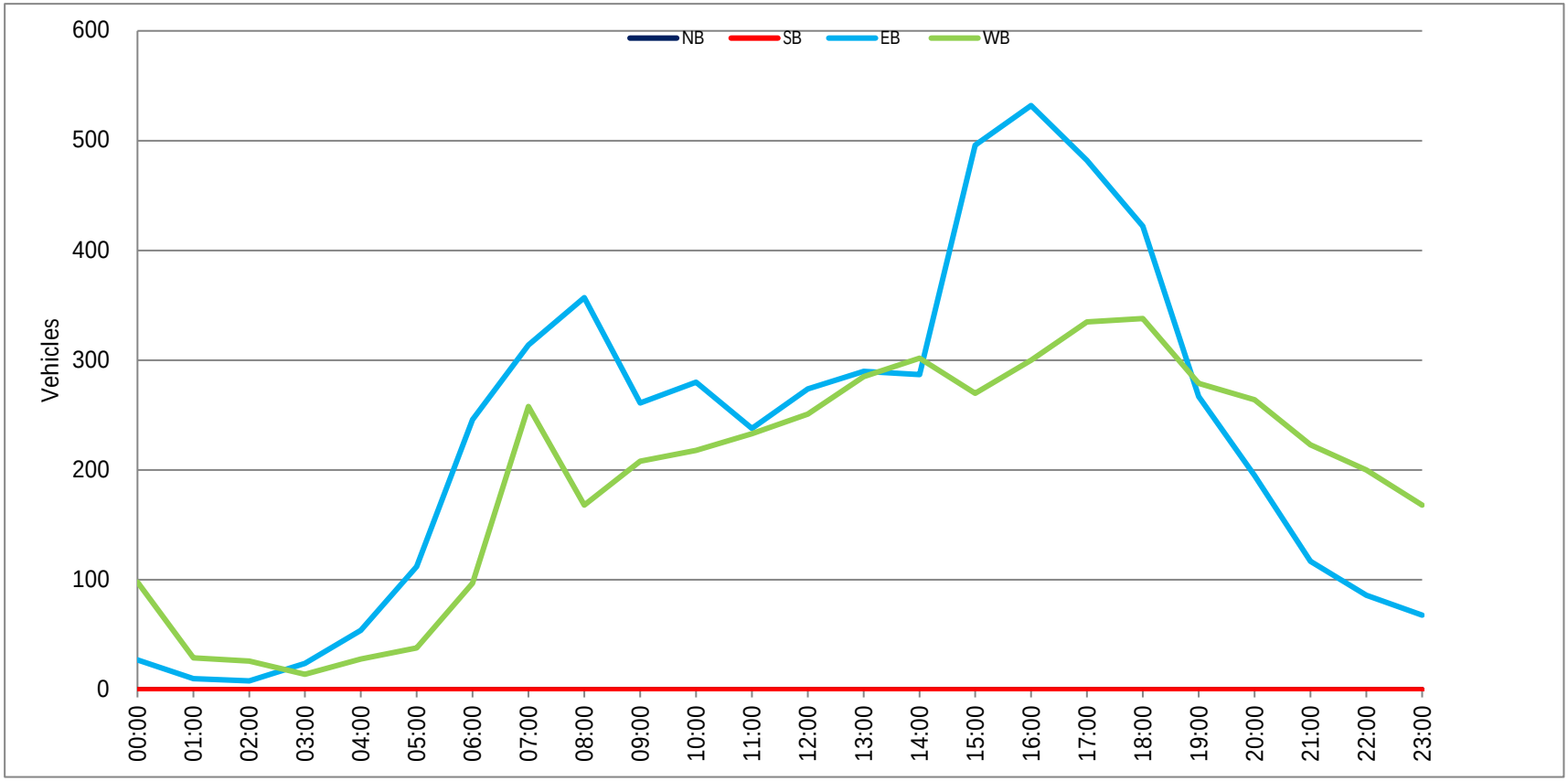
Project #: FL21_130268_003	City: Davenport
Location: Bella Citta Blvd W/O S Goodman Rd	Date: 11/17/2021



Prepared by NDS/ATD

Project #: FL21_130268_003 City: Davenport

Location: Bella Citta Blvd W/O S Goodman Rd Date: 11/18/2021



Prepared by NDS/ATD

VOLUME

S Goodman Rd N/O Bella Citta Blvd

Day: Tuesday
Date: 11/16/2021

City: Davenport
Project #: FL21_130268_004

DAILY TOTALS	NB	SB	EB	WB	Total
	1,831	2,693	0	0	4,524

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	6		7						13		12:00	23		32						55	
00:15	3		8						11		12:15	29		23						52	
00:30	6		1						7		12:30	26		21						47	
00:45	1	16	6	22					7	38	12:45	28	106	28	104					56	210
01:00	0		0						0		13:00	24		25						49	
01:15	5		0						5		13:15	28		30						58	
01:30	2		1						3		13:30	26		33						59	
01:45	0	7	2	3					2	10	13:45	25	103	29	117					54	220
02:00	2		2						4		14:00	18		35						53	
02:15	1		2						3		14:15	26		31						57	
02:30	1		3						4		14:30	37		44						81	
02:45	2	6	1	8					3	14	14:45	27	108	39	149					66	257
03:00	2		1						3		15:00	48		46						94	
03:15	2		4						6		15:15	29		51						80	
03:30	0		0						0		15:30	43		39						82	
03:45	0	4	1	6					1	10	15:45	33	153	60	196					93	349
04:00	1		1						2		16:00	36		62						98	
04:15	0		2						2		16:15	48		54						102	
04:30	2		1						3		16:30	22		80						102	
04:45	4	7	2	6					6	13	16:45	33	139	138	334					171	473
05:00	2		2						4		17:00	32		137						169	
05:15	2		5						7		17:15	27		109						136	
05:30	9		1						10		17:30	27		94						121	
05:45	11	24	4	12					15	36	17:45	35	121	119	459					154	580
06:00	15		4						19		18:00	25		119						144	
06:15	18		10						28		18:15	26		101						127	
06:30	20		18						38		18:30	25		87						112	
06:45	25	78	14	46					39	124	18:45	22	98	81	388					103	486
07:00	25		14						39		19:00	8		72						80	
07:15	25		25						50		19:15	10		33						43	
07:30	43		31						74		19:30	12		40						52	
07:45	61	154	28	98					89	252	19:45	7	37	28	173					35	210
08:00	38		23						61		20:00	19		23						42	
08:15	44		11						55		20:15	13		19						32	
08:30	62		17						79		20:30	14		10						24	
08:45	58	202	14	65					72	267	20:45	3	49	16	68					19	117
09:00	62		23						85		21:00	8		6						14	
09:15	26		36						62		21:15	9		15						24	
09:30	34		48						82		21:30	11		8						19	
09:45	25	147	25	132					50	279	21:45	9	37	9	38					18	75
10:00	31		25						56		22:00	8		13						21	
10:15	21		25						46		22:15	5		8						13	
10:30	20		27						47		22:30	9		17						26	
10:45	22	94	24	101					46	195	22:45	9	31	9	47					18	78
11:00	26		18						44		23:00	5		11						16	
11:15	22		31						53		23:15	4		5						9	
11:30	23		26						49		23:30	7		5						12	
11:45	20	91	21	96					41	187	23:45	3	19	4	25					7	44
TOTALS		830		595						1425	TOTALS		1001		2098						3099
SPLIT %		58.2%		41.8%						31.5%	SPLIT %		32.3%		67.7%						68.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,831	2,693	0	0	4,524

AM Peak Hour	08:15	09:15			08:45	PM Peak Hour	15:30	16:45			16:45
AM Pk Volume	226	134			301	PM Pk Volume	160	478			597
Pk Hr Factor	0.911	0.698			0.885	Pk Hr Factor	0.833	0.866			0.873
7 - 9 Volume	356	163	0	0	519	4 - 6 Volume	260	793	0	0	1053
7 - 9 Peak Hour	07:45	07:15			07:45	4 - 6 Peak Hour	16:00	16:45			16:45
7 - 9 Pk Volume	205	107	0	0	284	4 - 6 Pk Volume	139	478	0	0	597
Pk Hr Factor	0.827	0.863	0.000	0.000	0.798	Pk Hr Factor	0.724	0.866	0.000	0.000	0.873

Prepared by NDS/ATD

VOLUME

S Goodman Rd N/O Bella Citta Blvd

Day: Wednesday
Date: 11/17/2021

City: Davenport
Project #: FL21_130268_004

DAILY TOTALS	NB	SB	EB	WB	Total
	1,805	2,503	0	0	4,308

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	6		7						13		12:00	18		19						37	
00:15	2		3						5		12:15	22		20						42	
00:30	3		1						4		12:30	26		22						48	
00:45	1	12	1	12					2	24	12:45	19	85	29	90					48	175
01:00	1		3						4		13:00	32		20						52	
01:15	3		0						3		13:15	15		34						49	
01:30	1		1						2		13:30	35		32						67	
01:45	0	5	1	5					1	10	13:45	25	107	26	112					51	219
02:00	2		0						2		14:00	30		29						59	
02:15	1		0						1		14:15	27		39						66	
02:30	0		3						3		14:30	26		37						63	
02:45	0	3	2	5					2	8	14:45	40	123	38	143					78	266
03:00	0		1						1		15:00	44		37						81	
03:15	2		0						2		15:15	30		53						83	
03:30	0		1						1		15:30	36		48						84	
03:45	1	3	1	3					2	6	15:45	31	141	83	221					114	362
04:00	0		3						3		16:00	23		72						95	
04:15	2		0						2		16:15	33		58						91	
04:30	1		1						2		16:30	30		73						103	
04:45	2	5	2	6					4	11	16:45	39	125	99	302					138	427
05:00	2		3						5		17:00	26		114						140	
05:15	1		1						2		17:15	30		102						132	
05:30	8		3						11		17:30	25		112						137	
05:45	13	24	5	12					18	36	17:45	32	113	130	458					162	571
06:00	14		5						19		18:00	17		78						95	
06:15	25		11						36		18:15	18		75						93	
06:30	22		15						37		18:30	23		90						113	
06:45	26	87	15	46					41	133	18:45	9	67	58	301					67	368
07:00	34		16						50		19:00	14		45						59	
07:15	30		28						58		19:15	15		31						46	
07:30	61		33						94		19:30	15		26						41	
07:45	51	176	25	102					76	278	19:45	11	55	18	120					29	175
08:00	32		16						48		20:00	16		22						38	
08:15	39		22						61		20:15	19		21						40	
08:30	49		18						67		20:30	17		19						36	
08:45	52	172	13	69					65	241	20:45	19	71	10	72					29	143
09:00	37		18						55		21:00	14		9						23	
09:15	28		33						61		21:15	13		7						20	
09:30	24		28						52		21:30	13		9						22	
09:45	20	109	20	99					40	208	21:45	8	48	9	34					17	82
10:00	24		23						47		22:00	9		9						18	
10:15	27		27						54		22:15	16		12						28	
10:30	31		16						47		22:30	3		5						8	
10:45	30	112	25	91					55	203	22:45	8	36	10	36					18	72
11:00	19		22						41		23:00	7		20						27	
11:15	34		29						63		23:15	8		19						27	
11:30	24		28						52		23:30	10		9						19	
11:45	21	98	26	105					47	203	23:45	3	28	11	59					14	87
TOTALS		806		555						1361	TOTALS		999		1948						2947
SPLIT %		59.2%		40.8%						31.6%	SPLIT %		33.9%		66.1%						68.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,805	2,503	0	0	4,308

AM Peak Hour	07:30	11:00			07:30	PM Peak Hour	14:45	17:00		17:00
AM Pk Volume	183	105			279	PM Pk Volume	150	458		571
Pk Hr Factor	0.750	0.905			0.742	Pk Hr Factor	0.852	0.881		0.881
7 - 9 Volume	348	171	0	0	519	4 - 6 Volume	238	760	0	0	998
7 - 9 Peak Hour	07:30	07:00			07:30	4 - 6 Peak Hour	16:15	17:00			17:00
7 - 9 Pk Volume	183	102	0	0	279	4 - 6 Pk Volume	128	458	0	0	571
Pk Hr Factor	0.750	0.773	0.000	0.000	0.742	Pk Hr Factor	0.821	0.881	0.000	0.000	0.881

Prepared by NDS/ATD

VOLUME

S Goodman Rd N/O Bella Citta Blvd

Day: Thursday
Date: 11/18/2021

City: Davenport
Project #: FL21_130268_004

DAILY TOTALS	NB	SB	EB	WB	Total
	1,877	2,972	0	0	4,849

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	3		5						8		12:00	25		31						56	
00:15	3		9						12		12:15	30		20						50	
00:30	3		4						7		12:30	23		26						49	
00:45	1	10	6	24					7	34	12:45	21	99	32	109					53	208
01:00	1		1						2		13:00	37		36						73	
01:15	0		3						3		13:15	32		35						67	
01:30	0		1						1		13:30	26		31						57	
01:45	1	2	1	6					2	8	13:45	24	119	31	133					55	252
02:00	0		0						0		14:00	32		26						58	
02:15	2		1						3		14:15	25		34						59	
02:30	2		1						3		14:30	28		43						71	
02:45	5	9	3	5					8	14	14:45	38	123	43	146					81	269
03:00	0		1						1		15:00	47		43						90	
03:15	2		2						4		15:15	28		66						94	
03:30	0		1						1		15:30	34		79						113	
03:45	0	2	3	7					3	9	15:45	30	139	62	250					92	389
04:00	1		2						3		16:00	29		77						106	
04:15	1		1						2		16:15	37		72						109	
04:30	1		1						2		16:30	38		81						119	
04:45	2	5	3	7					5	12	16:45	44	148	119	349					163	497
05:00	1		3						4		17:00	29		135						164	
05:15	3		3						6		17:15	46		130						176	
05:30	1		4						5		17:30	32		107						139	
05:45	13	18	7	17					20	35	17:45	21	128	123	495					144	623
06:00	12		6						18		18:00	18		111						129	
06:15	19		9						28		18:15	27		118						145	
06:30	14		15						29		18:30	18		94						112	
06:45	24	69	18	48					42	117	18:45	30	93	71	394					101	487
07:00	32		18						50		19:00	13		78						91	
07:15	32		20						52		19:15	24		78						102	
07:30	45		30						75		19:30	20		48						68	
07:45	56	165	25	93					81	258	19:45	13	70	40	244					53	314
08:00	38		25						63		20:00	10		41						51	
08:15	44		19						63		20:15	16		36						52	
08:30	62		21						83		20:30	12		20						32	
08:45	54	198	24	89					78	287	20:45	15	53	22	119					37	172
09:00	56		22						78		21:00	13		12						25	
09:15	26		39						65		21:15	8		14						22	
09:30	24		33						57		21:30	11		14						25	
09:45	30	136	26	120					56	256	21:45	9	41	18	58					27	99
10:00	26		22						48		22:00	5		14						19	
10:15	24		32						56		22:15	13		10						23	
10:30	21		30						51		22:30	15		7						22	
10:45	20	91	22	106					42	197	22:45	8	41	10	41					18	82
11:00	29		18						47		23:00	8		5						13	
11:15	30		23						53		23:15	7		15						22	
11:30	9		23						32		23:30	2		3						5	
11:45	27	95	22	86					49	181	23:45	6	23	3	26					9	49
TOTALS		800		608						1408	TOTALS		1077		2364						3441
SPLIT %		56.8%		43.2%						29.0%	SPLIT %		31.3%		68.7%						71.0%

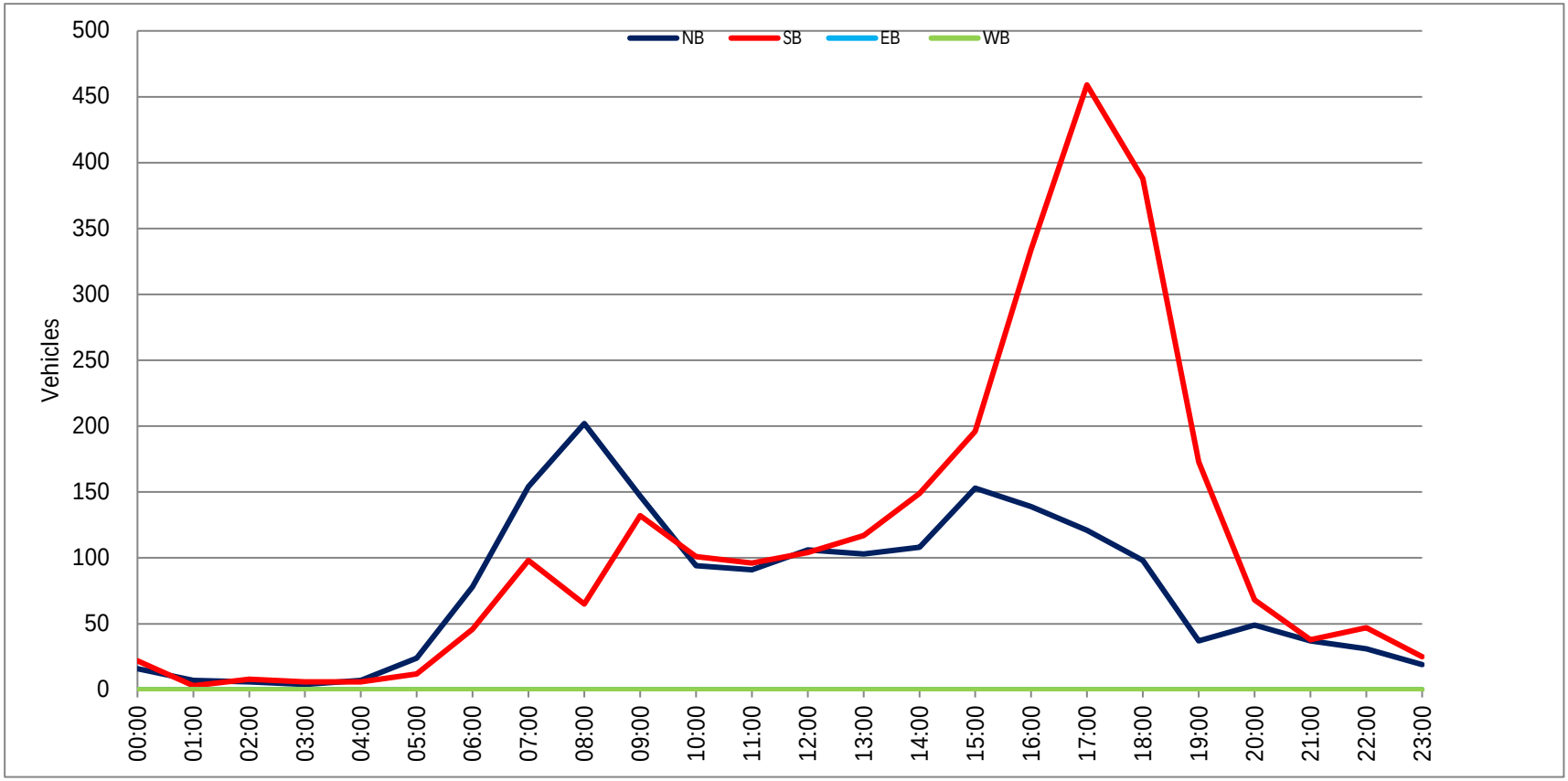
DAILY TOTALS	NB	SB	EB	WB	Total
	1,877	2,972	0	0	4,849

AM Peak Hour	08:15	09:00			08:30	PM Peak Hour	16:30	17:00			16:45
AM Pk Volume	216	120			304	PM Pk Volume	157	495			642
Pk Hr Factor	0.871	0.769			0.916	Pk Hr Factor	0.853	0.917			0.912
7 - 9 Volume	363	182	0	0	545	4 - 6 Volume	276	844	0	0	1120
7 - 9 Peak Hour	07:45	07:15			07:45	4 - 6 Peak Hour	16:30	17:00			16:45
7 - 9 Pk Volume	200	100	0	0	290	4 - 6 Pk Volume	157	495	0	0	642
Pk Hr Factor	0.806	0.833	0.000	0.000	0.873	Pk Hr Factor	0.853	0.917	0.000	0.000	0.912

Prepared by NDS/ATD

Project #: FL21_130268_004 City: Davenport

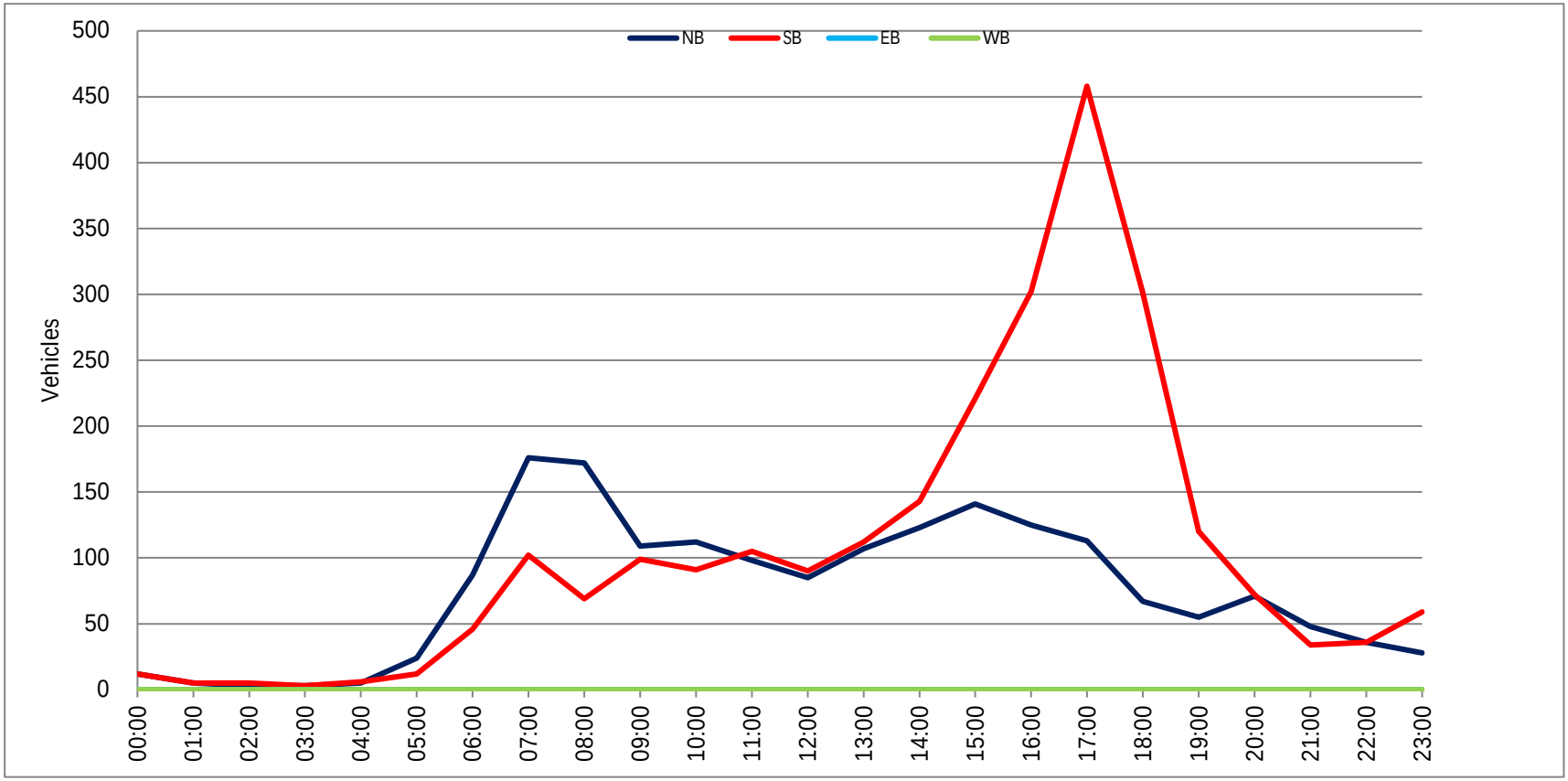
Location: S Goodman Rd N/O Bella Citta Blvd Date: 11/16/2021



Prepared by NDS/ATD

Project #: FL21_130268_004 City: Davenport

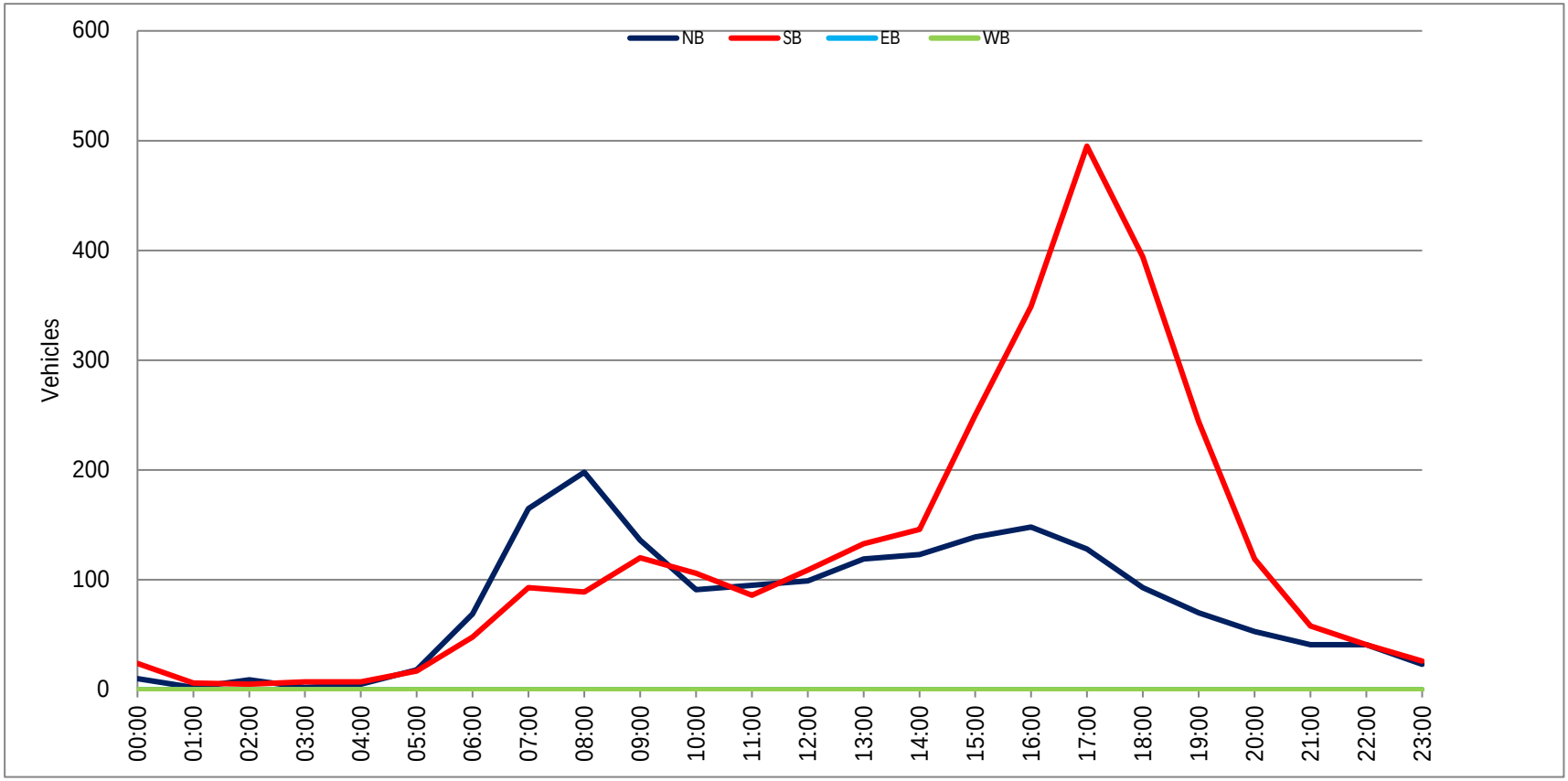
Location: S Goodman Rd N/O Bella Citta Blvd Date: 11/17/2021



Prepared by NDS/ATD

Project #: FL21_130268_004 City: Davenport

Location: S Goodman Rd N/O Bella Citta Blvd Date: 11/18/2021



Prepared by NDS/ATD

VOLUME

S Goodman Rd S/O Bella Citta Blvd

Day: Tuesday
Date: 11/16/2021

City: Davenport
Project #: FL21_130268_005

DAILY TOTALS	NB	SB	EB	WB	Total
	5,140	5,975	0	0	11,115

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	29		14						43		12:00	66		88						154	
00:15	38		15						53		12:15	78		79						157	
00:30	36		9						45		12:30	71		73						144	
00:45	30	133	13	51					43	184	12:45	64	279	75	315					139	594
01:00	22		5						27		13:00	74		80						154	
01:15	16		5						21		13:15	78		73						151	
01:30	16		7						23		13:30	82		94						176	
01:45	9	63	6	23					15	86	13:45	80	314	85	332					165	646
02:00	17		4						21		14:00	72		69						141	
02:15	14		2						16		14:15	83		79						162	
02:30	9		3						12		14:30	94		79						173	
02:45	13	53	5	14					18	67	14:45	96	345	91	318					187	663
03:00	6		8						14		15:00	101		147						248	
03:15	6		8						14		15:15	80		133						213	
03:30	7		5						12		15:30	93		111						204	
03:45	4	23	4	25					8	48	15:45	88	362	112	503					200	865
04:00	4		12						16		16:00	98		112						210	
04:15	6		11						17		16:15	80		120						200	
04:30	8		20						28		16:30	65		149						214	
04:45	17	35	17	60					34	95	16:45	85	328	169	550					254	878
05:00	10		27						37		17:00	83		182						265	
05:15	10		33						43		17:15	75		154						229	
05:30	19		29						48		17:30	78		143						221	
05:45	23	62	32	121					55	183	17:45	87	323	148	627					235	950
06:00	26		43						69		18:00	68		142						210	
06:15	28		73						101		18:15	79		135						214	
06:30	34		89						123		18:30	56		107						163	
06:45	59	147	89	294					148	441	18:45	62	265	101	485					163	750
07:00	65		57						122		19:00	51		87						138	
07:15	80		60						140		19:15	58		81						139	
07:30	94		87						181		19:30	64		60						124	
07:45	81	320	127	331					208	651	19:45	57	230	48	276					105	506
08:00	81		68						149		20:00	66		46						112	
08:15	70		86						156		20:15	51		40						91	
08:30	72		81						153		20:30	60		32						92	
08:45	74	297	67	302					141	599	20:45	46	223	35	153					81	376
09:00	85		64						149		21:00	73		37						110	
09:15	61		71						132		21:15	54		43						97	
09:30	56		95						151		21:30	74		23						97	
09:45	46	248	72	302					118	550	21:45	53	254	22	125					75	379
10:00	61		67						128		22:00	63		21						84	
10:15	48		85						133		22:15	50		22						72	
10:30	65		84						149		22:30	38		24						62	
10:45	66	240	81	317					147	557	22:45	59	210	15	82					74	292
11:00	58		63						121		23:00	31		21						52	
11:15	60		91						151		23:15	36		17						53	
11:30	65		81						146		23:30	46		10						56	
11:45	56	239	77	312					133	551	23:45	34	147	9	57					43	204
TOTALS		1860		2152						4012	TOTALS		3280		3823						7103
SPLIT %		46.4%		53.6%						36.1%	SPLIT %		46.2%		53.8%						63.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,140	5,975	0	0	11,115

AM Peak Hour	07:15	07:30			07:30	PM Peak Hour	14:15	16:30			16:45
AM Pk Volume	336	368			694	PM Pk Volume	374	654			969
Pk Hr Factor	0.894	0.724			0.834	Pk Hr Factor	0.926	0.898			0.914
7 - 9 Volume	617	633	0	0	1250	4 - 6 Volume	651	1177	0	0	1828
7 - 9 Peak Hour	07:15	07:30			07:30	4 - 6 Peak Hour	16:00	16:30			16:45
7 - 9 Pk Volume	336	368	0	0	694	4 - 6 Pk Volume	328	654	0	0	969
Pk Hr Factor	0.894	0.724	0.000	0.000	0.834	Pk Hr Factor	0.837	0.898	0.000	0.000	0.914

Prepared by NDS/ATD

VOLUME

S Goodman Rd S/O Bella Citta Blvd

Day: Wednesday
Date: 11/17/2021

City: Davenport
Project #: FL21_130268_005

DAILY TOTALS	NB	SB	EB	WB	Total
	5,202	5,889	0	0	11,091

AM Period	NB		SB		EB		WB		TOTAL	
00:00	30		14						44	
00:15	25		8						33	
00:30	25		5						30	
00:45	18	98	4	31					22	129
01:00	15		7						22	
01:15	19		1						20	
01:30	12		6						18	
01:45	6	52	3	17					9	69
02:00	7		0						7	
02:15	10		0						10	
02:30	9		6						15	
02:45	7	33	2	8					9	41
03:00	5		7						12	
03:15	5		7						12	
03:30	6		8						14	
03:45	5	21	7	29					12	50
04:00	1		11						12	
04:15	7		12						19	
04:30	4		13						17	
04:45	18	30	13	49					31	79
05:00	8		26						34	
05:15	14		36						50	
05:30	15		20						35	
05:45	21	58	39	121					60	179
06:00	21		50						71	
06:15	32		57						89	
06:30	48		86						134	
06:45	50	151	78	271					128	422
07:00	61		64						125	
07:15	82		75						157	
07:30	122		100						222	
07:45	71	336	109	348					180	684
08:00	72		83						155	
08:15	64		94						158	
08:30	77		90						167	
08:45	79	292	76	343					155	635
09:00	70		72						142	
09:15	56		69						125	
09:30	60		75						135	
09:45	53	239	80	296					133	535
10:00	66		73						139	
10:15	69		89						158	
10:30	72		68						140	
10:45	66	273	86	316					152	589
11:00	59		71						130	
11:15	79		72						151	
11:30	72		93						165	
11:45	70	280	79	315					149	595
TOTALS		1863		2144						4007
SPLIT %		46.5%		53.5%						36.1%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	73		92						165	
12:15	76		68						144	
12:30	71		85						156	
12:45	75	295	88	333					163	628
13:00	70		79						149	
13:15	66		98						164	
13:30	79		83						162	
13:45	83	298	83	343					166	641
14:00	73		81						154	
14:15	77		84						161	
14:30	76		82						158	
14:45	105	331	67	314					172	645
15:00	91		138						229	
15:15	77		137						214	
15:30	94		97						191	
15:45	74	336	149	521					223	857
16:00	91		107						198	
16:15	77		105						182	
16:30	76		125						201	
16:45	94	338	147	484					241	822
17:00	87		167						254	
17:15	71		143						214	
17:30	75		151						226	
17:45	83	316	176	637					259	953
18:00	70		116						186	
18:15	75		111						186	
18:30	69		130						199	
18:45	63	277	92	449					155	726
19:00	61		74						135	
19:15	70		68						138	
19:30	68		40						108	
19:45	70	269	59	241					129	510
20:00	67		43						110	
20:15	68		48						116	
20:30	58		37						95	
20:45	76	269	28	156					104	425
21:00	62		32						94	
21:15	64		19						83	
21:30	58		28						86	
21:45	61	245	30	109					91	354
22:00	59		16						75	
22:15	55		20						75	
22:30	45		22						67	
22:45	51	210	20	78					71	288
23:00	43		23						66	
23:15	43		23						66	
23:30	39		14						53	
23:45	30	155	20	80					50	235
TOTALS		3339		3745						7084
SPLIT %		47.1%		52.9%						63.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,202	5,889	0	0	11,091

AM Peak Hour	07:15	07:30			07:30	PM Peak Hour	14:45	17:00			17:00
AM Pk Volume	347	386			715	PM Pk Volume	367	637			953
Pk Hr Factor	0.711	0.885			0.805	Pk Hr Factor	0.874	0.905			0.920
7 - 9 Volume	628	691	0	0	1319	4 - 6 Volume	654	1121	0	0	1775
7 - 9 Peak Hour	07:15	07:30			07:30	4 - 6 Peak Hour	16:00	17:00			17:00
7 - 9 Pk Volume	347	386	0	0	715	4 - 6 Pk Volume	338	637	0	0	953
Pk Hr Factor	0.711	0.885	0.000	0.000	0.805	Pk Hr Factor	0.899	0.905	0.000	0.000	0.920

Prepared by NDS/ATD

VOLUME

S Goodman Rd S/O Bella Citta Blvd

Day: Thursday
Date: 11/18/2021

City: Davenport
Project #: FL21_130268_005

DAILY TOTALS	NB	SB	EB	WB	Total
	5,080	6,991	0	0	12,071

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	34		8						42		12:00	83		74						157	
00:15	24		15						39		12:15	72		86						158	
00:30	20		10						30		12:30	67		82						149	
00:45	20	98	8	41					28	139	12:45	75	297	88	330					163	627
01:00	6		4						10		13:00	80		90						170	
01:15	8		5						13		13:15	93		90						183	
01:30	3		2						5		13:30	81		87						168	
01:45	12	29	3	14					15	43	13:45	73	327	79	346					152	673
02:00	7		3						10		14:00	86		86						172	
02:15	8		3						11		14:15	83		80						163	
02:30	8		2						10		14:30	78		86						164	
02:45	8	31	1	9					9	40	14:45	87	334	90	342					177	676
03:00	4		4						8		15:00	82		129						211	
03:15	5		7						12		15:15	56		158						214	
03:30	2		8						10		15:30	73		157						230	
03:45	3	14	10	29					13	43	15:45	63	274	167	611					230	885
04:00	3		10						13		16:00	57		169						226	
04:15	7		15						22		16:15	72		199						271	
04:30	5		20						25		16:30	89		177						266	
04:45	17	32	15	60					32	92	16:45	82	300	188	733					270	1033
05:00	6		25						31		17:00	63		205						268	
05:15	11		24						35		17:15	91		215						306	
05:30	11		37						48		17:30	79		199						278	
05:45	24	52	39	125					63	177	17:45	77	310	205	824					282	1134
06:00	19		48						67		18:00	63		193						256	
06:15	38		67						105		18:15	66		189						255	
06:30	33		71						104		18:30	60		138						198	
06:45	49	139	81	267					130	406	18:45	76	265	130	650					206	915
07:00	64		51						115		19:00	50		125						175	
07:15	92		69						161		19:15	62		128						190	
07:30	92		88						180		19:30	77		84						161	
07:45	77	325	101	309					178	634	19:45	63	252	77	414					140	666
08:00	64		109						173		20:00	55		61						116	
08:15	74		93						167		20:15	64		61						125	
08:30	85		100						185		20:30	65		69						134	
08:45	68	291	69	371					137	662	20:45	69	253	58	249					127	502
09:00	82		60						142		21:00	71		39						110	
09:15	53		76						129		21:15	50		33						83	
09:30	63		77						140		21:30	56		37						93	
09:45	68	266	90	303					158	569	21:45	64	241	43	152					107	393
10:00	75		84						159		22:00	51		32						83	
10:15	64		79						143		22:15	67		26						93	
10:30	59		94						153		22:30	60		25						85	
10:45	58	256	76	333					134	589	22:45	49	227	30	113					79	340
11:00	80		74						154		23:00	62		18						80	
11:15	78		73						151		23:15	48		32						80	
11:30	47		72						119		23:30	36		22						58	
11:45	84	289	66	285					150	574	23:45	32	178	9	81					41	259
TOTALS		1822		2146						3968	TOTALS		3258		4845						8103
SPLIT %		45.9%		54.1%						32.9%	SPLIT %		40.2%		59.8%						67.1%

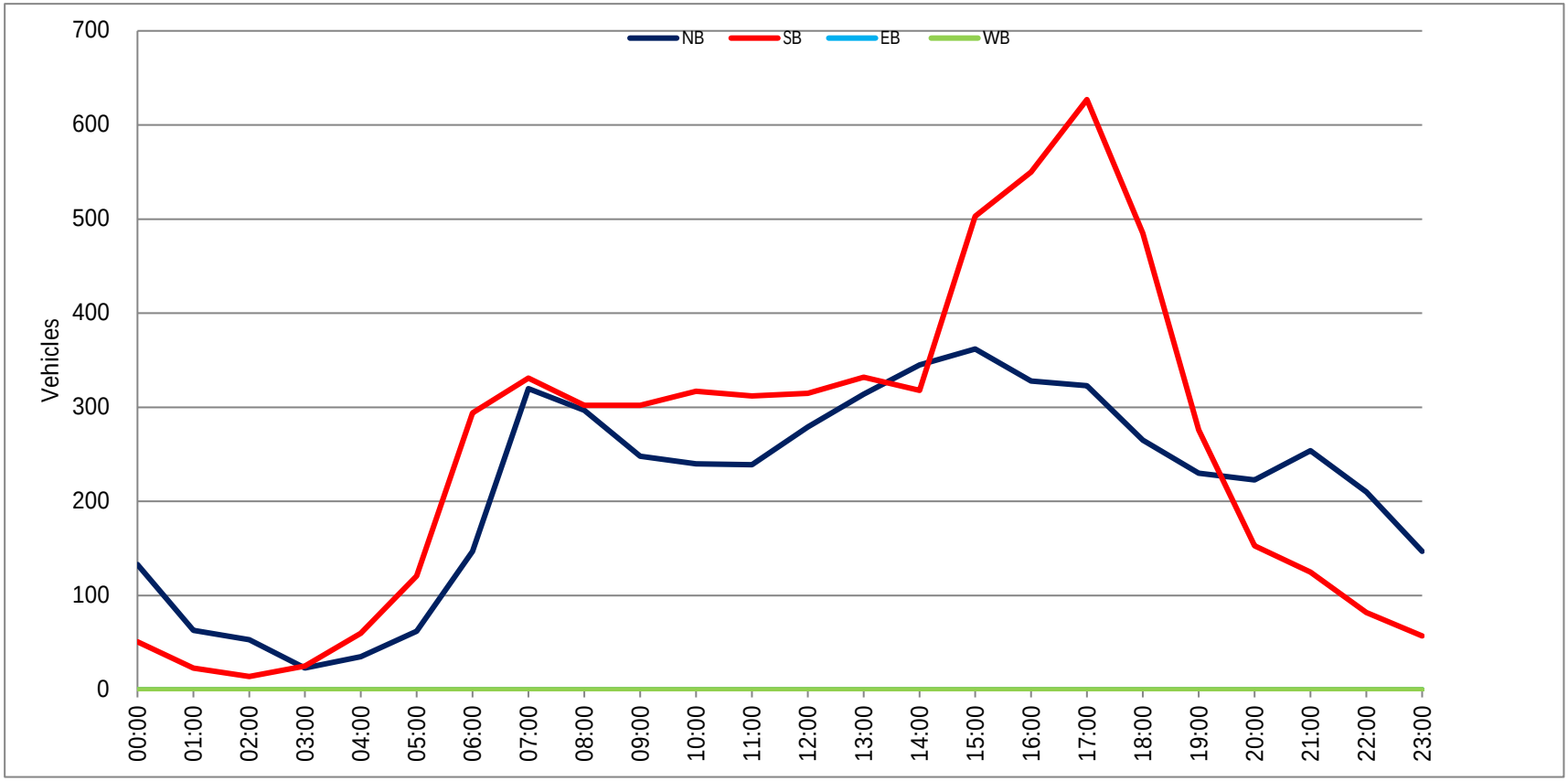
DAILY TOTALS	NB	SB	EB	WB	Total
	5,080	6,991	0	0	12,071

AM Peak Hour	07:00	07:45			07:45	PM Peak Hour	14:00	17:00			17:00
AM Pk Volume	325	403			703	PM Pk Volume	334	824			1134
Pk Hr Factor	0.883	0.924			0.950	Pk Hr Factor	0.960	0.958			0.926
7 - 9 Volume	616	680	0	0	1296	4 - 6 Volume	610	1557	0	0	2167
7 - 9 Peak Hour	07:00	07:45			07:45	4 - 6 Peak Hour	16:30	17:00			17:00
7 - 9 Pk Volume	325	403	0	0	703	4 - 6 Pk Volume	325	824	0	0	1134
Pk Hr Factor	0.883	0.924	0.000	0.000	0.950	Pk Hr Factor	0.893	0.958	0.000	0.000	0.926

Prepared by NDS/ATD

Project #: FL21_130268_005 City: Davenport

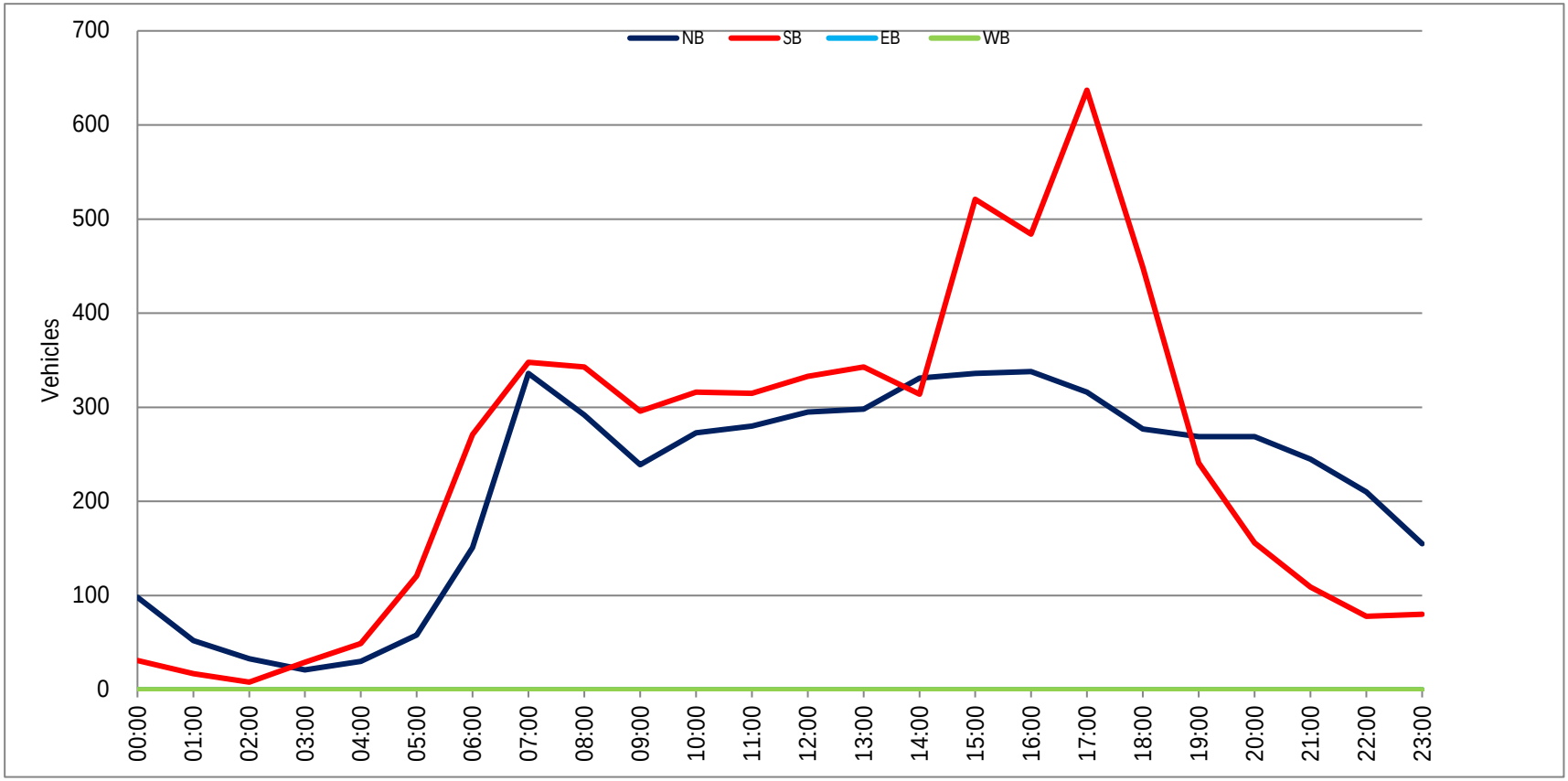
Location: S Goodman Rd S/O Bella Citta Blvd Date: 11/16/2021



Prepared by NDS/ATD

Project #: FL21_130268_005 City: Davenport

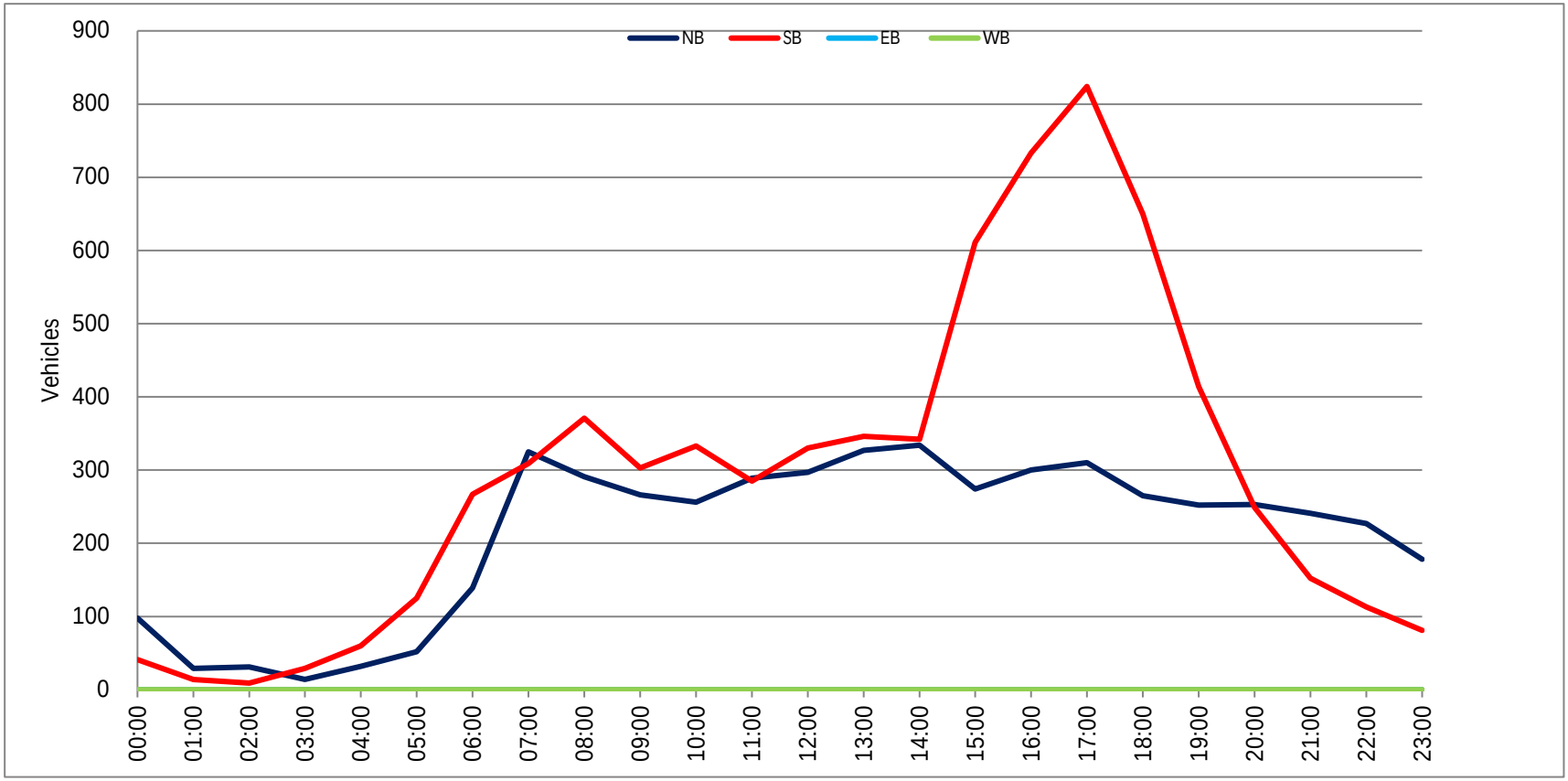
Location: S Goodman Rd S/O Bella Citta Blvd Date: 11/17/2021



Prepared by NDS/ATD

Project #: FL21_130268_005 City: Davenport

Location: S Goodman Rd S/O Bella Citta Blvd Date: 11/18/2021



Prepared by National Data & Surveying Services

S Goodman Rd & Bella Citta Blvd

Peak Hour Turning Movement Count

ID: 21-130267-001
City: Davenport

Day: Tuesday
Date: 11/16/2021

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 7:00 AM - 11:00 AM
NOON: NONE
PM: 2:00 PM - 06:30 PM

SOUTHBOUND (S Goodman Rd)

AM	33	63	0	0	184	AM
NOON	0	0	0	0	0	NOON
PM	119	354	0	0	114	PM

EASTBOUND (Bella Citta Blvd)

AM	NOON	PM	
234	0	338	
0	0	0	0
61	0	18	0
0	0	0	0
303	0	284	0
AM	NOON	PM	

WESTBOUND (Bella Citta Blvd)

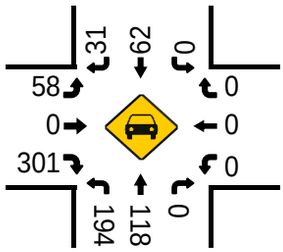
PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

NORTHBOUND (S Goodman Rd)

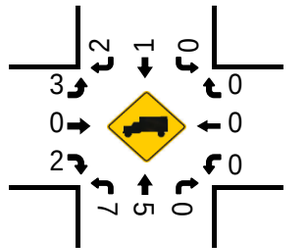
PM	638	0	219	96	0	PM
NOON	0	0	0	0	0	NOON
AM	366	0	201	123	0	AM

CONTROL			
1-Way Stop(EB)			
TEV	784 AM	0 NOON	1090 PM
PHF	0.82		0.90

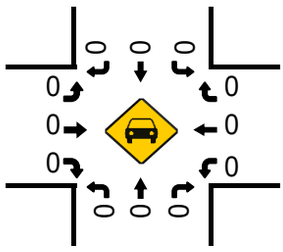
Cars (AM)



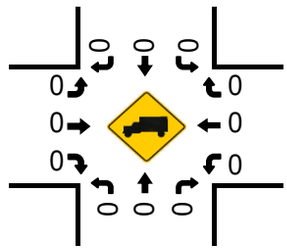
HT (AM)



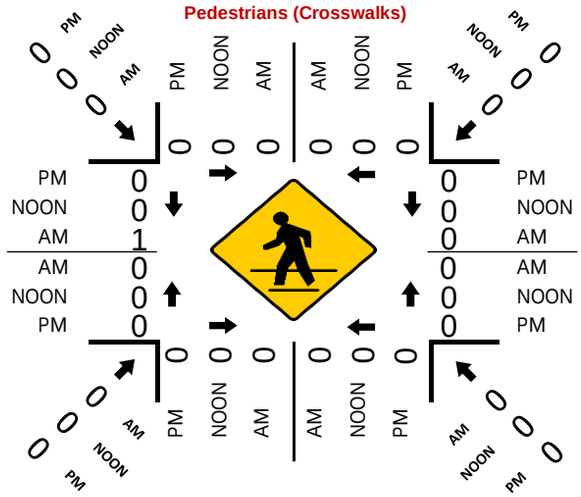
Cars (NOON)



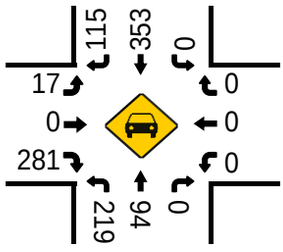
HT (NOON)



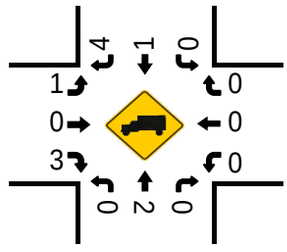
Pedestrians (Crosswalks)



Cars (PM)



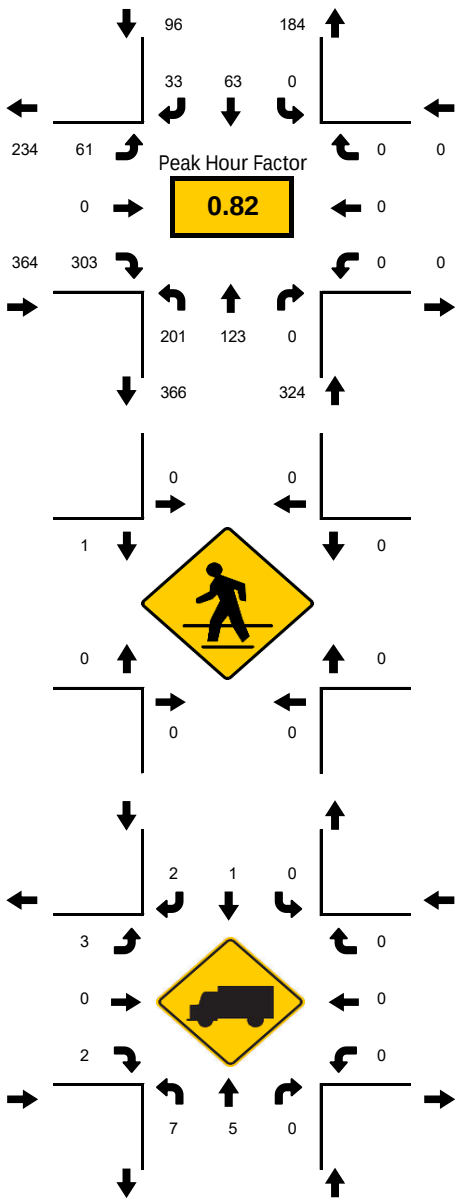
HT (PM)



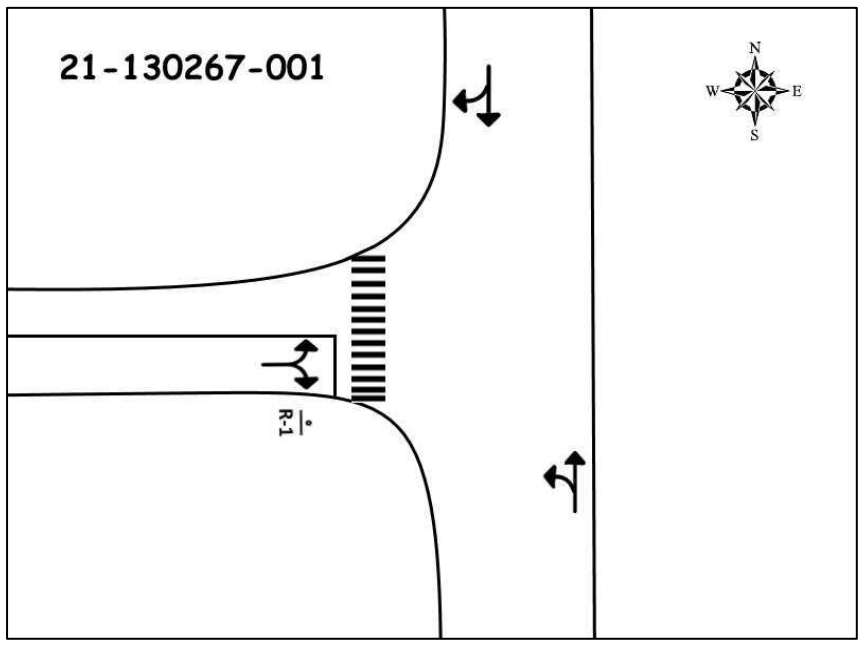
LOCATION: S Goodman Rd & Bella Citta Blvd
CITY/STATE: Davenport, FL

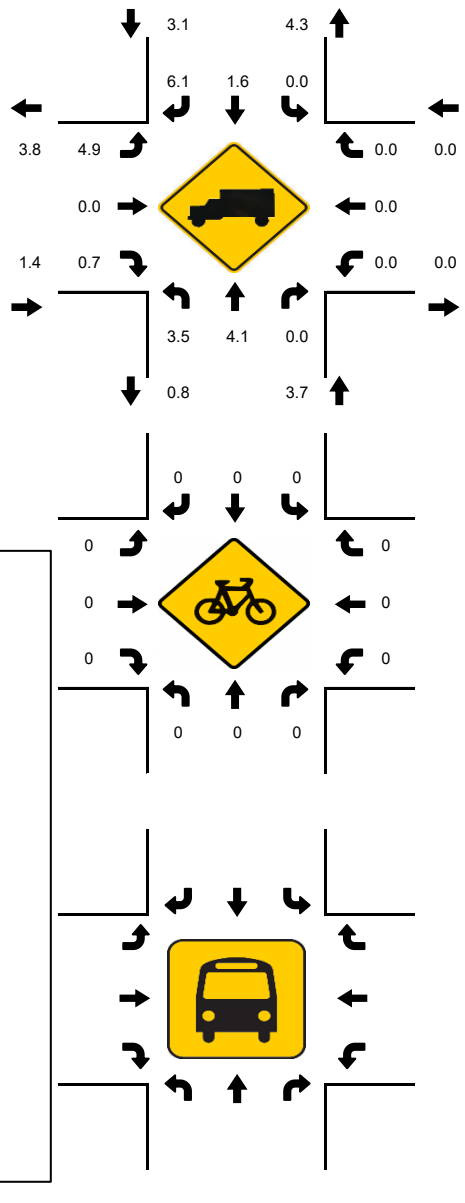
PROJECT ID: 21-130267-001
DATE: Tue, Nov 16, 2021

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



National Data & Surveying Services



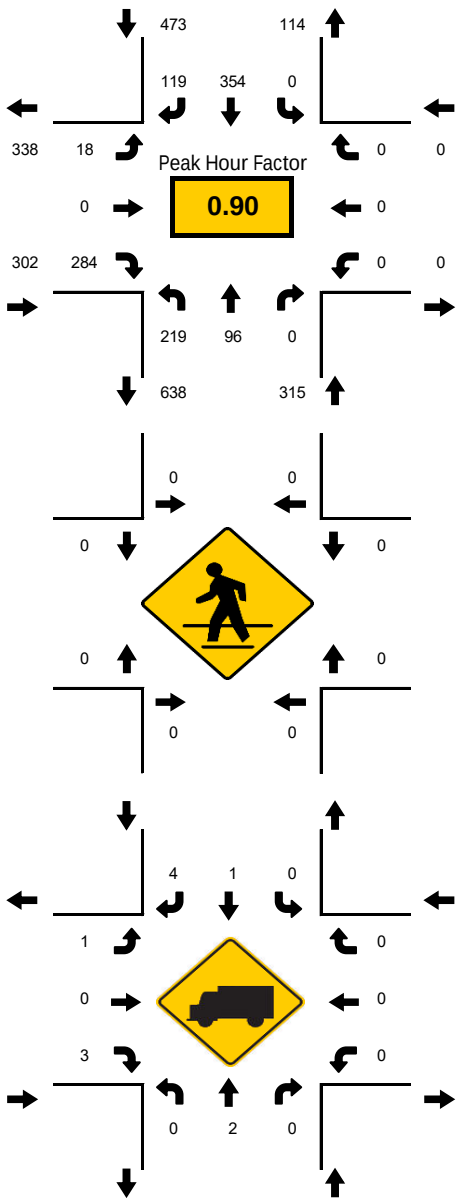


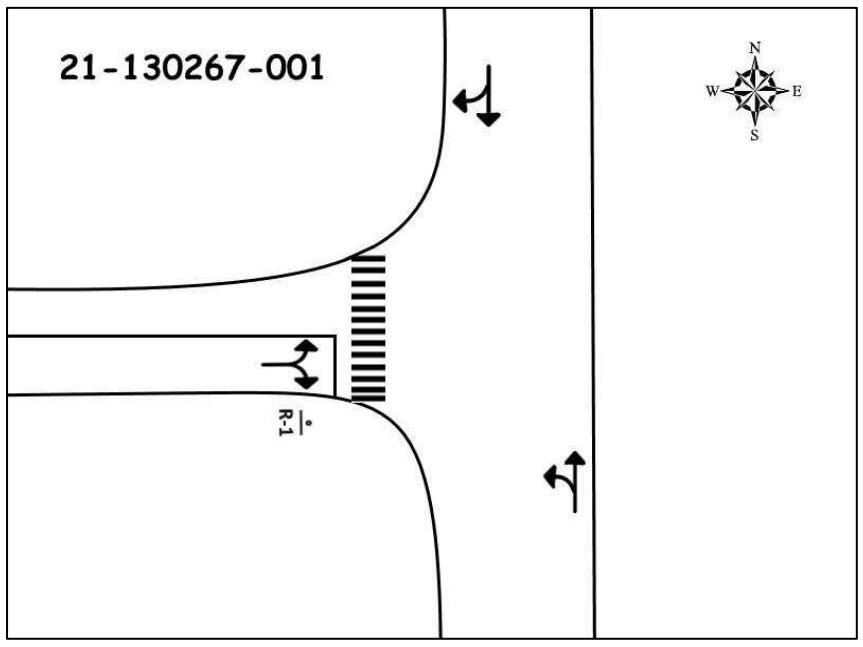
15-Min Count Period Beginning At	S Goodman Rd Northbound					S Goodman Rd Southbound					Bella Citta Blvd Eastbound					Bella Citta Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	46	19	0	0		0	12	7	0		6	0	50	0		0	0	0	0		140	760
07:15 AM	66	20	0	0		0	16	14	0		7	0	46	0		0	0	0	0		169	778
07:30 AM	65	25	0	0		0	16	18	0		16	0	71	0		0	0	0	0		211	784
07:45 AM	49	34	0	0		0	21	6	0		27	0	103	0		0	0	0	0		240	752
08:00 AM	47	32	0	0		0	18	6	0		5	0	50	0		0	0	0	0		158	688
08:15 AM	40	32	0	0		0	8	3	0		13	0	79	0		0	0	0	0		175	714
08:30 AM	31	41	0	0		0	12	5	0		22	0	68	0		0	0	0	0		179	691
08:45 AM	45	32	0	0		0	12	2	0		28	0	57	0		0	0	0	0		176	686
09:00 AM	47	41	0	0		0	10	13	0		20	0	53	0		0	0	0	0		184	647
09:15 AM	45	18	0	0		0	25	10	0		10	0	44	0		0	0	0	0		152	606
09:30 AM	35	22	0	0		0	31	11	0		12	0	63	0		0	0	0	0		174	602
09:45 AM	32	14	0	0		0	18	7	0		10	0	55	1		0	0	0	0		137	583
10:00 AM	38	23	0	0		0	19	6	0		9	0	48	0		0	0	0	0		143	602
10:15 AM	36	14	0	0		0	22	4	0		7	0	65	0		0	0	0	0		148	459
10:30 AM	46	18	0	0		0	20	7	0		2	0	62	0		0	0	0	0		155	311
10:45 AM	50	17	0	0		0	22	1	0		5	0	61	0		0	0	0	0		156	156
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	260	136	0	0		0	84	72	0		108	0	412	0		0	0	0	0		**1072**	
Heavy Trucks	16	8	0	0		0	4	4	0		4	0	4	0		0	0	0	0		**40**	
Pedestrians		0					0					4					0				**4**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

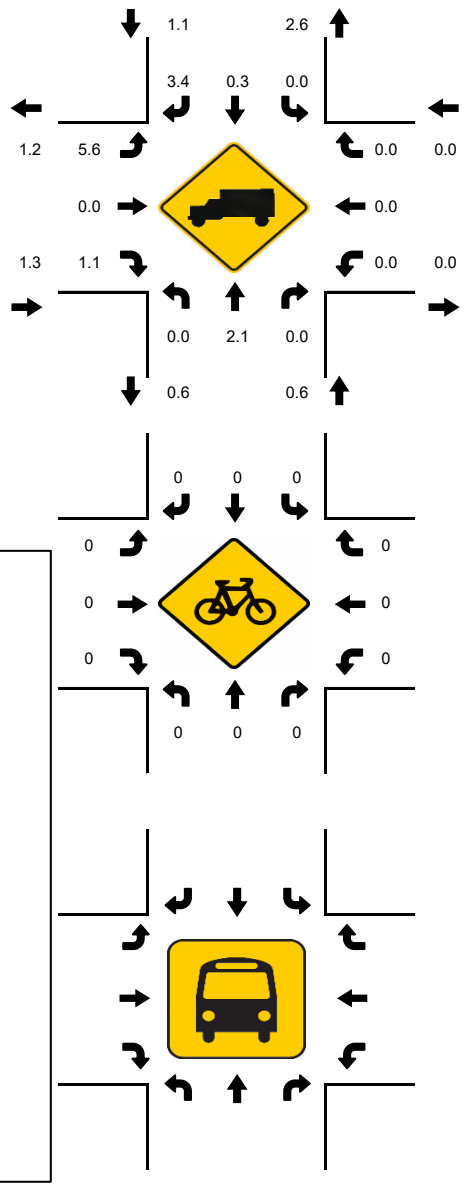
LOCATION: S Goodman Rd & Bella Citta Blvd
CITY/STATE: Davenport, FL

PROJECT ID: 21-130267-001
DATE: Tue, Nov 16, 2021

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 04:45 PM - 05:00 PM







15-Min Count Period Beginning At	S Goodman Rd Northbound					S Goodman Rd Southbound					Bella Citta Blvd Eastbound					Bella Citta Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
02:00 PM	44	40	0	0		0	29	10	0		7	0	44	0		0	0	0	0		174	751
02:15 PM	61	18	0	0		0	17	11	0		2	0	64	0		0	0	0	0		173	860
02:30 PM	62	28	0	0		0	25	17	0		9	0	54	0		0	0	0	0		195	929
02:45 PM	73	22	0	0		0	27	15	0		5	0	67	0		0	0	0	0		209	943
03:00 PM	77	25	0	1		0	32	12	0		23	0	113	0		0	0	0	0		283	952
03:15 PM	63	14	0	0		0	38	16	0		12	0	99	0		0	0	0	0		242	903
03:30 PM	60	32	0	0		0	34	0	0		10	0	73	0		0	0	0	0		209	888
03:45 PM	62	25	0	0		0	47	11	0		9	0	64	0		0	0	0	0		218	915
04:00 PM	63	32	0	0		0	42	23	0		3	0	71	0		0	0	0	0		234	1000
04:15 PM	50	31	0	0		0	42	8	0		17	0	79	0		0	0	0	0		227	1063
04:30 PM	50	16	0	0		0	70	13	0		8	0	79	0		0	0	0	0		236	1086
04:45 PM	62	23	0	0		0	108	37	0		9	0	64	0		0	0	0	0		303	1090
05:00 PM	52	31	0	0		0	95	36	0		1	0	82	0		0	0	0	0		297	1060
05:15 PM	49	21	0	0		0	80	26	0		3	0	71	0		0	0	0	0		250	1025
05:30 PM	56	21	0	0		0	71	20	0		5	0	67	0		0	0	0	0		240	1020
05:45 PM	60	25	0	0		0	89	32	0		7	0	60	0		0	0	0	0		273	780
06:00 PM	55	13	0	0		0	79	40	0		12	0	63	0		0	0	0	0		262	507
06:15 PM	57	22	0	0		0	74	27	0		4	0	61	0		0	0	0	0		245	245
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	**Total**	
All Vehicles	248	124	0	0		0	432	148	0		36	0	328	0		0	0	0	0		**1316**	
Heavy Trucks	0	4	0	0		0	4	16	0		4	0	12	0		0	0	0	0		**40**	
Pedestrians		0					0					0					0				**0**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

Prepared by National Data & Surveying Services

Sinclair Rd & Tradition Blvd

Peak Hour Turning Movement Count

ID: 21-130267-002
City: Kissimmee

Day: Tuesday
Date: 11/16/2021

PEAK HOURS

AM: 08:15 AM - 09:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 7:30 AM - 11:30 AM
NOON: NONE
PM: 3:30 PM - 07:30 PM

CONTROL: No Control

	AM	NOON	PM
TEV	248	0	360
PHF	0.90		0.91

SOUTHBOUND (Sinclair Rd)

	Left	Thru	Right	U-Turn	Total
AM	0	0	93	4	154
NOON	0	0	0	0	0
PM	0	0	217	4	142

WESTBOUND (Tradition Blvd)

	Left	Thru	Right	U-Turn
PM	138	0	150	0
NOON	0	0	0	0
AM	0	0	0	0
	1	0	1	0
	218	0	94	

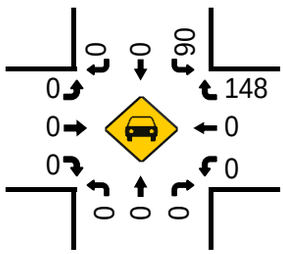
EASTBOUND (Tradition Blvd)

	Left	Thru	Right	U-Turn
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0
	0	0	0	0
	0	0	0	

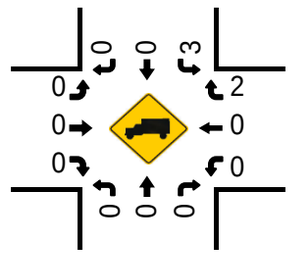
NORTHBOUND (Sinclair Rd)

	Left	Thru	Right	U-Turn	Total
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

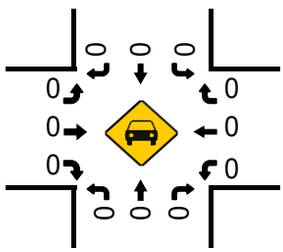
Cars (AM)



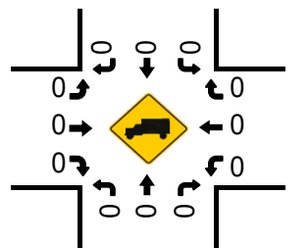
HT (AM)



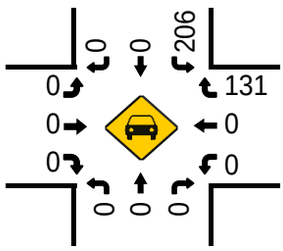
Cars (NOON)



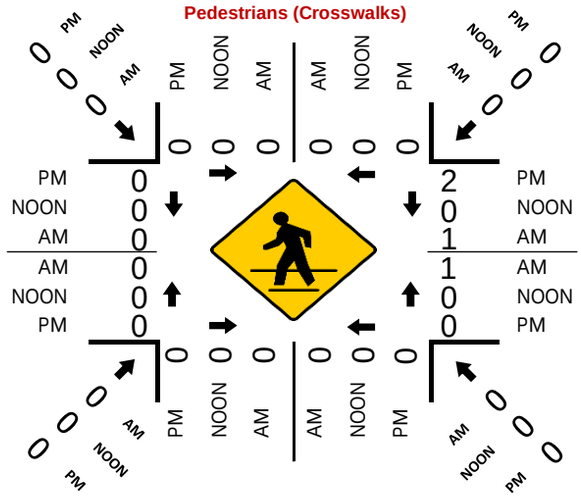
HT (NOON)



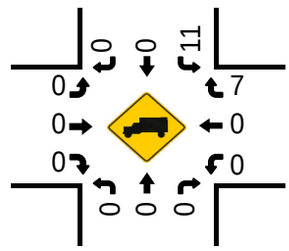
Cars (PM)



Pedestrians (Crosswalks)



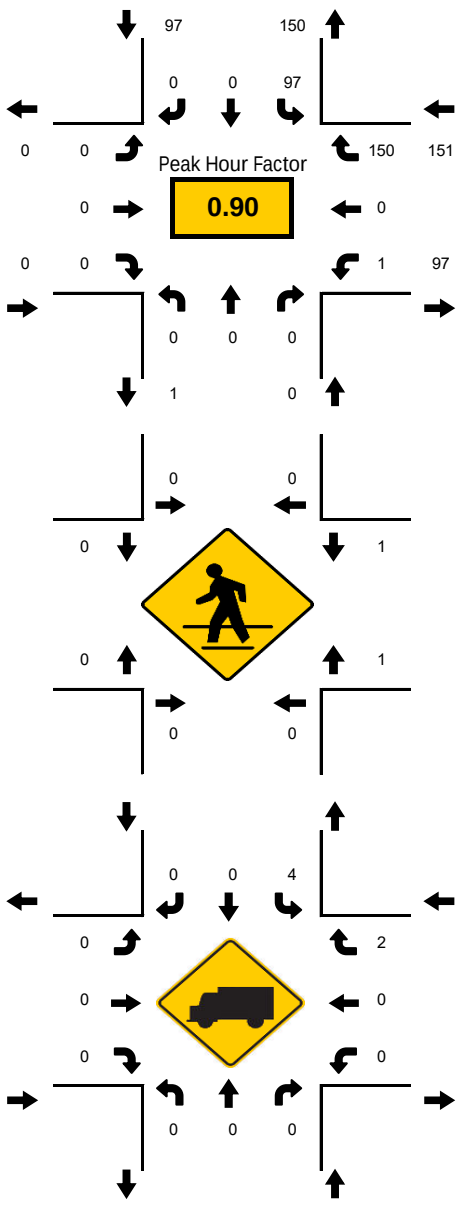
HT (PM)



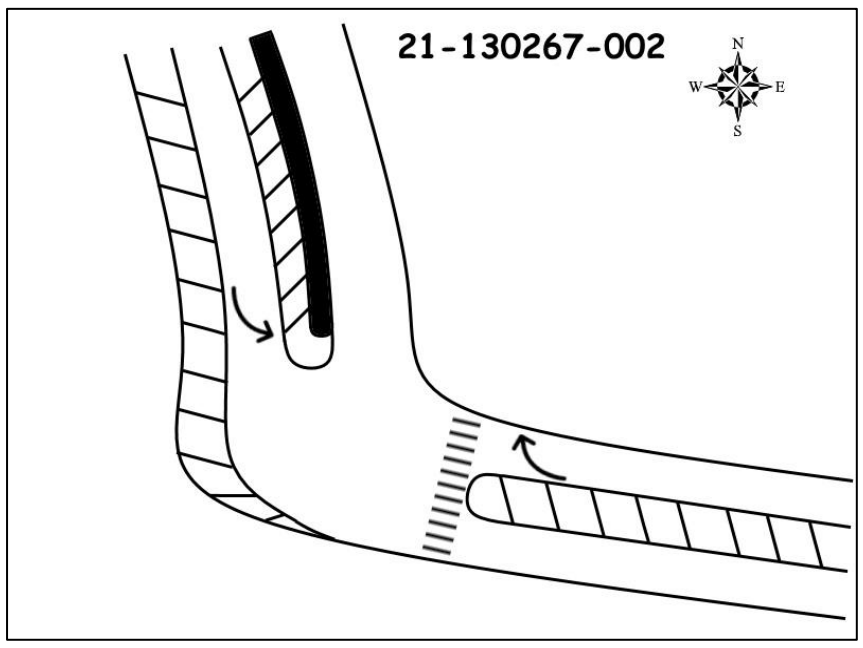
LOCATION: Sinclair Rd & Tradition Blvd
CITY/STATE: Kissimmee, FL

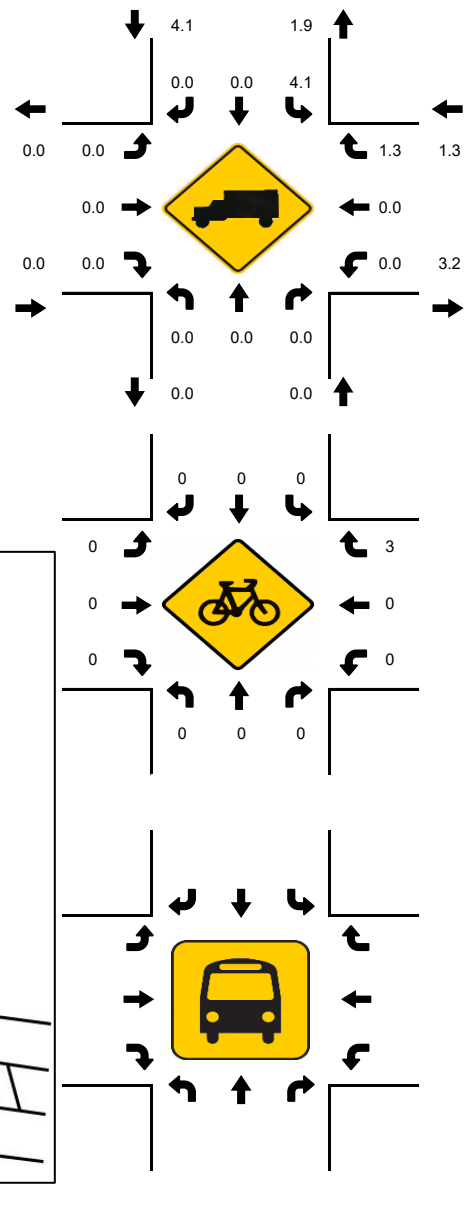
PROJECT ID: 21-130267-002
DATE: Tue, Nov 16, 2021

Peak-Hour: 08:15 AM - 09:15 AM
Peak 15-Minute: 09:00 AM - 09:15 AM



National Data & Surveying Services



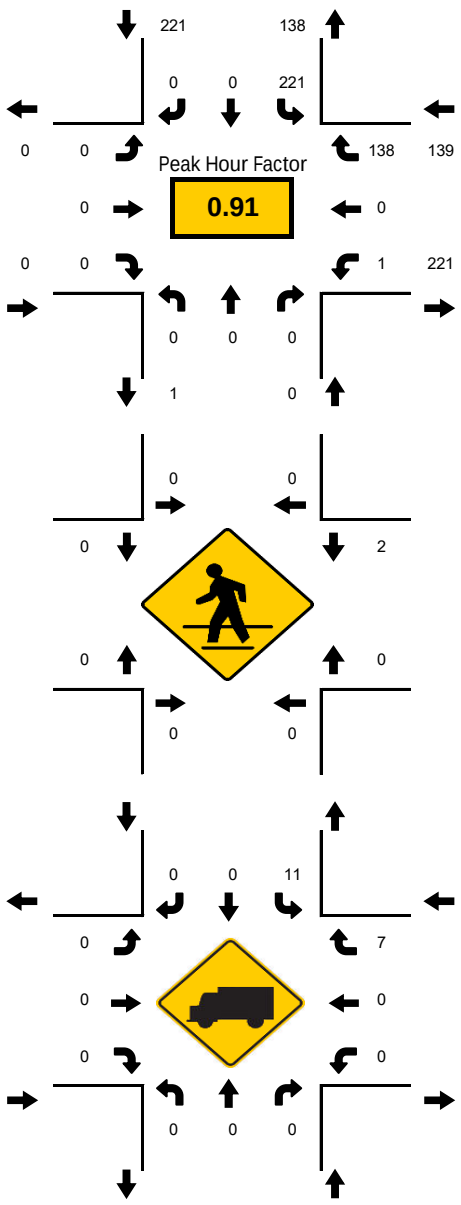


15-Min Count Period Beginning At	Sinclair Rd Northbound					Sinclair Rd Southbound					Tradition Blvd Eastbound					Tradition Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:30 AM	0	0	0	0		27	0	0	1		0	0	0	0		0	0	20	0		48	224
07:45 AM	0	0	0	0		27	0	0	0		0	0	0	0		0	0	27	0		54	228
08:00 AM	0	0	0	0		28	0	0	0		0	0	0	0		0	0	32	0		60	239
08:15 AM	0	0	0	0		18	0	0	1		0	0	0	0		0	0	43	0		62	248
08:30 AM	0	0	0	0		19	0	0	2		0	0	0	0		0	0	31	0		52	240
08:45 AM	0	0	0	0		32	0	0	1		0	0	0	0		0	0	32	0		65	246
09:00 AM	0	0	0	0		24	0	0	0		0	0	0	0		0	0	44	1		69	232
09:15 AM	0	0	0	0		29	0	0	1		0	0	0	0		0	0	24	0		54	217
09:30 AM	0	0	0	0		26	0	0	1		0	0	0	0		0	0	31	0		58	217
09:45 AM	0	0	0	0		21	0	0	0		0	0	0	0		0	0	30	0		51	220
10:00 AM	0	0	0	0		22	0	0	0		0	0	0	0		0	0	32	0		54	210
10:15 AM	0	0	0	0		24	0	0	0		0	0	0	0		0	0	30	0		54	208
10:30 AM	0	0	0	0		23	0	0	3		0	0	0	0		0	0	35	0		61	204
10:45 AM	0	0	0	0		19	0	0	1		0	0	0	0		0	0	21	0		41	143
11:00 AM	0	0	0	0		24	0	0	0		0	0	0	0		0	0	28	0		52	102
11:15 AM	0	0	0	0		23	0	0	0		0	0	0	0		0	0	27	0		50	50
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Total**	
All Vehicles	0	0	0	0		128	0	0	8		0	0	0	0		0	0	176	4		**316**	
Heavy Trucks	0	0	0	0		8	0	0	4		0	0	0	0		0	0	8	0		**16**	
Pedestrians		0					0					0					4				**4**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	12	0		**12**	
Buses																						
Stopped Buses																						

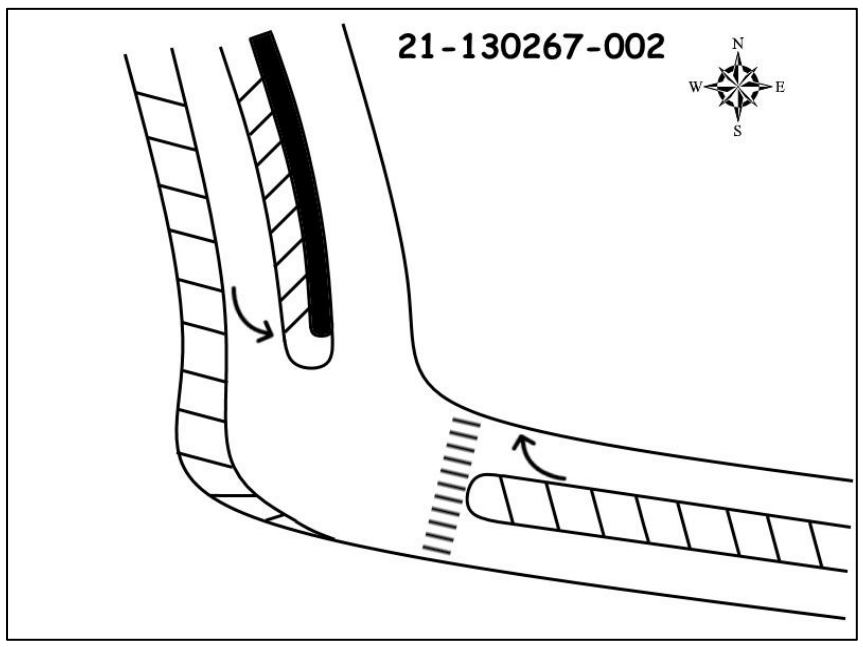
LOCATION: Sinclair Rd & Tradition Blvd
CITY/STATE: Kissimmee, FL

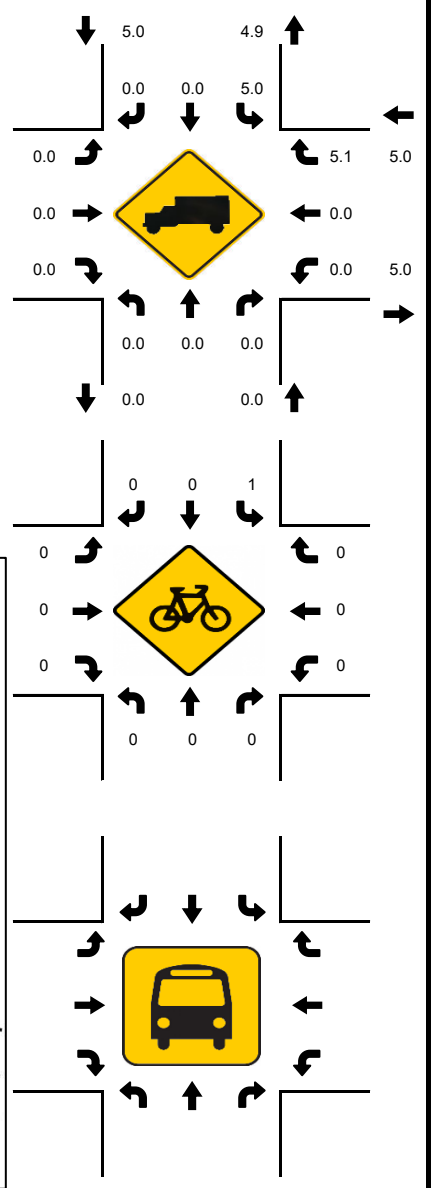
PROJECT ID: 21-130267-002
DATE: Tue, Nov 16, 2021

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 04:45 PM - 05:00 PM



National Data & Surveying Services





15-Min Count Period Beginning At	Sinclair Rd Northbound					Sinclair Rd Southbound					Tradition Blvd Eastbound					Tradition Blvd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
03:30 PM	0	0	0	0		38	0	0	0		0	0	0	0		0	0	21	0		59	272
03:45 PM	0	0	0	0		34	0	0	0		0	0	0	0		0	0	23	0		57	291
04:00 PM	0	0	0	0		52	0	0	0		0	0	0	0		0	0	19	0		71	333
04:15 PM	0	0	0	0		49	0	0	1		0	0	0	0		0	0	35	0		85	350
04:30 PM	0	0	0	0		48	0	0	2		0	0	0	0		0	0	28	0		78	341
04:45 PM	0	0	0	0		63	0	0	1		0	0	0	0		0	0	34	1		99	360
05:00 PM	0	0	0	0		39	0	0	1		0	0	0	0		0	0	48	0		88	334
05:15 PM	0	0	0	0		51	0	0	0		0	0	0	0		0	0	25	0		76	308
05:30 PM	0	0	0	0		64	0	0	2		0	0	0	0		0	0	31	0		97	301
05:45 PM	0	0	0	0		39	0	0	0		0	0	0	0		0	0	34	0		73	269
06:00 PM	0	0	0	0		49	0	0	0		0	0	0	0		0	0	13	0		62	264
06:15 PM	0	0	0	0		43	0	0	2		0	0	0	0		0	0	24	0		69	274
06:30 PM	0	0	0	0		54	0	0	0		0	0	0	0		0	0	11	0		65	271
06:45 PM	0	0	0	0		54	0	0	0		0	0	0	0		0	0	13	1		68	206
07:00 PM	0	0	0	0		58	0	0	0		0	0	0	0		0	0	14	0		72	138
07:15 PM	0	0	0	0		47	0	0	0		0	0	0	0		0	0	19	0		66	66
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Total**	
All Vehicles	0	0	0	0		256	0	0	8		0	0	0	0		0	0	192	4		**460**	
Heavy Trucks	0	0	0	0		24	0	0	0		0	0	0	0		0	0	12	0		**36**	
Pedestrians		0					0					0					8				**8**	
Bicycles	0	0	0	0		4	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

APPENDIX C

FDOT Florida Traffic Online (FTO) Data

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 9200 OSCEOLA COUNTYWIDE

MOCF: 0.91

WEEK	DATES	SF	PSCF
* 1	01/01/2020 - 01/04/2020	0.95	1.04
* 2	01/05/2020 - 01/11/2020	0.90	0.99
* 3	01/12/2020 - 01/18/2020	0.85	0.93
* 4	01/19/2020 - 01/25/2020	0.85	0.93
* 5	01/26/2020 - 02/01/2020	0.84	0.92
* 6	02/02/2020 - 02/08/2020	0.83	0.91
* 7	02/09/2020 - 02/15/2020	0.83	0.91
* 8	02/16/2020 - 02/22/2020	0.86	0.95
* 9	02/23/2020 - 02/29/2020	0.90	0.99
*10	03/01/2020 - 03/07/2020	0.94	1.03
*11	03/08/2020 - 03/14/2020	0.97	1.07
*12	03/15/2020 - 03/21/2020	1.01	1.11
*13	03/22/2020 - 03/28/2020	1.14	1.25
14	03/29/2020 - 04/04/2020	1.27	1.40
15	04/05/2020 - 04/11/2020	1.40	1.54
16	04/12/2020 - 04/18/2020	1.53	1.68
17	04/19/2020 - 04/25/2020	1.43	1.57
18	04/26/2020 - 05/02/2020	1.34	1.47
19	05/03/2020 - 05/09/2020	1.24	1.36
20	05/10/2020 - 05/16/2020	1.15	1.26
21	05/17/2020 - 05/23/2020	1.13	1.24
22	05/24/2020 - 05/30/2020	1.10	1.21
23	05/31/2020 - 06/06/2020	1.08	1.19
24	06/07/2020 - 06/13/2020	1.06	1.16
25	06/14/2020 - 06/20/2020	1.03	1.13
26	06/21/2020 - 06/27/2020	1.04	1.14
27	06/28/2020 - 07/04/2020	1.04	1.14
28	07/05/2020 - 07/11/2020	1.04	1.14
29	07/12/2020 - 07/18/2020	1.04	1.14
30	07/19/2020 - 07/25/2020	1.03	1.13
31	07/26/2020 - 08/01/2020	1.02	1.12
32	08/02/2020 - 08/08/2020	1.01	1.11
33	08/09/2020 - 08/15/2020	1.00	1.10
34	08/16/2020 - 08/22/2020	1.00	1.10
35	08/23/2020 - 08/29/2020	1.00	1.10
36	08/30/2020 - 09/05/2020	1.00	1.10
37	09/06/2020 - 09/12/2020	0.99	1.09
38	09/13/2020 - 09/19/2020	0.99	1.09
39	09/20/2020 - 09/26/2020	0.98	1.08
40	09/27/2020 - 10/03/2020	0.98	1.08
41	10/04/2020 - 10/10/2020	0.97	1.07
42	10/11/2020 - 10/17/2020	0.96	1.05
43	10/18/2020 - 10/24/2020	0.96	1.05
44	10/25/2020 - 10/31/2020	0.96	1.05
45	11/01/2020 - 11/07/2020	0.96	1.05
46	11/08/2020 - 11/14/2020	0.96	1.05
47	11/15/2020 - 11/21/2020	0.96	1.05
48	11/22/2020 - 11/28/2020	0.96	1.05
49	11/29/2020 - 12/05/2020	0.95	1.04
50	12/06/2020 - 12/12/2020	0.95	1.04
51	12/13/2020 - 12/19/2020	0.95	1.04
52	12/20/2020 - 12/26/2020	0.90	0.99
53	12/27/2020 - 12/31/2020	0.85	0.93

* PEAK SEASON

APPENDIX D

Volume Development Worksheet

Design Traffic Volume Characteristics

Intersection #1: Sinclair Road & Tradition Boulevard

Model Volumes

	Year 2045 Model Volumes (PSWADT)[1]			MOCF[2]	Year 2045 AADT[3]
	Two-Way Vol.	Approach	Departure		
South Leg	16,865	8440	8424	0.91	15,347
North Leg	22,412	12014	10399	0.91	20,395
East Leg	13,167	5769	7399	0.91	11,982

Existing Volumes

	2021 Daily Traffic Counts[4]				SF[2]	Adjusted AADT
	Day 1	Day 2	Day 3	Average		
North Leg	3,480	3,484	4,062	3,675	0.96	3,528
East Leg	3,480	3,484	4,062	3,675	0.96	3,528

1. Peak Season Weekday Average Daily Traffic (PSWADT) obtained from model outputs (subject to rounding errors).
2. Per FDOT's Florida Traffic Online for Osceola County
3. Annual Average Daily Traffic (AADT) = PSWADT x MOCF
4. From data collection

2045 Buildout AADT for TURNS5 Input

	2045 AADT	Approach		Departure	
South leg	17,500	*50%*	8,800	*50%*	8,700
North Leg	22,500	*54%*	12,100	*46%*	10,400
East Leg	12,000	*44%*	5,300	*56%*	6,700

Design Traffic Volume Characteristics

Intersection #2: Goodman Road & Sinclair Road/Bella Citta Boulevard

Model Volumes

	Year 2045 Model Volumes (PSWADT)[1]			MOCF[2]	Year 2045 AADT[3]
	Two-Way Vol.	Approach	Departure		
South Leg	9,701	4,975	4,724	0.91	8,828
North Leg	5,519	2,701	2,817	0.91	5,022
West Leg	13,879	6,879	6,999	0.91	12,630
East Leg	16,200	8,090	8,106	0.91	14,742

Existing Volumes

	2021 Daily Traffic Counts[4]				SF[2]	Adjusted AADT
	Day 1	Day 2	Day 3	Average		
South Leg	11,115	11,091	12,071	11,426	0.96	10,969
North Leg	4,524	4,308	4,849	4,560	0.96	4,378
West Leg	9,129	9,005	10,077	9,404	0.96	9,028

1. Peak Season Weekday Average Daily Traffic (PSWADT) obtained from model outputs (subject to rounding errors).

2. Per FDOT's Florida Traffic Online for Osceola County

3. Annual Average Daily Traffic (AADT) = PSWADT x MOCF

4. From data collection

2045 Buildout AADT for TURNS5 Input

	2045 AADT	Approach		Departure	
South Leg	14,500	*51%*	7,400	*49%*	7,100
North Leg	5,000	*49%*	2,400	*51%*	2,600
West Leg	17,000	*50%*	8,400	*50%*	8,600
East Leg	17,500	*50%*	8,700	*50%*	8,800

Kimley»Horn

INTERSECTION VOLUME DEVELOPMENT SHEET

INTERSECTION #1

Sinclair Rd

&

Tradition Blvd

AM Peak Hour Factor: 0.90

Weekday AM Peak Hour	Sinclair Rd			Sinclair Rd			-			Tradition Blvd		
	Northbound			Southbound			Eastbound			Westbound		
08:15 AM - 09:15 AM	L	T	R	L	T	R	L	T	R	L	T	R
Raw TMC	0	0	0	97	0	0	0	0	0	1	0	150
Seasonal Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicle	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	1%
Existing Volume (2021)	**0**	**0**	**0**	**93**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**144**
D-Factor (Calculated)		0.61			0.39			0.39			0.61	
TURNS5												
2025 DHV (Model Volumes)	0	134	26	153	81	0	0	0	0	25	0	245
Adjustments												
2025 Design Hourly Volumes	**0**	**134**	**26**	**153**	**81**	**0**	**0**	**0**	**0**	**25**	**0**	**245**
2045 DHV (Model Volumes)	0	809	152	296	490	0	0	0	0	156	0	502
Adjustments												
2045 Design Hourly Volumes	**0**	**809**	**152**	**295**	**495**	**0**	**0**	**0**	**0**	**158**	**0**	**501**

PM Peak Hour Factor: 0.91

Weekday PM Peak Hour	Sinclair Rd			Sinclair Rd			-			Tradition Blvd		
	Northbound			Southbound			Eastbound			Westbound		
04:45 PM - 05:45 PM	L	T	R	L	T	R	L	T	R	L	T	R
Raw TMC	0	0	0	221	0	0	0	0	0	1	0	138
Seasonal Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicle	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	5%
Existing Volume (2021)	**0**	**0**	**0**	**212**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**132**
D-Factor (Calculated)		0.39			0.61			0.61			0.39	
TURNS5												
2025 DHV (Model Volumes)	0	78	24	236	130	0	0	0	0	25	0	148
Adjustments												
2025 Design Hourly Volumes	**0**	**78**	**24**	**236**	**130**	**0**	**0**	**0**	**0**	**25**	**0**	**148**
2045 DHV (Model Volumes)	0	440	174	446	789	0	0	0	0	173	0	248
Adjustments												
2045 Design Hourly Volumes	**0**	**440**	**174**	**446**	**789**	**0**	**0**	**0**	**0**	**173**	**0**	**248**

Notes:

Kimley»Horn

INTERSECTION VOLUME DEVELOPMENT SHEET

INTERSECTION #2

S Goodman Rd

&

Bella Citta Blvd / Sinclair Rd

AM Peak Hour Factor: 0.82

Weekday AM Peak Hour	**S Goodman Rd**						**Bella Citta Blvd / Sinclair Rd**					
	Northbound			Southbound			Eastbound			Westbound		
07:30 AM - 08:30 AM	L	T	R	L	T	R	L	T	R	L	T	R
Raw TMC	201	123	0	0	63	33	61	0	303	0	0	0
Seasonal Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicle	3%	4%	0%	0%	2%	6%	5%	0%	1%	0%	0%	0%
Existing Volume (2021)	**193**	**118**	**0**	**0**	**60**	**32**	**59**	**0**	**291**	**0**	**0**	**0**
D-Factor (Calculated)		0.49			0.51			0.61			0.39	
TURNS5												
2025 DHV (Model Volumes)	304	118	89	20	120	67	88	68	411	58	32	12
Adjustments												
2025 Design Hourly Volumes	**304**	**118**	**89**	**20**	**120**	**67**	**88**	**68**	**411**	**58**	**32**	**12**
2045 DHV (Model Volumes)	240	59	340	98	63	69	89	511	333	263	281	70
Adjustments												
2045 Design Hourly Volumes	**240**	**59**	**340**	**98**	**63**	**69**	**89**	**511**	**333**	**263**	**281**	**70**

PM Peak Hour Factor: 0.90

Weekday PM Peak Hour	**S Goodman Rd**						**Bella Citta Blvd**					
	Northbound			Southbound			Eastbound			Westbound		
04:45 PM - 05:45 PM	L	T	R	L	T	R	L	T	R	L	T	R
Raw TMC	219	96	0	0	354	119	18	0	284	0	0	0
Seasonal Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicle	0%	2%	0%	0%	0%	3%	6%	0%	1%	0%	0%	0%
Existing Volume (2021)	**210**	**92**	**0**	**0**	**340**	**114**	**17**	**0**	**273**	**0**	**0**	**0**
D-Factor (Calculated)		0.30			0.70			0.47			0.53	
TURNS5												
2025 DHV (Model Volumes)	232	42	39	18	157	109	45	41	351	76	53	10
Adjustments												
2025 Design Hourly Volumes	**232**	**42**	**39**	**18**	**157**	**109**	**45**	**41**	**351**	**76**	**53**	**10**
2045 DHV (Model Volumes)	186	23	183	105	103	107	43	341	335	386	399	50
Adjustments												
2045 Design Hourly Volumes	**186**	**23**	**183**	**105**	**103**	**107**	**43**	**341**	**335**	**386**	**399**	**50**

Notes:

APPENDIX E

Osceola County 2021 Roadway Network Capacity Report

2021 Roadway Network Capacity Report

(Updated 12/15/2021)

Count Station #	Count Source	ROADWAY	FROM	TO	Adjusted Service Volumes				Latest Count Year	Count Date (mm/dd)	Week	ADT	AADT	PM Peak Hour									
					B	C	D	E						NB/EB	SB/WB	Pk Hr Total	Pk Dir	K-Factor	D-Factor	Pk Hr Pk Dir Vol	LOS	Capacity	V/C
177	OC	Bass Road	Yowell Rd	US 192	460	740	790	790	2021	4/22	17	7,762	7,840	204	349	553	SB/WB	0.071	0.63	349	B	790	0.44
183.1	OC	Bella Citta Blvd	Oasis Club Blvd	Westside Blvd	330	530	570	570	2021	3/24	13	11,620	11,504	460	484	944	SB/WB	0.081	0.51	484	C	570	0.85
184	OC	Bella Citta Blvd	Westside Blvd	S Goodman Rd	330	530	570	570	2021	3/24	13	10,368	10,264	410	330	740	NB/EB	0.071	0.55	410	C	570	0.72
467	OC	Bill Beck Blvd	US 192-441	Fortune Rd	0	1,200	1,590	1,680	2021	9/23	39	4,263	4,647	342	227	569	NB/EB	0.133	0.60	342	C	1,590	0.22
474	OC	Boggy Creek Rd (East)	Simpson Rd	Austin Tyndell Park	460	740	790	790	2021	9/30	40	23,281	25,143	850	896	1,746	SB/WB	0.075	0.51	896	F	790	1.13
475	OC	Boggy Creek Rd (East)	Austin Tyndell Park	Narcoossee Rd (CR 15)	400	800	1,140	1,440	2021	9/30	40	18,225	19,683	721	917	1,638	SB/WB	0.090	0.56	917	D	1,140	0.80
510	OC	Brown Chapel Rd	US 192-441	Lakeshore Blvd	480	770	830	830	2021	9/29	40	7,373	7,963	290	342	632	SB/WB	0.086	0.54	342	B	830	0.41
462	OC	Buenaventura Blvd	Simpson Rd	Florida Pkwy	0	1,200	1,590	1,680	2021	4/22	17	24,071	24,312	890	931	1,821	SB/WB	0.076	0.51	931	C	1,590	0.59
456	OC	Buenaventura Blvd	Florida Pkwy	Osceola Pkwy	1,400	1,700	1,760	1,760	2021	4/22	17	29,508	29,803	946	1334	2,280	SB/WB	0.077	0.59	1,334	B	1,760	0.76
452	OC	Buenaventura Blvd	Osceola Pkwy	Orange County Line	1,400	1,700	1,760	1,760	2021	4/22	17	35,172	35,524	1159	1557	2,716	SB/WB	0.077	0.57	1,557	C	1,760	0.88
605	OC	Canoe Creek Rd (CR 523)	US 441/SR 15/Holopaw Rd	Sullivan Dr	240	430	740	1,480	2021	10/21	43	2,644	2,750	109	163	272	SB/WB	0.103	0.60	163	B	430	0.38
523	OC	Canoe Creek Rd (CR 523)	Sullivan Dr	Deer Run Rd	420	800	1,120	1,420	2021	10/21	43	7,016	7,297	251	334	585	SB/WB	0.083	0.57	334	B	800	0.42
522	OC	Canoe Creek Rd (CR 523)	Deer Run Rd	Old Canoe Creek Rd	480	770	830	830	2021	10/6	41	17,719	18,782	637	893	1,530	SB/WB	0.086	0.58	893	F	830	1.08
508	OC	Canoe Creek Rd (CR 523)	Old Canoe Creek Rd	Nolte Rd	480	770	830	830	2021	10/6	41	16,547	17,540	662	659	1,321	NB/EB	0.080	0.50	662	C	830	0.80
521	OC	Canoe Creek Rd (CR 523)	Nolte Rd	US 192-441	480	770	830	830	2021	10/6	41	14,131	14,979	465	733	1,198	SB/WB	0.085	0.61	733	C	830	0.88
311	OC	Carroll St	Columbia Ave	Dyer Blvd	1,400	1,700	1,760	1,760	2021	9/23	39	16,677	18,178	593	760	1,353	SB/WB	0.081	0.56	760	B	1,760	0.43
312	OC	Carroll St	Dyer Blvd	Thacker Ave	1,330	1,620	1,680	1,680	2021	10/14	42	11,989	12,469	551	508	1,059	NB/EB	0.088	0.52	551	B	1,680	0.33
309	OC	Carroll St	Thacker Ave	John Young Pkwy	1,400	1,700	1,760	1,760	2021	9/23	39	17,533	19,111	690	835	1,525	SB/WB	0.087	0.55	835	B	1,760	0.47
313	OC	Carroll St	John Young Pkwy	Main St/US 441-17/92	480	770	830	830	2021	9/23	39	16,949	18,474	638	771	1,409	SB/WB	0.083	0.55	771	D	830	0.93
314	OC	Carroll St	Main St/US 441-17/92	Old Dixie Hwy	480	770	830	830	2021	10/14	42	13,708	14,256	653	488	1,141	NB/EB	0.083	0.57	653	C	830	0.79
315	OC	Carroll St	Old Dixie Hwy	Michigan Ave	1,330	1,620	1,680	1,680	2021	10/14	42	12,062	12,544	625	467	1,092	NB/EB	0.091	0.57	625	B	1,680	0.37
153	OC	Celebration Ave	US 192	Celebration Blvd	0	600	1,350	1,530	2021	3/23	13	15,595	15,439	718	506	1,224	NB/EB	0.078	0.59	718	D	1,350	0.53
154	OC	Celebration Blvd	Celebration Pl	World Dr	1,400	1,700	1,760	1,760	2021	3/23	13	13,052	12,921	491	583	1,074	SB/WB	0.082	0.54	583	B	1,760	0.33
122	OC	Champions Gate Blvd	Polk County Line	I-4	0	600	1,350	1,530	2021	9/16	38	28,586	31,730	853	940	1,793	SB/WB	0.063	0.52	940	D	1,350	0.70
304	OC	Clay St	Jack Calhoun Dr	Thacker Ave	460	740	790	790	2021	4/22	17	15,422	15,576	549	943	1,492	SB/WB	0.097	0.63	943	F	790	1.19
303	OC	Clay St	Thacker Ave	Randolph Ave	370	590	630	630	2021	4/22	17	6,342	6,405	198	440	638	SB/WB	0.101	0.69	440	C	630	0.70
537	OC	Creek Woods Dr	Canoe Creek Rd	Michigan Ave	460	740	790	790	2021	3/9	11	3,217	3,153	179	117	296	NB/EB	0.092	0.60	179	B	790	0.23
222	OC	Cypress Pkwy	Marigold Ave	Pleasant Hilll Rd	1,400	1,700	1,760	1,760	2021	4/1	14	43,417	43,417	1317	1652	2,969	SB/WB	0.068	0.56	1,652	C	1,760	0.94
1001	OC	Cyrils Dr	Narcoossee Rd	Zuni Rd	370	590	630	630	2021	10/7	41	6,722	7,125	422	205	627	NB/EB	0.093	0.67	422	C	630	0.67
1002	OC	Cyrils Dr	Zuni Rd	Absher Rd	370	590	630	630	2021	10/14	42	3,248	3,378	117	138	255	SB/WB	0.079	0.54	138	B	630	0.22
524	OC	Deer Run Rd	Canoe Creek Rd (CR 523)	Hickory Tree Rd	400	800	1,140	1,440	2021	10/21	43	7,277	7,568	256	379	635	SB/WB	0.087	0.60	379	B	1,140	0.33
352	OC	Donegan Ave	John Young Pkwy	US 17/92	0	530	770	810	2021	3/3	10	11,775	11,657	427	550	977	SB/WB	0.083	0.56	550	D	770	0.71
353	OC	Donegan Ave	US 17/92	Michigan Ave	480	770	830	830	2021	3/3	10	12,549	12,424	667	415	1,082	NB/EB	0.086	0.62	667	C	830	0.80
224	OC	Doverplum Ave	Old Pleasant Hill Rd	Cypress Pkwy	460	740	790	790	2021	4/1	14	6,826	6,826	470	188	658	NB/EB	0.096	0.71	470	C	790	0.59
223	OC	Doverplum Ave	Cypress Pkwy	Koa St	460	740	790	790	2021	4/6	15	21,133	21,133	844	676	1,520	NB/EB	0.072	0.56	844	F	790	1.07
229	OC	Enterprise Dr/Mercantile Ln	Poinciana Blvd	Cattle Dr	370	590	630	630	2021	9/16	38	1,961	2,177	132	110	242	NB/EB	0.123	0.55	132	B	630	0.21
520	OC	Fifth St (St Cloud)	Old Canoe Creek Rd	Vermont Ave	330	530	570	570	2021	9/29	40	2,826	3,052	155	91	246	NB/EB	0.087	0.63	155	B	570	0.27
NA1	OC	Florence Villa Grove Rd	Polk County Line	Westside Blvd	460	740	790	790	2021	9/16	38	10,460	11,611	369	505	874	SB/WB	0.084	0.58	505	C	790	0.64
453	OC	Florida Pkwy	Osceola Pkwy	Buenaventura Blvd	330	530	570	570	2021	10/7	41	4,907	5,201	231	189	420	NB/EB	0.086	0.55	231	B	570	0.41
972000	FDOT	Florida's Turnpike	Osceola Pkwy	US 192-441	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	61,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
972110	FDOT	Florida's Turnpike	US 192/441	Kissimmee Park Rd	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	43,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
972108	FDOT	Florida's Turnpike	Kissimmee Park Rd	Indian River County	2,100	2,880	3,400	3,600	2020	N/A	N/A	N/A	27,800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,880	NA
972001	FDOT	Florida's Turnpike	Orange County Line	Osceola Pkwy	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	74,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
119	OC	Formosa Gardens Blvd	Sinclair Rd	Funie Steed Rd	400	800	1,140	1,440	2021	10/21	43	5,935	6,172	205	305	510	SB/WB	0.086	0.60	305	B	1,140	0.27
117	OC	Formosa Gardens Blvd	Funie Steed Rd	US 192	1,400	1,700	1,760	1,760	2021	9/16	38	14,263	15,832	499	680	1,179	SB/WB	0.083	0.58	680	B	1,760	0.39
469	OC	Fortune Rd	US 192-441	Simpson Rd	0	1,200	1,590	1,680	2021	9/23	39	29,602	32,266	1390	949	2,339	NB/EB	0.079	0.59	1,390	D	1,590	0.87
414	OC	Fortune Rd	Simpson Rd	Lakeshore Blvd	420	840	1,200	1,510	2021	10/7	41	15,425	16,351	975	733	1,708	NB/EB	0.111	0.57	975	D	1,200	0.81
561	OC	Friars Cove Rd	Florida's Turnpike	Canoe Creek Rd (CR 523)	270	430	460	460	2021	10/7	41	4,837	5,127	183	279	462	SB/WB	0.096	0.60	279	C	460	0.61
118	OC	Funie Steed Rd	Westside Blvd	Formosa Gardens Blvd	400	800	1,140	1,440	2021	9/16	38	12,526	13,904	308	661	969	SB/WB	0.077	0.68	661	C	1,140	0.58
112	OC	Funie Steed Rd	Formosa Gardens Blvd	Old Lake Wilson Rd	330	530	570	570	2021	3/24	13	7,029	6,959	231	226	457	NB/EB	0.065	0.51	231	B	570	0.41
126	OC	Goodman Rd	Westside Blvd	Monaco Blvd	330	530	570	570	2021	4/1	14	4,042	4,042	132	332	464	SB/WB	0.115	0.72	332	C	570	0.58
1261	OC	Goodman Rd	Monaco Blvd	Happy Trl	460	740	790	790	2021	10/21	43	4,296	4,468	124	322	446	SB/WB	0.104	0.72	322	B	790	0.41
232	OC	Ham Brown Rd	Reaves Rd	Cattle Drive Ln	400	800	1,140	1,440	2021	4/7	15	16,242	16,242	789	774	1,563	NB/EB	0.096	0.50	789	C	1,140	0.69
203	OC	Ham Brown Rd	Cattle Drive Ln	US 17/92	400	800	1,140	1,440	2021	9/22	39	15,621	17,027	439	803	1,242	SB/WB	0.080	0.65	803	D	1,140	0.70
540	OC	Hickory Tree Rd	US 192 (West)	Nolte Rd	480	770	830	830	2021	9/29	40	14,780	15,962	393	552	945	SB/WB	0.064	0.58	552	C	830	0.67
548	OC	Hickory Tree Rd	Nolte Rd	Deer Run Rd	400	800	1,140	1,440	2021	10/6	41	3,991	4,230	186	242	428	SB/WB	0.107	0.57	242	B	1,140	0.21
531	OC	Hickory Tree Rd	Deer Run Rd	US 192 (East)	420	800	1,120	1,420	2021	10/6	41	3,019	3,200	121	162	283	SB/WB	0.094	0.57	162	B	800	0.20
23	OC	Hoagland Blvd	US 17/92	US 192	1,400	1,700	1,760	1,760	2021	5/5	19	17,243	17,588	653	883	1,536	SB/WB	0.089	0.57	883	B	1,760	0.50
302	OC	Jack Calhoun Dr	N Hoagland Blvd	S Hoagland Blvd	1,330	1,620	1,680	1,680	2021	9/23	39	4,117	4,488	174	173	347	NB/EB	0.084	0.50	174	B	1,680	0.10
152	OC	International Drive South	US 192	Orange County Line	2,160	2,570	2,650	2,650	2021	10/14	42	16,198	16,846	736	481	1,217	NB/EB	0.075	0.60	736	B	2,650	0.28
160111	FDOT*	Interstate 4	Osceola Polk Line Rd (CR 532)	SR 429	3,300	4,580	5,580	6,200	2019	N/A	N/A	N/A	134,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5,580	NA
920321	FDOT*	Interstate 4	SR 429	World Dr	3,300	4,580	5,580	6,200	2019	N/A	N/A	N/A	125,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5,580	NA
920316	FDOT*	Interstate 4	World Dr	US 192	3,300	4,580	5,580	6,200	2019	N/A	N/A	N/A	92,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5,580	NA
750668	FDOT*	Interstate 4	US 192	Orange County Line	3,300	4,580	5,580	6,200	2019	N/A	N/A	N/A	133,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5,580	NA
553	OC	Jack Brack Rd	Narcoossee Rd (CR 15)	Zuni Rd	420	680	720	720	2021	9/30	40	6,680	7,214	274	283	557	SB/WB	0.083	0.51	283	B	680	0.42
5531	OC	Jack Brack Rd	Zuni Rd	Absher Rd	370	590	630	630	2021	9/30	40	1,136	1,227	38	81	119	SB/WB	0.105	0.68	81	B	630	0.13
318	OC	John Young Pkwy	US 192	Columbia Ave	2,160	2,570	2,650	2,650	2021	9/23	39	44,213	48,192	1557	1427	2,984	NB/EB	0.067	0.52	1,557	B	2,650	0.59
317	OC	John Young Pkwy	Columbia Ave	Carroll St	2,160	2,570	2,650	2,650	2021	9/23	39	48,946	53,351	1659	1802	3,461	SB/WB	0.071	0.52	1,802	B	2,650	0.68
316	OC	John Young Pkwy	Carroll St	Orange County Line	2,160	2,570	2,650	2,650	2021	3/2	10	51,656	51,139	1801	1968	3,769	SB/WB	0.073	0.52	1,968	B	2,650	0.74
554	OC	Jones Rd	Narcoossee Rd	Gerry Ct	330	530	570	570	2021	3/9	11	3,632	3,559	128	156	284	SB/WB	0.078	0.55	156	B	570	0.27
405	OC	Kings Hwy	Pine Island Rd	Neptune Rd	400	800	1,140	1,440	2021	9/29	40	4,488	4,847	243	141	384	NB/EB	0.086	0.63	243	B	1,140	0.21
505	OC	Kissimmee Park Rd	Old Canoe Creek Rd	Lake Tohopekaliga	420	800	1,120	1,420	2021	3/9	11	2,499	2,449	103	109	212	SB/WB	0.085	0.51	109	B	800	0.14
226	OC	Koa St	Rhododendrom Ave	Marigold Ave	460	740	790	790	2021	9/16	38	12,603	13,989	542	502	1,044	NB/EB	0.083	0.52	542	C	790	0.69
227	OC	Koa St	Marigold Ave	Doverplum Ave	370	590	630	630	2021	4/1	14	16,672	16,672	567	623	1,190	SB/WB	0.071	0.52	623	D	630	0.99
416	OC	Lakeshore Blvd	Fortune Rd	Partin Settlement Rd	400	800	1,140	1,440	2021	9/29	40	12,999	14,039	444	583	1,027	SB/WB	0.079	0.57	583	C	1,140	0.51
417	OC	Lakeshore Blvd	Partin Settlement Rd	Brown Chapel Rd	400	800	1,140	1,440	2021	10/7	41	16,156	17,125	693	940	1,633	SB/WB	0.101	0.58	940	D	1,140	0.82
516	OC	Lakeshore Blvd	Brown Chapel Rd	Mississippi Ave	400	800	1,140	1,440	2021	9/29	40	9,831	10,617	539	369	908	NB/EB	0.092	0.59	539	C	1,140	0.47
225	OC	Marigold Ave	Cypress Pkwy	Koa St	480	770	830	830	2021	3/31	14	24,255	24,255	725	1023	1,748	SB/WB	0.072	0.59	1,023	F	830	1.23
230	OC	Marigold Ave	Koa St	Poinciana Pkwy	460	740	790	790	2021	4/1	14	16,091	16,091	640	676	1,316	SB/WB	0.082	0.51	676	C	790	0.86
121	OC	Masters Blvd/Goodman Rd	Champions Gate Blvd	Bella Citta Blvd	480	770	830	830	2021	10/7	41	11,215	11,888	351	636	987	SB/WB	0.088	0.64	636	C	830	0.77
335	OC	Michigan Ave (CR 531)	US 192-441	Donegan Ave	1,400	1,700	1,760	1,760	2021	9/23	39	28,535	31,103	1159	1075	2,234	NB/EB	0.078	0.52	1,159	B	1,760	0.66
334	OC	Michigan Ave (CR 531)	Donegan Ave	Carroll St	1,400	1,700	1,760	1,760	2021	3/3	10	32,874	32,545	1271	1325	2,596	SB/WB	0.079	0.51	1,325	B	1,760	0.75
333	OC	Michigan Ave (CR 531)	Carroll St	Osceola Pkwy	0	1,200	1,590	1,680	2021	3/3	10	32,120	31,799	1312	1206	2,518	NB/EB	0.078	0.52	1,312	D	1,590	0.83
556	OC	Michigan Ave (St Cloud)	Lakeshore Blvd	US 192-441	270	430	460	460	2021	9/29	40	2,784	3,007	127	138	265	SB/WB	0.095	0.52	138	B	460	0.30
518	OC	Michigan Ave (St Cloud)	US 192	Nolte Rd	400	800	1,140	1,440	2021	10/7	41	5,662	6,002	220	326	546	SB/WB	0.096	0.60	326	B	1,140	0.29
534	OC	Michigan Ave (St Cloud)	Nolte Rd	Creek Woods Dr	400	800	1,140	1,440	2021	10/6	41	2,345	2,486	107	125	232	SB/WB	0.099	0.54	125	B	1,140	0.11
551	OC	Narcoossee Rd (CR 15)	Orange County Line	Jones Rd	1,400	1,700	1,760	1,760	2021	4/1	14	37,977	37,977	1275	1766	3,041	SB/WB	0.080	0.58	1,766	F	1,760	1.00
539	OC	Narcoossee Rd (CR 15)	Jones Rd	Rummel Rd	1,770	2,560	3,320	3,760	2021	3/9	11	36,408	35,680	1287	1710	2,997	SB/WB	0.082	0.57	1,710	B	3,320	0.52
541	OC	Narcoossee Rd (CR 15)	Rummel Rd	10th St	1,400	1,700	1,760	1,760	2021	3/9	11	33,080	32,418	1121	1651	2,772	SB/WB	0.084	0.60	1,651	C	1,760	0.94
589	OC	Narcoossee Rd (CR 15)	10th St	US 192-441	1,400	1,700	1,760	1,760	2021	4/7	15	34,086	34,086	1218	1454	2,672	SB/WB	0.078	0.54	1,454	C	1,760	0.83
364	OC	Neptune Rd	Broadway Ave/Main St	Lakeshore Blvd	1,400	1,700	1,760	1,760	2021	3/2	10	22,501	22,276	922	700	1,622	NB/EB	0.072	0.57	922	B	1,760	0.52

Osceola County - Few counts were collected during Mar/Apr 2021 and few counts were collected during Sep/Oct 2021

2021 Roadway Network Capacity Report

(Updated 12/15/2021)

Count Station #	Count Source	ROADWAY	FROM	TO	Adjusted Service Volumes				Latest Count Year	Count Date (mm/dd)	Week	ADT	AADT	PM Peak Hour									
					B	C	D	E						NB/EB	SB/WB	Pk Hr Total	Pk Dir	K-Factor	D-Factor	Pk Hr Pk Dir Vol	LOS	Capacity	V/C
363	OC	Neptune Rd	Lakeshore Blvd	Kings Hwy	1,400	1,700	1,760	1,760	2021	4/22	17	27,963	28,243	1367	912	2,279	NB/EB	0.082	0.60	1,367	B	1,760	0.78
401	OC	Neptune Rd	Kings Hwy	Partin Settlement Rd	1,400	1,700	1,760	1,760	2021	4/22	17	28,705	28,992	1372	1034	2,406	NB/EB	0.084	0.57	1,372	B	1,760	0.78
501	OC	Neptune Rd	Partin Settlement Rd	Old Canoe Creek Rd	460	740	790	790	2021	3/9	11	23,734	23,259	930	1059	1,989	SB/WB	0.084	0.53	1,059	F	790	1.34
502	OC	Neptune Rd	Old Canoe Creek Rd	US 192-441	0	500	730	770	2021	9/29	40	11,235	12,134	481	457	938	NB/EB	0.083	0.51	481	C	730	0.66
530	OC	Nolte Rd	Old Canoe Creek Rd	Canoe Creek Road (CR 523)	1,400	1,700	1,760	1,760	2021	10/14	42	18,652	19,398	713	927	1,640	SB/WB	0.088	0.57	927	B	1,760	0.53
NA3	OC	Nolte Rd	Canoe Creek Road (CR 523)	Michigan Ave	1,400	1,700	1,760	1,760	2021	10/6	41	13,879	14,712	553	600	1,153	SB/WB	0.083	0.52	600	B	1,760	0.34
NA4	OC	Nolte Rd	Michigan Ave	Hickory Tree Rd	1,400	1,700	1,760	1,760	2021	10/6	41	11,729	12,433	549	714	1,263	SB/WB	0.108	0.57	714	B	1,760	0.41
542	OC	Nova Rd (CR 532)	US192-441	Eden Dr	400	800	1,140	1,440	2021	9/30	40	4,713	5,090	223	226	449	SB/WB	0.095	0.50	226	B	1,140	0.20
1003	OC	Nova Rd (CR 532)	Eden Dr	Orange County Line	240	430	740	1,480	2021	9/30	40	2,460	2,657	83	164	247	SB/WB	0.100	0.66	164	B	430	0.38
471	OC	Old Boggy Creek Rd	Denn John Ln	Fortune Rd	460	740	790	790	2021	9/23	39	7,663	8,353	549	274	823	NB/EB	0.107	0.67	549	C	790	0.69
503	OC	Old Canoe Creek Rd	US 192-441	Neptune Rd	1,400	1,700	1,760	1,760	2021	3/9	11	21,298	20,872	712	1018	1,730	SB/WB	0.081	0.59	1,018	B	1,760	0.58
504	OC	Old Canoe Creek Rd	Neptune Rd	Kissimmee Park Rd	0	1,200	1,590	1,680	2021	3/9	11	27,111	26,569	930	1243	2,173	SB/WB	0.080	0.57	1,243	D	1,590	0.78
506	OC	Old Canoe Creek Rd	Kissimmee Park Rd	Canoe Creek Road (CR 523)	460	740	790	790	2021	3/9	11	23,740	23,265	725	1230	1,955	SB/WB	0.082	0.63	1,230	F	790	1.56
357	OC	Old Dixie Hwy	Donegan Ave	Osceola Pkwy	460	740	790	790	2021	3/3	10	6,991	6,921	305	346	651	SB/WB	0.093	0.53	346	B	790	0.44
529	OC	Old Hickory Tree Rd	Nolte Rd	US 192-441	460	740	790	790	2021	10/7	41	5,882	6,235	247	389	636	SB/WB	0.108	0.61	389	B	790	0.49
103	OC	Old Lake Wilson Rd (CR 545)	Osceola Polk Line Rd (CR 532)	Sinclair Rd	460	740	790	790	2021	3/23	13	17,878	17,699	713	1053	1,766	SB/WB	0.099	0.60	1,053	F	790	1.33
105	OC	Old Lake Wilson Rd (CR 545)	Sinclair Rd	Westgate Blvd	1,400	1,700	1,760	1,760	2021	3/23	13	20,028	19,828	741	928	1,669	SB/WB	0.083	0.56	928	B	1,760	0.53
111	OC	Old Lake Wilson Rd (CR 545)	Westgate Blvd	US 192	2,160	2,570	2,650	2,650	2021	5/5	19	28,725	29,300	871	1227	2,098	SB/WB	0.073	0.58	1,227	B	2,650	0.46
601	OC	Old Melbourne Hwy	US 192	Bronco Dr	420	800	1,120	1,420	2021	10/14	42	3,159	3,285	176	125	301	NB/EB	0.095	0.58	176	B	800	0.22
208	OC	Old Tampa Hwy	US 17/92	Poinciana Blvd	400	800	1,140	1,440	2021	4/22	17	6,872	6,941	225	401	626	SB/WB	0.091	0.64	401	C	1,140	0.35
233	OC	Old Tampa Hwy	Poinciana Blvd	Broad St	400	800	1,140	1,440	2021	4/6	15	13,681	13,681	520	573	1,093	SB/WB	0.080	0.52	573	C	1,140	0.50
207	OC	Old Tampa Hwy	Broad St	Jack Calhoun Dr	400	800	1,140	1,440	2021	4/1	14	10,685	10,685	358	629	987	SB/WB	0.092	0.64	629	C	1,140	0.55
176	OC	Old Vineland Rd	US 192	Princess Way	460	740	790	790	2021	4/1	14	4,455	4,455	170	176	346	SB/WB	0.078	0.51	176	B	790	0.22
324	OC	Orange Ave (CR 527)	Osceola Pkwy	Orange County Line	1,330	1,620	1,680	1,680	2021	3/2	10	23,573	23,337	789	1198	1,987	SB/WB	0.084	0.60	1,198	B	1,680	0.71
538	OC	Orange Ave (St Cloud)	US 192-441 (13th St)	Rummel Rd	270	430	460	460	2021	3/9	11	1,987	1,947	104	69	173	NB/EB	0.087	0.60	104	B	460	0.23
178	OC	Oren Brown Rd	Poinciana Blvd	US 192	460	740	790	790	2021	9/16	38	10,218	11,342	488	332	820	NB/EB	0.080	0.60	488	C	790	0.62
181	OC	Osceola Pkwy	I-4	SR 417	0	1,200	1,590	1,680	2021	10/7	41	18,858	19,989	979	761	1,740	NB/EB	0.092	0.56	979	C	1,590	0.62
180	OC	Osceola Pkwy	SR 417	Vineland Rd (SR 535)	1,400	1,700	1,760	1,760	2021	10/7	41	22,502	23,852	1137	863	2,000	NB/EB	0.089	0.57	1,137	B	1,760	0.65
183.2	OC	Osceola Pkwy	Vineland Rd (SR 535)	Sunrise City Dr/Storey Lake Blvd	1,400	1,700	1,760	1,760	2021	9/29	40	27,120	29,290	1489	909	2,398	NB/EB	0.088	0.62	1,489	C	1,760	0.85
182	OC	Osceola Pkwy	Sunrise City Dr	Dyer Blvd	1,400	1,700	1,760	1,760	2021	10/21	43	27,011	28,091	1326	1071	2,397	NB/EB	0.089	0.55	1,326	B	1,760	0.75
325	OC	Osceola Pkwy	Dyer Blvd	John Young Pkwy	0	1,200	1,590	1,680	2021	4/7	15	31,158	31,158	1071	1384	2,455	SB/WB	0.079	0.56	1,384	D	1,590	0.87
321	OC	Osceola Pkwy	John Young Pkwy	US 17-92-441 (O.B.T.)	0	1,200	1,590	1,680	2021	3/2	10	37,794	37,416	1318	1496	2,814	SB/WB	0.074	0.53	1,496	D	1,590	0.94
323	OC	Osceola Pkwy	US 17-92-441 (O.B.T.)	Florida's Turnpike	0	1,870	2,410	2,550	2021	3/2	10	48,138	47,657	1800	1797	3,597	NB/EB	0.075	0.50	1,800	C	2,410	0.75
448	OC	Osceola Pkwy	Florida's Turnpike	Buenaventura Blvd	0	1,870	2,410	2,550	2021	3/2	10	36,359	35,995	1652	1098	2,750	NB/EB	0.076	0.60	1,652	C	2,410	0.69
450	OC	Osceola Pkwy	Buenaventura Blvd	Simpson Rd	1,400	1,700	1,760	1,760	2021	3/2	10	25,326	25,073	1214	745	1,959	NB/EB	0.077	0.62	1,214	B	1,760	0.69
101	OC	Osceola Polk Line Rd (CR 532)	I-4	Old Lake Wilson Rd	1,400	1,700	1,760	1,760	2021	3/23	13	33,883	33,544	1033	1141	2,174	SB/WB	0.064	0.52	1,141	B	1,760	0.65
102	OC	Osceola Polk Line Rd (CR 532)	Old Lake Wilson Rd	US 17/92	460	740	790	790	2021	3/23	13	16,152	15,990	524	594	1,118	SB/WB	0.069	0.53	594	C	790	0.75
403	OC	Partin Settlement Rd	Neptune Rd	US 192-441	460	740	790	790	2021	3/22	13	8,999	8,909	443	428	871	NB/EB	0.097	0.51	443	B	790	0.56
418	OC	Partin Settlement Rd	US 192-441	Lakeshore Blvd	400	800	1,140	1,440	2021	9/29	40	14,579	15,745	801	487	1,288	NB/EB	0.088	0.62	801	D	1,140	0.70
543	OC	Pine Grove Rd	US 192-441	Nova Rd (CR 532)	400	800	1,140	1,440	2021	10/7	41	3,698	3,920	209	110	319	NB/EB	0.086	0.66	209	B	1,140	0.18
507	OC	Pine Tree Rd	Canoe Creek Rd	Hickory Tree Rd	400	800	1,140	1,440	2021	10/6	41	4,846	5,137	214	240	454	SB/WB	0.094	0.53	240	B	1,140	0.21
221	OC	Pleasant Hill Rd	Cypress Pkwy	Poinciana Blvd	0	1,870	2,410	2,550	2021	4/7	15	72,231	72,231	2136	3032	5,168	SB/WB	0.072	0.59	3,032	F	2,410	1.26
212	OC	Pleasant Hill Rd	Poinciana Blvd	Grasmere View Pkwy	1,400	1,700	1,760	1,760	2021	4/7	15	44,991	44,991	1685	1323	3,008	NB/EB	0.067	0.56	1,685	C	1,760	0.96
205	OC	Pleasant Hill Rd	Grasmere View Pkwy	US 17/92	1,400	1,700	1,760	1,760	2021	4/22	17	52,897	53,426	1487	1986	3,473	SB/WB	0.066	0.57	1,986	F	1,760	1.13
213	OC	Poinciana Blvd	Pleasant Hill Rd	Crescent Lakes Way	400	800	1,140	1,440	2021	9/16	38	23,096	25,637	701	990	1,691	SB/WB	0.073	0.59	990	D	1,140	0.87
202	OC	Poinciana Blvd	Crescent Lakes Way	US 17/92	1,400	1,700	1,760	1,760	2021	10/21	43	34,041	35,403	1489	918	2,407	NB/EB	0.071	0.62	1,489	C	1,760	0.85
201	OC	Poinciana Blvd	US 17/92	One Mile North of CSX RR	1,770	2,560	3,320	3,760	2021	10/14	42	37,050	38,532	1316	1365	2,681	SB/WB	0.072	0.51	1,365	B	3,320	0.41
161	OC	Poinciana Blvd	One Mile North of CSX RR	Oren Brown Rd	1,770	2,560	3,320	3,760	2021	9/22	39	43,243	47,135	1007	2240	3,247	SB/WB	0.075	0.69	2,240	C	3,320	0.67
160	OC	Poinciana Blvd	Oren Brown Rd	US 192 (Bronson Hwy)	1,400	1,700	1,760	1,760	2021	10/14	42	40,011	41,611	971	2203	3,174	SB/WB	0.079	0.69	2,203	F	1,760	1.25
159	OC	Poinciana Blvd	US 192 (Bronson Hwy)	Vineland Rd (SR 535)	1,400	1,700	1,760	1,760	2021	10/7	41	26,387	27,970	783	776	1,559	NB/EB	0.059	0.50	783	B	1,760	0.44
158	OC	Polynesian Isle Blvd	US 192	Vineland Rd (SR 535)	1,330	1,620	1,680	1,680	2021	4/7	15	11,301	11,301	317	540	857	SB/WB	0.076	0.63	540	B	1,680	0.32
171	OC	Princess Way/Seven Dwarfs Ln	US 192 (Bronson Hwy)	Old Vineland Rd	460	740	790	790	2021	10/14	42	6,081	6,324	190	276	466	SB/WB	0.077	0.59	276	B	790	0.35
211	OC	Reaves Rd	Poinciana Blvd	Pleasant Hill Rd	370	590	630	630	2021	9/16	38	7,009	7,780	329	308	637	NB/EB	0.091	0.52	329	B	630	0.52
455	OC	Royal Palm Dr	Buenaventura Blvd	Simpson Rd	370	590	630	630	2021	3/9	11	4,130	4,047	181	159	340	NB/EB	0.082	0.53	181	B	630	0.29
517	OC	Rummel Rd	Mississippi Ave	Narcoosee Rd (CR 15)	460	740	790	790	2021	9/30	40	6,589	7,116	298	307	605	SB/WB	0.092	0.51	307	B	790	0.39
107	OC	Sand Hill Rd	Formosa Gardens Blvd	Old Lake Wilson Rd (CR 545)	460	740	790	790	2021	10/21	43	2,688	2,796	74	193	267	SB/WB	0.099	0.72	193	B	790	0.24
404	OC	Shady Ln	Partin Settlement Rd	US 192-441 (Bronson Hwy)	480	770	830	830	2021	9/29	40	11,956	12,912	587	391	978	NB/EB	0.082	0.60	587	C	830	0.71
113	OC	Sherberth Rd	US 192	Orange County Line	460	740	790	790	2021	4/7	15	13,439	13,439	289	779	1,068	SB/WB	0.079	0.73	779	D	790	0.99
173	OC	Siesta Lago Dr	Poinciana Blvd	US 192	460	740	790	790	2021	9/16	38	5,823	6,464	224	228	452	SB/WB	0.078	0.50	228	B	790	0.29
412	OC	Simpson Rd	US 192-441	Fortune Rd	460	740	790	790	2021	4/22	17	19,265	19,458	875	547	1,422	NB/EB	0.074	0.62	875	F	790	1.11
472	OC	Simpson Rd	Fortune Rd	Buenaventura Blvd	1,400	1,700	1,760	1,760	2021	4/22	17	40,064	40,465	1627	1267	2,894	NB/EB	0.072	0.56	1,627	C	1,760	0.92
473	OC	Simpson Rd	Buenaventura Blvd	Osceola Pkwy	480	770	830	830	2021	3/9	11	24,926	24,427	962	911	1,873	NB/EB	0.075	0.51	962	F	830	1.16
479	OC	Simpson Rd	Osceola Pkwy	Boggy Creek Rd (East)	480	770	830	830	2021	4/22	17	31,290	31,603	1095	1043	2,138	NB/EB	0.068	0.51	1,095	F	830	1.32
106	OC	Sinclair Rd	SR 429 (Western Beltway)	Old Lake Wilson Rd	0	1,200	1,590	1,680	2021	3/24	13	11,761	11,643	462	494	956	SB/WB	0.081	0.52	494	C	1,590	0.31
214	OC	Southport Rd	Pleasant Hill Rd	Southport Rd	420	800	1,120	1,420	2021	9/16	38	610	677	35	37	72	SB/WB	0.118	0.51	37	B	800	0.05
972610	FDOT	SR 417	I-4	Celebration Ave	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	26,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
972620	FDOT	SR 417	Celebration Ave	Osceola Pkwy	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	33,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
972630	FDOT	SR 417	Osceola Pkwy	Orange County Line	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	38,900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
972800	FDOT	SR 429 (Western Beltway)	I-4	Sinclair Rd	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	24,700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
972810	FDOT	SR 429 (Western Beltway)	Sinclair Rd	US 192/Orange County Line	2,200	3,020	3,720	4,020	2020	N/A	N/A	N/A	24,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,720	NA
920318	FDOT	SR 535 (Vineland Rd)	US 192	Poinciana Blvd	0	1,330	1,770	1,870	2020	N/A	N/A	N/A	32,389	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,770	NA
923	OC	SR 535 (Vineland Rd)	Poinciana Blvd	Orange County Line	0	1,330	1,770	1,870	2021	3/23	13	50,197	49,695	1472	1784	3,256	SB/WB	0.065	0.55	1,784	E	1,770	1.01
920058	FDOT*	SR 60	Indian River County Line	Polk County Line	240	430	740	1,480	2019	N/A	N/A	N/A	8,600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	430	NA
512	OC	Tenth (10th) St	US 192-441 (13th St)	Michigan Ave	270	430	460	460	2021	3/9	11	5,640	5,527	233	295	528	SB/WB	0.094	0.56	295	C	460	0.64
515	OC	Tenth (10th) St	Michigan Ave	Narcoossee Rd (CR 15)	330	530	570	570	2021	3/9	11	5,409	5,301	232	313	545	SB/WB	0.101	0.57	313	B	570	0.55
305	OC	Thacker Ave	Clay St	MLK Jr Blvd	0	530	770	810	2021	4/22	17	9,773	9,871	309	460	769	SB/WB	0.079	0.60	460	C	770	0.60
307	OC	Thacker Ave	Osceola Pkwy	John Young Pkwy	1,400	1,700	1,760	1,760	2021	3/2	10	9,839	9,741	335	609	944	SB/WB	0.096	0.65	609	B	1,760	0.35
911	OC	US 17/92	Pleasant Hill Rd	Portage St	1,560	1,890	1,960	1,960	2021	4/7	15	65,389	65,389	2240	2298	4,538	SB/WB	0.069	0.51	2,298	F	1,960	1.17
920003	FDOT	US 17/92	Portage St	Emmett St	1,560	1,890	1,960	1,960	2020	N/A	N/A	N/A	49,023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,960	NA
319	OC	US 17/92	Emmet St	US 192-441	2,400	2,860	2,940	2,940	2021	9/23	39	53,602	58,426	1827	1843	3,670	SB/WB	0.068	0.50	1,843	B	2,940	0.63
920314	FDOT*	US 17/92 (S Orange Blossom Tr)	Polk County Line	Osceola Polk Line Rd (CR 532)	510	820	880	880	2019	N/A	N/A	N/A	16,400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	880	NA
910	OC	US 17/92 (S Orange Blossom Tr)	Osceola Polk Line Rd (CR 532)	Old Tampa Hwy	510	820	880	880	2021	3/23	13	30,941	30,632	1024	1186	2,210	SB/WB	0.071	0.54	1,186	F	880	1.35
914	OC	US 17/92 (S Orange Blossom Tr)	Old Tampa Hwy	Poinciana Blvd	510	820	880	880	2021	4/6	15	27,331	27,331	876	1085	1,961	SB/WB	0.072	0.55	1,085	F	880	1.23
922	OC	US 17/92 (S Orange Blossom Tr)	Poinciana Blvd	Ham Brown Rd	510	820	880	880	2021	4/1	14	17,438	17,438	881	931	1,812	SB/WB	0.104	0.51	931	F	880	1.06
921	OC	US 17/92 (S Orange Blossom Tr)	Ham Brown Rd	Pleasant Hill Rd	1,560	1,890	1,960	1,960	2021	3/9	11	31,971	31,332	1049	1071	2,120	SB/WB	0.066	0.51	1,071	B	1,960	0.55
750020	FDOT*	US 192	Lake County Line	SR 429 (Western Beltway)	0	2,080	2,680	2,830	2019	N/A	N/A	N/A	52,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,680	NA
901	OC	US 192	SR 429	World Dr	0	2,080	2,680	2,830	2021	9/16	38	73,680	81,785	1945	3309	5,254	SB/WB	0.071	0.63	3,309	F	2,680	1.23
920311	FDOT*	US 192	World Dr	I-4	3,300	4,580	5,580	6,200	2019	N/A	N/A	N/A	65,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5,580	NA
920300	FDOT*	US 192	I-4	Parkway Blvd/Celebration Pl	0	2,080	2,680	2,830	2019	N/A	N/A	N/A	61,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,680	NA
902	OC	US 192	Parkway Blvd/Celebration Pl	Polynesian Isle Blvd	0	2,080	2,680	2,830	2021	10/7	41	51,082	54,147	2095	1585	3,680	NB/EB	0.072	0.57	2,095	D	2,680	0.78
920320	FDOT	US 192	Polynesian Isle Blvd	Vineland Rd (SR 535)	2,400	2,860	2,940	2,940	2020	N/A	N/A	N/A	37,336	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,940	NA

Osceola County - Few counts were collected during Mar/Apr 2021 and few counts were collected during Sep/Oct 2021

2021 Roadway Network Capacity Report

(Updated 12/15/2021)

Count Station #	Count Source	ROADWAY	FROM	TO	Adjusted Service Volumes				Latest Count Year	Count Date (mm/dd)	Week	ADT	AADT	PM Peak Hour									
					B	C	D	E						NB/EB	SB/WB	Pk Hr Total	Pk Dir	K-Factor	D-Factor	Pk Hr Pk Dir Vol	LOS	Capacity	V/C
904	OC	US 192	Vineland Rd (SR 535)	Siesta Lago Dr	2,400	2,860	2,940	2,940	2021	10/14	42	55,728	57,957	1948	2019	3,967	SB/WB	0.071	0.51	2,019	B	2,940	0.69
913	OC	US 192	Siesta Lago Dr	Hoagland Blvd	2,400	2,860	2,940	2,940	2021	4/22	17	67,034	67,704	2163	2301	4,464	SB/WB	0.067	0.52	2,301	B	2,940	0.78
905	OC	US 192	Hoagland Blvd	Thacker Ave	0	2,080	2,680	2,830	2021	3/2	10	42,919	42,490	1427	1604	3,031	SB/WB	0.071	0.53	1,604	C	2,680	0.60
925016	FDOT	US 192	Thacker Ave	Main St/US 441-17/92	0	2,080	2,680	2,830	2020	N/A	N/A	N/A	43,076	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,680	NA
921008	FDOT	US 192	US 441/SR 15/Holopaw Rd	Brevard County Line	1,410	2,210	2,800	3,180	2020	N/A	N/A	N/A	10,429	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,210	NA
925017	FDOT*	US 192-441	Main St/US 441-17/92	Michigan Ave/Oak St	2,400	2,860	2,940	2,940	2019	N/A	N/A	N/A	40,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,940	NA
906	OC	US 192-441	Michigan Ave/Oak St	Fortune Rd	2,400	2,860	2,940	2,940	2021	3/2	10	60,961	60,351	2441	1955	4,396	NB/EB	0.072	0.56	2,441	C	2,940	0.83
907	OC	US 192-441	Fortune Rd	Shady Ln/Fla Turnpike	2,400	2,860	2,940	2,940	2021	3/9	11	40,927	40,108	1528	1819	3,347	SB/WB	0.082	0.54	1,819	B	2,940	0.62
908	OC	US 192-441	Shady Ln/Fla Turnpike	Partin Settlement Rd	0	2,080	2,680	2,830	2021	3/9	11	62,637	61,384	2052	2390	4,442	SB/WB	0.071	0.54	2,390	D	2,680	0.89
925	OC	US 192-441	Partin Settlement Rd	Commerce Center Dr	2,400	2,860	2,940	2,940	2021	4/6	15	53,769	53,769	1590	2409	3,999	SB/WB	0.074	0.60	2,409	C	2,940	0.82
920105	FDOT	US 192-441	Commerce Center Dr	Columbia Ave/Budinger Ave	0	2,080	2,680	2,830	2020	N/A	N/A	N/A	45,110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,680	NA
925021	FDOT*	US 192-441	Columbia Ave/Budinger Ave	Mississippi Ave	0	2,080	2,680	2,830	2019	N/A	N/A	N/A	40,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,680	NA
927	OC	US 192-441	Mississippi Ave	Narcoossee Rd (CR 15)/Hickory Tree Rd	0	2,080	2,680	2,830	2021	4/1	14	42,032	42,032	1582	1550	3,132	NB/EB	0.075	0.51	1,582	C	2,680	0.59
920255	FDOT*	US 192-441	Narcoossee Rd (CR 15)/Hickory Tree Rd	Nova Rd (CR 532)	2,660	3,840	4,980	5,650	2019	N/A	N/A	N/A	30,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,980	NA
909	OC	US 192-441	Nova Rd (CR 532)	Old Melbourne Hwy	1,770	2,560	3,320	3,760	2021	3/9	11	25,782	25,266	1041	955	1,996	NB/EB	0.077	0.52	1,041	B	3,320	0.31
920304	FDOT*	US 192-441	Old Melbourne Hwy	US 441/SR 15/Holopaw Rd	1,670	2,420	3,130	3,550	2019	N/A	N/A	N/A	16,800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,420	NA
920044	FDOT*	US 441/SR 15/Kenansville Rd	SR 60	Canoe Creek Rd/CR 523	240	430	740	1,480	2019	N/A	N/A	N/A	1,600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	430	NA
921006	FDOT*	US 441/SR 15/Kenansville Rd/Holopaw Rd	Canoe Creek Rd/CR 523	US 192	240	430	740	1,480	2019	N/A	N/A	N/A	2,700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	430	NA
920100	FDOT*	US 441-17/92 (N Orange Blossom Tr)	Donegan Ave	Carroll St	1,560	1,890	1,960	1,960	2019	N/A	N/A	N/A	37,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,960	NA
912	OC	US 441-17/92 (N Orange Blossom Tr)	Carroll St	Osceola Pkwy	1,560	1,890	1,960	1,960	2021	3/3	10	41,186	40,774	1444	1730	3,174	SB/WB	0.077	0.55	1,730	C	1,960	0.88
916	OC	US 441-17/92 (N Orange Blossom Tr)	Osceola Pkwy	Orange County Line	2,400	2,860	2,940	2,940	2021	3/2	10	35,831	35,473	1339	1746	3,085	SB/WB	0.086	0.57	1,746	B	2,940	0.59
1004	OC	Vermont Ave	US 192-441	Lakeshore Blvd	270	430	460	460	2021	9/29	40	2,087	2,254	106	78	184	NB/EB	0.088	0.58	106	B	460	0.23
NA7	OC	Westside Blvd	Armadillo Ave	Goodman Road	1,400	1,700	1,760	1,760	2021	10/28	44	4,357	4,488	157	174	331	SB/WB	0.076	0.53	174	B	1,760	0.10
NA6	OC	Westside Blvd	Florence Villa Grove Rd	Funie Steed Rd	1,400	1,700	1,760	1,760	2021	9/16	38	16,426	18,233	727	890	1,617	SB/WB	0.098	0.55	890	B	1,760	0.51
NA5	OC	Westside Blvd	Funie Steed Rd	US 192	1,400	1,700	1,760	1,760	2021	10/21	43	13,297	13,829	491	739	1,230	SB/WB	0.093	0.60	739	B	1,760	0.42
124	OC	World Dr	I-4	US 192	1,400	1,700	1,760	1,760	2021	10/21	43	17,255	17,945	593	900	1,493	SB/WB	0.087	0.60	900	B	1,760	0.51
114	OC	World Dr	US 192	Osceola Pkwy	3,300	4,580	5,580	6,200	2021	9/16	38	24,762	27,486	639	1134	1,773	SB/WB	0.072	0.64	1,134	B	5,580	0.20
1005	OC	Zuni Rd	Jack Brack Rd	Cyrils Dr	460	740	790	790	2021	9/30	40	2,890	3,121	78	314	392	SB/WB	0.136	0.80	314	B	790	0.40
2022	OC	Deer Park Rd	US 192	Gator Branch Rd	240	430	740	1,480	2021	4/1	14	772	772	33	42	75	SB/WB	0.097	0.56	42	B	430	0.10
2021	OC	Deer Park Rd	Gator Branch Rd	Nova Rd (CR 532)	240	430	740	1,480	2021	4/1	14	558	558	34	25	59	NB/EB	0.106	0.58	34	B	430	0.08
2023	OC	Laurel Ave	KOA St	Marigold Ave	400	800	1,140	1,440	2021	4/6	15	1,344	1,344	50	81	131	SB/WB	0.097	0.62	81	B	1,140	0.07
2024	OC	Broad St	US 17/92	Old Tampa Hwy	0	500	730	770	2021	4/6	15	6,343	6,343	156	361	517	SB/WB	0.082	0.70	361	C	730	0.49
2025	OC	Cross Prairie Pkwy	Neptune Rd	Partin Settlement Rd	0	1,140	1,510	1,600	2021	4/1	14	7,752	7,752	254	340	594	SB/WB	0.077	0.57	340	C	1,510	0.23
2026	OC	Westside Blvd	Polk County Line	Oasis Club Blvd./Olympic Club Blvd	0	500	730	770	2021	10/21	43	4,096	4,260	215	175	390	NB/EB	0.095	0.55	215	C	730	0.29

FDOT Stations - 2020 AADT obtained from 2020 FTO; 2021 AADT is determined by multiplying corresponding SF with 2021 ADT.

*2019 volumes were used for some FDOT stations due to the effect of COVID-19 on 2020 volumes.

APPENDIX F

Synchro Outputs

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	0	0	1	0	144	93	0
Future Vol, veh/h	0	0	1	0	144	93	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	1	4	0
Mvmt Flow	0	0	1	0	160	103	0

Major/Minor	Minor2		Major2		
Conflicting Flow All	80	82	-	-	0
Stage 1	80	82	-	-	-
Stage 2	0	0	-	-	-
Critical Hdwy	6.4	6.5	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	-	-
Pot Cap-1 Maneuver	927	812	-	-	-
Stage 1	948	831	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	927	0	-	-	-
Mov Cap-2 Maneuver	927	0	-	-	-
Stage 1	948	0	-	-	-
Stage 2	-	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	0	-	-
HCM Lane LOS	A	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	291	193	118	60	32
Future Vol, veh/h	59	291	193	118	60	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	1	3	4	2	6
Mvmt Flow	72	355	235	144	73	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	707	93	112	0	-	0
Stage 1	93	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Critical Hdwy	6.45	6.21	4.13	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.309	2.227	-	-	-
Pot Cap-1 Maneuver	397	967	1471	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	328	967	1471	-	-	-
Mov Cap-2 Maneuver	328	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	4.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1471	-	728	-	-
HCM Lane V/C Ratio	0.16	-	0.586	-	-
HCM Control Delay (s)	7.9	0	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	3.9	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	0	0	1	0	132	212	0
Future Vol, veh/h	0	0	1	0	132	212	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	5	5	0
Mvmt Flow	0	0	1	0	145	233	0

Major/Minor	Minor2		Major2		
Conflicting Flow All	73	75	-	-	0
Stage 1	73	75	-	-	-
Stage 2	0	0	-	-	-
Critical Hdwy	6.4	6.5	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	3.5	4	-	-	-
Pot Cap-1 Maneuver	936	819	-	-	-
Stage 1	955	836	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	936	0	-	-	-
Mov Cap-2 Maneuver	936	0	-	-	-
Stage 1	955	0	-	-	-
Stage 2	-	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	0	
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	0	0	-	-
HCM Lane LOS	A	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	273	210	92	340	114
Future Vol, veh/h	17	273	210	92	340	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	1	0	2	0	3
Mvmt Flow	19	303	233	102	378	127

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1010	442	505	0	-	0
Stage 1	442	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.46	6.21	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.309	2.2	-	-	-
Pot Cap-1 Maneuver	261	618	1070	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	201	618	1070	-	-	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	559	-	-	-	-	-

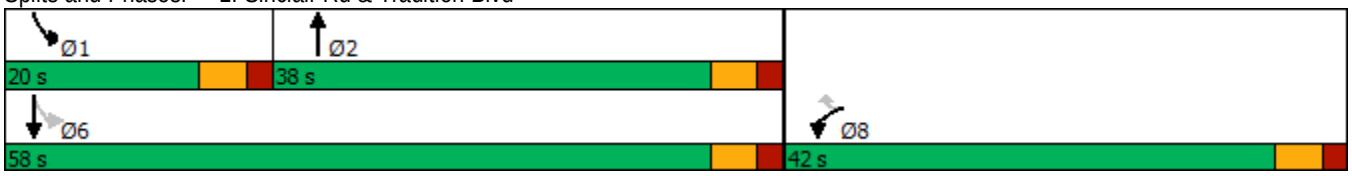
Approach	EB	NB	SB
HCM Control Delay, s	20.3	6.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1070	-	551	-	-
HCM Lane V/C Ratio	0.218	-	0.585	-	-
HCM Control Delay (s)	9.3	0	20.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.8	-	3.7	-	-

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	25	245	134	153	81
Future Volume (vph)	25	245	134	153	81
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0
Minimum Split (s)	23.5	23.5	23.5	10.5	23.5
Total Split (s)	42.0	42.0	38.0	20.0	58.0
Total Split (%)	42.0%	42.0%	38.0%	20.0%	58.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Max	None	Max

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 78.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Sinclair Rd & Tradition Blvd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	245	134	26	153	81
Future Volume (veh/h)	25	245	134	26	153	81
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1841	1870	1870	1841
Adj Flow Rate, veh/h	28	272	149	29	170	90
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	4	2	2	4
Cap, veh/h	360	321	1532	292	810	2307
Arrive On Green	0.20	0.20	0.52	0.52	0.07	0.66
Sat Flow, veh/h	1781	1585	3023	558	1781	3589
Grp Volume(v), veh/h	28	272	88	90	170	90
Grp Sat Flow(s),veh/h/ln	1781	1585	1749	1740	1781	1749
Q Serve(g_s), s	1.0	13.2	2.0	2.1	3.2	0.7
Cycle Q Clear(g_c), s	1.0	13.2	2.0	2.1	3.2	0.7
Prop In Lane	1.00	1.00		0.32	1.00	
Lane Grp Cap(c), veh/h	360	321	914	910	810	2307
V/C Ratio(X)	0.08	0.85	0.10	0.10	0.21	0.04
Avail Cap(c_a), veh/h	817	727	914	910	1014	2307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	30.6	9.5	9.6	6.6	4.7
Incr Delay (d2), s/veh	0.1	6.2	0.2	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	9.2	1.3	1.4	1.9	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.8	36.8	9.7	9.8	6.8	4.8
LnGrp LOS	C	D	A	A	A	A
Approach Vol, veh/h	300		178			260
Approach Delay, s/veh	35.8		9.8			6.1
Approach LOS	D		A			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	10.9	47.1			58.0	21.6
Change Period (Y+Rc), s	5.5	5.5			5.5	5.5
Max Green Setting (Gmax), s	14.5	32.5			52.5	36.5
Max Q Clear Time (g_c+I1), s	5.2	4.1			2.7	15.2
Green Ext Time (p_c), s	0.3	1.0			0.6	1.0

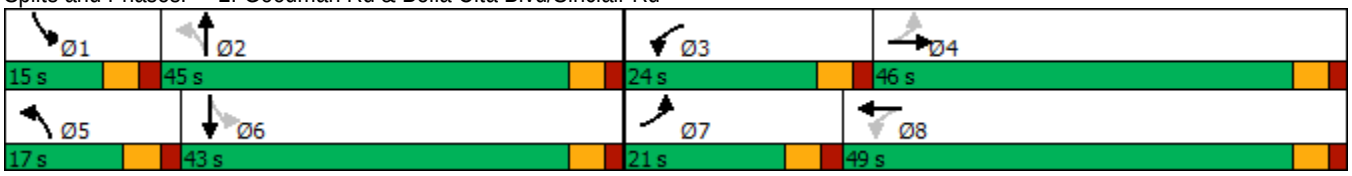
Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

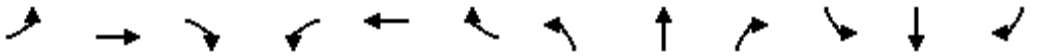
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	88	68	58	32	304	118	20	120
Future Volume (vph)	88	68	58	32	304	118	20	120
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	15.0	5.0	15.0	7.0	15.0	5.0	10.0
Minimum Split (s)	10.5	23.5	10.5	20.5	12.5	20.5	10.5	15.5
Total Split (s)	21.0	46.0	24.0	49.0	17.0	45.0	15.0	43.0
Total Split (%)	16.2%	35.4%	18.5%	37.7%	13.1%	34.6%	11.5%	33.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 68.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Goodman Rd & Bella Cita Blvd/Sinclair Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	68	411	58	32	12	304	118	89	20	120	67
Future Volume (veh/h)	88	68	411	58	32	12	304	118	89	20	120	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1870	1870	1870	1870	1870	1856	1841	1870	1870	1870	1811
Adj Flow Rate, veh/h	107	83	501	71	39	15	371	144	109	24	146	82
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	5	2	2	2	2	2	3	4	2	2	2	6
Cap, veh/h	657	643	573	253	929	338	385	273	207	310	186	104
Arrive On Green	0.06	0.36	0.36	0.06	0.36	0.36	0.14	0.28	0.28	0.03	0.17	0.17
Sat Flow, veh/h	1739	1777	1585	1781	2553	927	1767	972	736	1781	1125	632
Grp Volume(v), veh/h	107	83	501	71	26	28	371	0	253	24	0	228
Grp Sat Flow(s),veh/h/ln	1739	1777	1585	1781	1777	1703	1767	0	1708	1781	0	1757
Q Serve(g_s), s	3.1	2.5	24.0	1.9	0.8	0.9	11.5	0.0	10.2	0.9	0.0	10.1
Cycle Q Clear(g_c), s	3.1	2.5	24.0	1.9	0.8	0.9	11.5	0.0	10.2	0.9	0.0	10.1
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.43	1.00		0.36
Lane Grp Cap(c), veh/h	657	643	573	253	647	620	385	0	480	310	0	290
V/C Ratio(X)	0.16	0.13	0.87	0.28	0.04	0.04	0.96	0.00	0.53	0.08	0.00	0.79
Avail Cap(c_a), veh/h	886	885	790	549	951	911	385	0	830	472	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.5	17.4	24.2	18.0	16.7	16.7	26.2	0.0	24.7	27.0	0.0	32.6
Incr Delay (d2), s/veh	0.1	0.1	8.1	0.6	0.0	0.0	36.3	0.0	0.9	0.1	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	1.8	14.6	1.4	0.6	0.6	14.6	0.0	7.2	0.7	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	17.5	32.3	18.6	16.7	16.7	62.5	0.0	25.6	27.1	0.0	37.3
LnGrp LOS	B	B	C	B	B	B	E	A	C	C	A	D
Approach Vol, veh/h		691			125			624			252	
Approach Delay, s/veh		27.8			17.8			47.5			36.3	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	28.3	10.5	34.9	17.0	18.9	10.3	35.1
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	9.5	39.5	18.5	40.5	11.5	37.5	15.5	43.5
Max Q Clear Time (g_c+I1), s	2.9	12.2	3.9	26.0	13.5	12.1	5.1	2.9
Green Ext Time (p_c), s	0.0	1.5	0.1	3.4	0.0	1.3	0.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	25	148	78	236	130
Future Volume (vph)	25	148	78	236	130
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0
Minimum Split (s)	20.5	20.5	20.5	10.5	20.5
Total Split (s)	27.0	27.0	37.0	36.0	73.0
Total Split (%)	27.0%	27.0%	37.0%	36.0%	73.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Max	None	Max

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 93.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Sinclair Rd & Tradition Blvd

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	148	78	24	236	130
Future Volume (veh/h)	25	148	78	24	236	130
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1826	1870	1870	1870	1826
Adj Flow Rate, veh/h	27	163	86	26	259	143
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	2	2	2	5
Cap, veh/h	284	247	1578	459	951	2507
Arrive On Green	0.16	0.16	0.58	0.58	0.08	0.72
Sat Flow, veh/h	1781	1547	2810	789	1781	3561
Grp Volume(v), veh/h	27	163	55	57	259	143
Grp Sat Flow(s),veh/h/ln	1781	1547	1777	1728	1781	1735
Q Serve(g_s), s	1.2	9.2	1.3	1.3	5.0	1.1
Cycle Q Clear(g_c), s	1.2	9.2	1.3	1.3	5.0	1.1
Prop In Lane	1.00	1.00		0.46	1.00	
Lane Grp Cap(c), veh/h	284	247	1032	1004	951	2507
V/C Ratio(X)	0.10	0.66	0.05	0.06	0.27	0.06
Avail Cap(c_a), veh/h	410	356	1032	1004	1385	2507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	36.9	8.5	8.5	5.5	3.7
Incr Delay (d2), s/veh	0.1	3.0	0.1	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	6.6	0.9	0.9	2.9	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.6	39.9	8.6	8.6	5.6	3.8
LnGrp LOS	C	D	A	A	A	A
Approach Vol, veh/h	190		112			402
Approach Delay, s/veh	39.0		8.6			5.0
Approach LOS	D		A			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.2	59.8			73.0	20.4
Change Period (Y+Rc), s	5.5	5.5			5.5	5.5
Max Green Setting (Gmax), s	30.5	31.5			67.5	21.5
Max Q Clear Time (g_c+I1), s	7.0	3.3			3.1	11.2
Green Ext Time (p_c), s	0.7	0.6			1.0	0.4

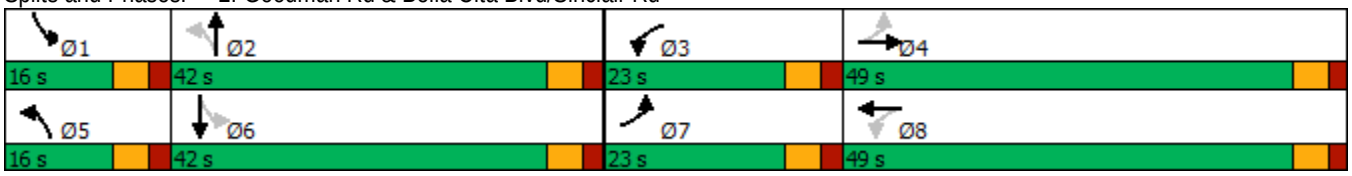
Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

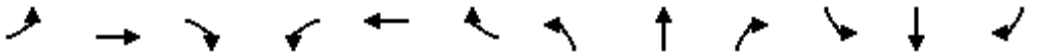
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	45	41	76	53	232	42	18	157
Future Volume (vph)	45	41	76	53	232	42	18	157
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	15.0	5.0	15.0	7.0	15.0	5.0	10.0
Minimum Split (s)	10.5	23.5	23.5	23.5	12.5	20.5	10.5	23.5
Total Split (s)	23.0	49.0	23.0	49.0	16.0	42.0	16.0	42.0
Total Split (%)	17.7%	37.7%	17.7%	37.7%	12.3%	32.3%	12.3%	32.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 69.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Goodman Rd & Bella Cita Blvd/Sinclair Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	41	351	76	53	10	232	42	39	18	157	109
Future Volume (veh/h)	45	41	351	76	53	10	232	42	39	18	157	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856
Adj Flow Rate, veh/h	50	46	390	84	59	11	258	47	43	20	174	121
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	2	2	2	2	2	2	2	2	2	2	3
Cap, veh/h	553	528	471	277	960	174	388	289	265	413	217	151
Arrive On Green	0.04	0.30	0.30	0.07	0.32	0.32	0.13	0.32	0.32	0.02	0.21	0.21
Sat Flow, veh/h	1725	1777	1585	1781	3004	545	1781	899	823	1781	1027	714
Grp Volume(v), veh/h	50	46	390	84	34	36	258	0	90	20	0	295
Grp Sat Flow(s),veh/h/ln	1725	1777	1585	1781	1777	1772	1781	0	1722	1781	0	1742
Q Serve(g_s), s	1.5	1.4	17.2	2.4	1.0	1.1	8.0	0.0	2.8	0.7	0.0	12.1
Cycle Q Clear(g_c), s	1.5	1.4	17.2	2.4	1.0	1.1	8.0	0.0	2.8	0.7	0.0	12.1
Prop In Lane	1.00		1.00	1.00		0.31	1.00		0.48	1.00		0.41
Lane Grp Cap(c), veh/h	553	528	471	277	568	566	388	0	554	413	0	368
V/C Ratio(X)	0.09	0.09	0.83	0.30	0.06	0.06	0.67	0.00	0.16	0.05	0.00	0.80
Avail Cap(c_a), veh/h	880	1029	918	575	1029	1026	400	0	837	621	0	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.8	19.1	24.6	18.2	17.7	17.8	19.1	0.0	18.2	22.3	0.0	28.1
Incr Delay (d2), s/veh	0.1	0.1	3.8	0.6	0.0	0.0	4.0	0.0	0.1	0.0	0.0	4.1
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	1.0	1.0	10.8	1.7	0.7	0.8	6.3	0.0	2.0	0.5	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	19.1	28.4	18.8	17.8	17.8	23.1	0.0	18.4	22.3	0.0	32.2
LnGrp LOS	B	B	C	B	B	B	C	A	B	C	A	C
Approach Vol, veh/h		486			154			348			315	
Approach Delay, s/veh		26.4			18.3			21.9			31.6	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	29.7	10.4	27.8	15.5	21.4	8.7	29.5
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	10.5	36.5	17.5	43.5	10.5	36.5	17.5	43.5
Max Q Clear Time (g_c+I1), s	2.7	4.8	4.4	19.2	10.0	14.1	3.5	3.1
Green Ext Time (p_c), s	0.0	0.5	0.1	3.1	0.0	1.8	0.1	0.4

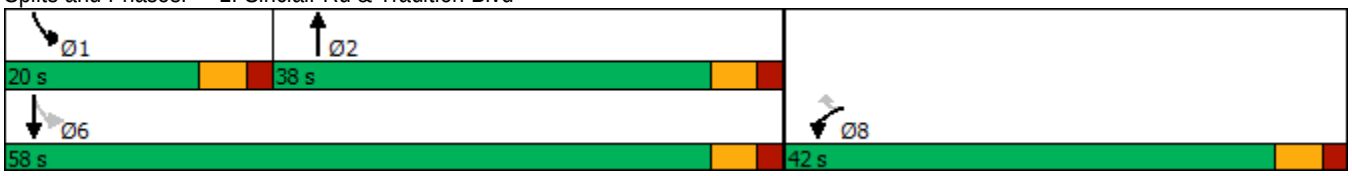
Intersection Summary	
HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	158	501	809	295	495
Future Volume (vph)	158	501	809	295	495
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0
Minimum Split (s)	23.5	23.5	23.5	10.5	23.5
Total Split (s)	42.0	42.0	38.0	20.0	58.0
Total Split (%)	42.0%	42.0%	38.0%	20.0%	58.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Max	None	Max

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 85.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Sinclair Rd & Tradition Blvd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	158	501	809	152	295	495
Future Volume (veh/h)	158	501	809	152	295	495
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1841	1870	1870	1841
Adj Flow Rate, veh/h	176	557	899	169	328	550
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	4	2	2	4
Cap, veh/h	649	578	955	180	345	1837
Arrive On Green	0.36	0.36	0.33	0.33	0.15	0.53
Sat Flow, veh/h	1781	1585	3030	552	1781	3589
Grp Volume(v), veh/h	176	557	535	533	328	550
Grp Sat Flow(s),veh/h/ln	1781	1585	1749	1741	1781	1749
Q Serve(g_s), s	7.0	34.4	29.7	29.7	13.3	8.9
Cycle Q Clear(g_c), s	7.0	34.4	29.7	29.7	13.3	8.9
Prop In Lane	1.00	1.00		0.32	1.00	
Lane Grp Cap(c), veh/h	649	578	569	566	345	1837
V/C Ratio(X)	0.27	0.96	0.94	0.94	0.95	0.30
Avail Cap(c_a), veh/h	651	579	569	566	345	1837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	31.1	32.8	32.8	27.0	13.4
Incr Delay (d2), s/veh	0.2	28.4	25.6	25.8	35.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	24.0	22.7	22.6	12.4	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.6	59.5	58.4	58.6	62.6	13.8
LnGrp LOS	C	E	E	E	E	B
Approach Vol, veh/h	733		1068			878
Approach Delay, s/veh	50.7		58.5			32.0
Approach LOS	D		E			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	20.0	38.0			58.0	41.9
Change Period (Y+Rc), s	5.5	5.5			5.5	5.5
Max Green Setting (Gmax), s	14.5	32.5			52.5	36.5
Max Q Clear Time (g_c+I1), s	15.3	31.7			10.9	36.4
Green Ext Time (p_c), s	0.0	0.5			4.0	0.0

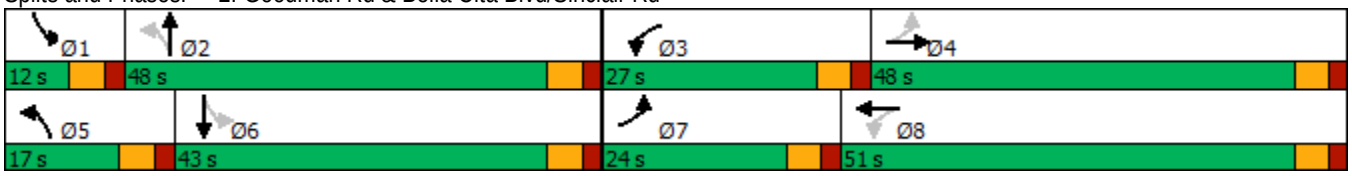
Intersection Summary	
HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

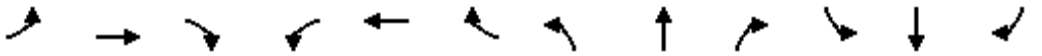
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	89	511	263	281	240	59	98	63
Future Volume (vph)	89	511	263	281	240	59	98	63
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	15.0	5.0	15.0	7.0	15.0	5.0	10.0
Minimum Split (s)	10.5	23.5	10.5	20.5	12.5	20.5	10.5	15.5
Total Split (s)	24.0	48.0	27.0	51.0	17.0	48.0	12.0	43.0
Total Split (%)	17.8%	35.6%	20.0%	37.8%	12.6%	35.6%	8.9%	31.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 115.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Goodman Rd & Bella Cita Blvd/Sinclair Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	511	333	263	281	70	240	59	340	98	63	69
Future Volume (veh/h)	89	511	333	263	281	70	240	59	340	98	63	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1870	1870	1870	1870	1870	1856	1841	1870	1870	1870	1811
Adj Flow Rate, veh/h	109	623	406	321	343	85	293	72	415	120	77	84
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	5	2	2	2	2	2	3	4	2	2	2	6
Cap, veh/h	448	649	423	343	1174	287	452	75	429	154	228	248
Arrive On Green	0.06	0.31	0.31	0.16	0.41	0.41	0.09	0.32	0.32	0.05	0.28	0.28
Sat Flow, veh/h	1739	2062	1343	1781	2830	692	1767	236	1360	1781	818	892
Grp Volume(v), veh/h	109	537	492	321	214	214	293	0	487	120	0	161
Grp Sat Flow(s),veh/h/ln	1739	1777	1629	1781	1777	1746	1767	0	1596	1781	0	1710
Q Serve(g_s), s	5.6	39.8	39.8	19.0	10.7	11.0	11.5	0.0	40.3	6.5	0.0	10.1
Cycle Q Clear(g_c), s	5.6	39.8	39.8	19.0	10.7	11.0	11.5	0.0	40.3	6.5	0.0	10.1
Prop In Lane	1.00		0.82	1.00		0.40	1.00		0.85	1.00		0.52
Lane Grp Cap(c), veh/h	448	559	513	343	737	724	452	0	504	154	0	476
V/C Ratio(X)	0.24	0.96	0.96	0.93	0.29	0.30	0.65	0.00	0.97	0.78	0.00	0.34
Avail Cap(c_a), veh/h	588	562	516	349	737	724	452	0	505	154	0	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	45.2	45.2	40.2	26.1	26.2	35.3	0.0	45.2	37.8	0.0	38.6
Incr Delay (d2), s/veh	0.3	27.9	29.6	31.7	0.2	0.2	3.2	0.0	31.4	22.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	29.2	27.4	19.6	8.1	8.1	5.8	0.0	27.5	6.8	0.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	73.1	74.7	71.8	26.3	26.4	38.5	0.0	76.7	60.0	0.0	39.0
LnGrp LOS	C	E	E	E	C	C	D	A	E	E	A	D
Approach Vol, veh/h		1138			749			780			281	
Approach Delay, s/veh		69.5			45.9			62.3			48.0	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	47.9	26.6	47.8	17.0	42.9	13.2	61.2
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.5	42.5	21.5	42.5	11.5	37.5	18.5	45.5
Max Q Clear Time (g_c+I1), s	8.5	42.3	21.0	41.8	13.5	12.1	7.6	13.0
Green Ext Time (p_c), s	0.0	0.1	0.1	0.4	0.0	0.9	0.2	2.6

Intersection Summary	
HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	173	248	440	446	789
Future Volume (vph)	173	248	440	446	789
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	15.0	15.0	15.0	5.0	15.0
Minimum Split (s)	20.5	20.5	20.5	10.5	20.5
Total Split (s)	27.0	27.0	37.0	36.0	73.0
Total Split (%)	27.0%	27.0%	37.0%	36.0%	73.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Max	None	Max

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 95.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Sinclair Rd & Tradition Blvd

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	173	248	440	174	446	789
Future Volume (veh/h)	173	248	440	174	446	789
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1826	1870	1870	1870	1826
Adj Flow Rate, veh/h	190	273	484	191	490	867
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	2	2	2	5
Cap, veh/h	351	305	1166	457	629	2395
Arrive On Green	0.20	0.20	0.47	0.47	0.17	0.69
Sat Flow, veh/h	1781	1547	2587	978	1781	3561
Grp Volume(v), veh/h	190	273	344	331	490	867
Grp Sat Flow(s),veh/h/ln	1781	1547	1777	1694	1781	1735
Q Serve(g_s), s	9.4	16.8	12.5	12.6	12.8	10.1
Cycle Q Clear(g_c), s	9.4	16.8	12.5	12.6	12.8	10.1
Prop In Lane	1.00	1.00		0.58	1.00	
Lane Grp Cap(c), veh/h	351	305	831	792	629	2395
V/C Ratio(X)	0.54	0.89	0.41	0.42	0.78	0.36
Avail Cap(c_a), veh/h	392	340	831	792	888	2395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	38.3	17.2	17.2	11.1	6.3
Incr Delay (d2), s/veh	1.3	23.2	1.5	1.6	2.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.5	12.9	9.1	8.8	8.5	6.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.6	61.5	18.7	18.8	14.0	6.7
LnGrp LOS	D	E	B	B	B	A
Approach Vol, veh/h	463		675			1357
Approach Delay, s/veh	51.2		18.8			9.3
Approach LOS	D		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	21.8	51.2			73.0	24.8
Change Period (Y+Rc), s	5.5	5.5			5.5	5.5
Max Green Setting (Gmax), s	30.5	31.5			67.5	21.5
Max Q Clear Time (g_c+I1), s	14.8	14.6			12.1	18.8
Green Ext Time (p_c), s	1.5	4.0			7.8	0.5

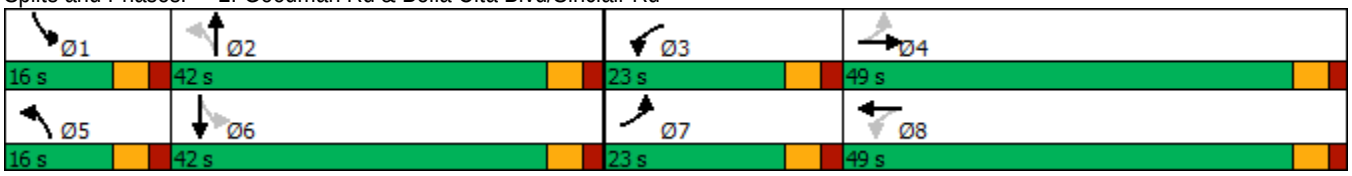
Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

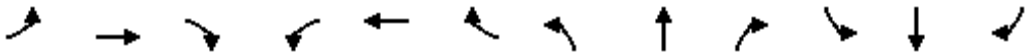
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	43	341	386	399	186	23	105	103
Future Volume (vph)	43	341	386	399	186	23	105	103
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	15.0	5.0	15.0	7.0	15.0	5.0	10.0
Minimum Split (s)	10.5	23.5	23.5	23.5	12.5	20.5	10.5	23.5
Total Split (s)	23.0	49.0	23.0	49.0	16.0	42.0	16.0	42.0
Total Split (%)	17.7%	37.7%	17.7%	37.7%	12.3%	32.3%	12.3%	32.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 90.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Goodman Rd & Bella Cita Blvd/Sinclair Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	341	335	386	399	50	186	23	183	105	103	107
Future Volume (veh/h)	43	341	335	386	399	50	186	23	183	105	103	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856
Adj Flow Rate, veh/h	48	379	372	429	443	56	207	26	203	117	114	119
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	2	2	2	2	2	2	2	2	2	2	3
Cap, veh/h	401	522	466	461	1395	175	325	38	300	299	141	147
Arrive On Green	0.04	0.29	0.29	0.18	0.44	0.44	0.11	0.21	0.21	0.07	0.17	0.17
Sat Flow, veh/h	1725	1777	1585	1781	3176	399	1781	183	1430	1781	838	875
Grp Volume(v), veh/h	48	379	372	429	247	252	207	0	229	117	0	233
Grp Sat Flow(s),veh/h/ln	1725	1777	1585	1781	1777	1798	1781	0	1613	1781	0	1713
Q Serve(g_s), s	1.8	17.5	19.8	14.7	8.3	8.4	8.6	0.0	12.0	4.9	0.0	12.0
Cycle Q Clear(g_c), s	1.8	17.5	19.8	14.7	8.3	8.4	8.6	0.0	12.0	4.9	0.0	12.0
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.89	1.00		0.51
Lane Grp Cap(c), veh/h	401	522	466	461	780	790	325	0	339	299	0	288
V/C Ratio(X)	0.12	0.73	0.80	0.93	0.32	0.32	0.64	0.00	0.68	0.39	0.00	0.81
Avail Cap(c_a), veh/h	664	843	752	474	843	854	325	0	642	374	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	29.0	29.8	19.5	16.7	16.8	27.4	0.0	33.3	28.7	0.0	36.7
Incr Delay (d2), s/veh	0.1	1.9	3.2	25.0	0.2	0.2	4.1	0.0	2.4	0.8	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	12.1	12.3	13.7	6.0	6.1	7.1	0.0	8.4	3.8	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	31.0	33.0	44.5	17.0	17.0	31.5	0.0	35.7	29.6	0.0	42.2
LnGrp LOS	C	C	C	D	B	B	C	A	D	C	A	D
Approach Vol, veh/h		799			928			436			350	
Approach Delay, s/veh		31.3			29.7			33.7			38.0	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	24.8	22.3	32.5	16.0	20.9	9.0	45.7
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	10.5	36.5	17.5	43.5	10.5	36.5	17.5	43.5
Max Q Clear Time (g_c+I1), s	6.9	14.0	16.7	21.8	10.6	14.0	3.8	10.4
Green Ext Time (p_c), s	0.1	1.4	0.1	5.1	0.0	1.4	0.1	3.3

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Arterial Level of Service: NB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	30	160.6	9.7	170.3	1.36	28.7	B
Total	III		160.6	9.7	170.3	1.36	28.7	B

Arterial Level of Service: WB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	35	43.5	4.5	48.0	0.36	27.2	B
Goodman Rd	III	32	154.3	19.7	174.0	1.36	28.0	B
Total	III		197.8	24.2	222.0	1.72	27.9	B

Arterial Level of Service: NB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	30	162.6	7.8	170.4	1.36	28.6	B
Total	III		162.6	7.8	170.4	1.36	28.6	B

Arterial Level of Service: WB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	30	46.0	3.8	49.8	0.36	26.2	B
Goodman Rd	III	30	162.6	21.0	183.6	1.36	26.6	B
Total	III		208.6	24.8	233.4	1.72	26.5	B

Arterial Level of Service: NB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	30	160.6	31.0	191.6	1.36	25.5	B
Total	III		160.6	31.0	191.6	1.36	25.5	B

Arterial Level of Service: WB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	35	43.5	9.1	52.6	0.36	24.8	B
Goodman Rd	III	32	154.3	22.3	176.6	1.36	27.6	B
Total	III		197.8	31.4	229.2	1.72	27.0	B

Arterial Level of Service: NB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	30	162.6	19.6	182.2	1.36	26.8	B
Total	III		162.6	19.6	182.2	1.36	26.8	B

Arterial Level of Service: WB Sinclair Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Tradition Blvd	III	30	46.0	6.1	52.1	0.36	25.0	B
Goodman Rd	III	30	162.6	19.2	181.8	1.36	26.8	B
Total	III		208.6	25.3	233.9	1.72	26.4	B

APPENDIX G

Crash Data

Type of Impact	Column Labels					
Row Labels	2016	2017	2018	2019	2020	Total
Angle		1			1	2
Front to Rear				1		1
Other	1		2		2	5
Sideswipe, Opposite Direction					1	1
Total	1	1	2	1	4	9

Light Condition	Column Labels					
Row Labels	2016	2017	2018	2019	2020	Total
Dark - Lighted			2		2	4
Dark - Not Lighted		1				1
Daylight	1			1	2	4
Total	1	1	2	1	4	9

Crash Severity per Intersection	Column Labels		
Row Labels	1	2	Total
1	4		4
Injury	1		1
No Injury	3		3
2		5	5
No Injury		5	5
Total	4	5	9

Crash Type	Column Labels					
	2016	2017	2018	2019	2020	Total
Row Labels						
1			2		2	4
Off Road			2		2	4
2	1	1		1	2	5
Left Turn		1			1	2
Off Road	1					1
Rear End				1		1
Sideswipe					1	1
Total	1	1	2	1	4	9

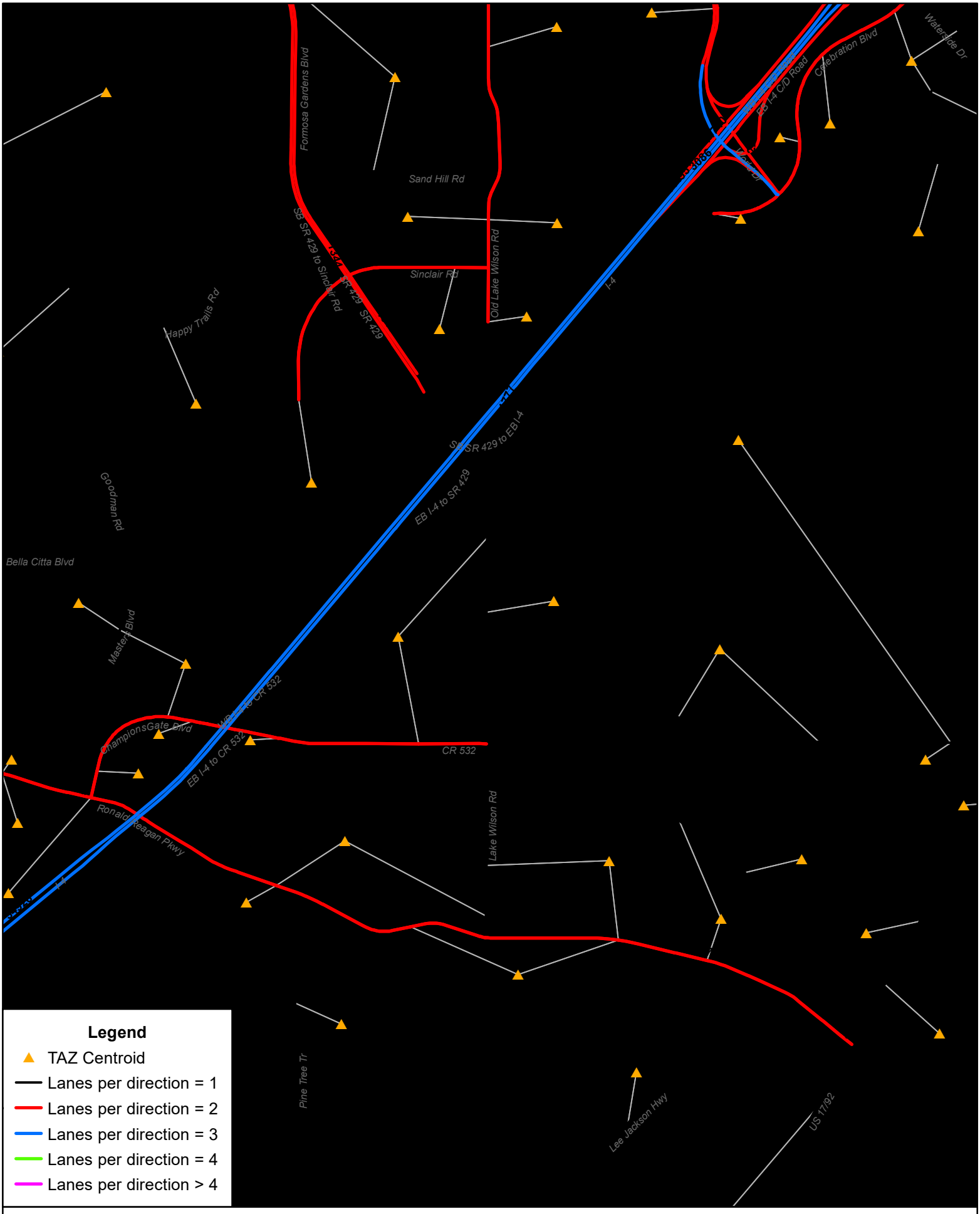
Crash Type per Time of Day	Column Labels								
	12 AM	3 AM	6 AM	8 AM	12 PM	4 PM	10 PM	11 PM	Grand Total
Row Labels									
Left Turn	1				1				2
Off Road		1	1	1			1	1	5
Rear End						1			1
Sideswipe				1					1
Grand Total	1	1	1	2	1	1	1	1	9

Harmful Event	Column Labels					
Row Labels	2016	2017	2018	2019	2020	Total
Guardrail Face					2	2
Motor Vehicle in Transport		1		1	2	4
Traffic Sign Support			1			1
Tree (standing)	1					1
Utility Pole/Light Support			1			1
Total	1	1	2	1	4	9

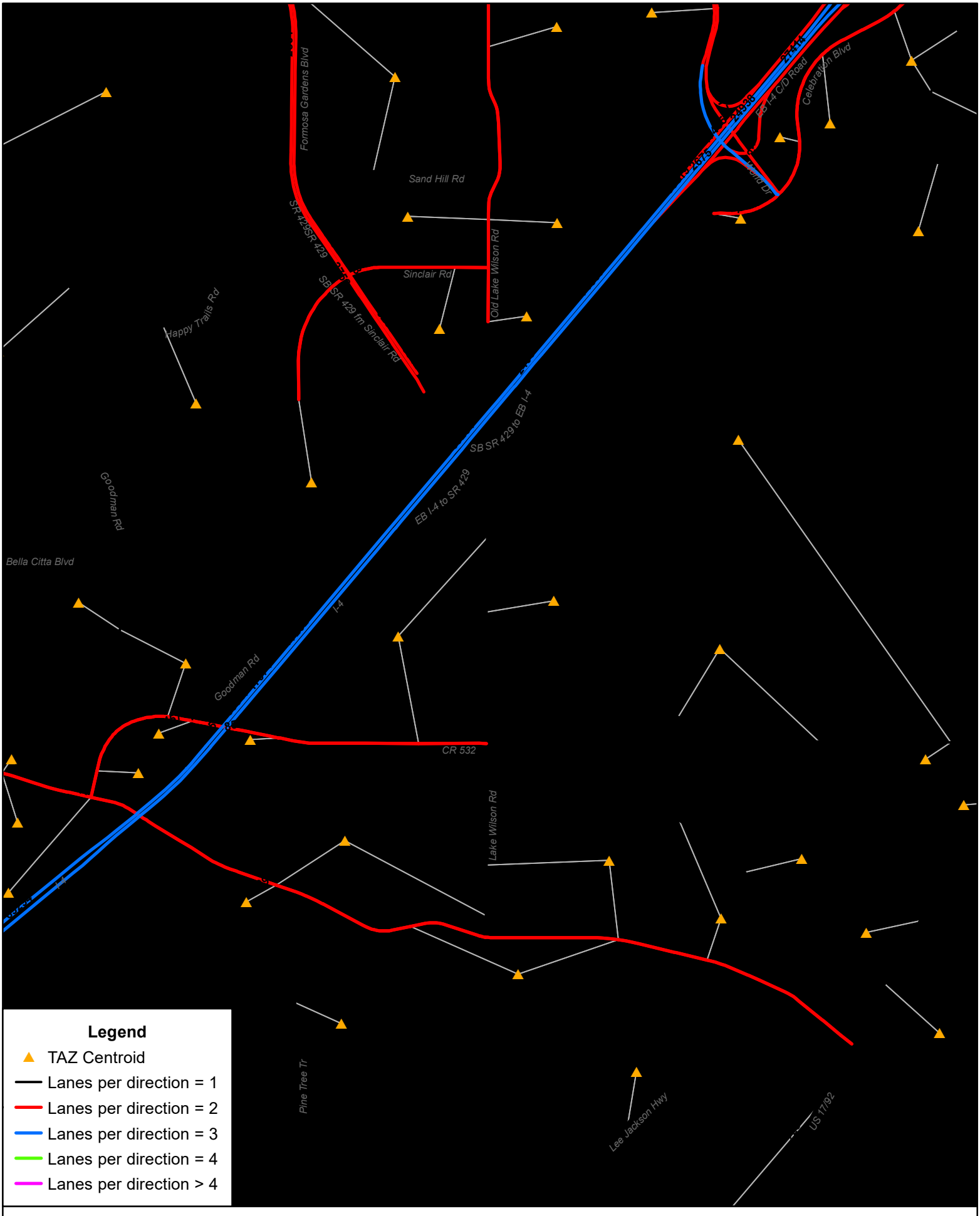
Crash Severity	Column Labels					
Row Labels	2016	2017	2018	2019	2020	Grand Total
Injury			1			1
No Injury	1	1	1	1	4	8
Grand Total	1	1	2	1	4	9

APPENDIX H

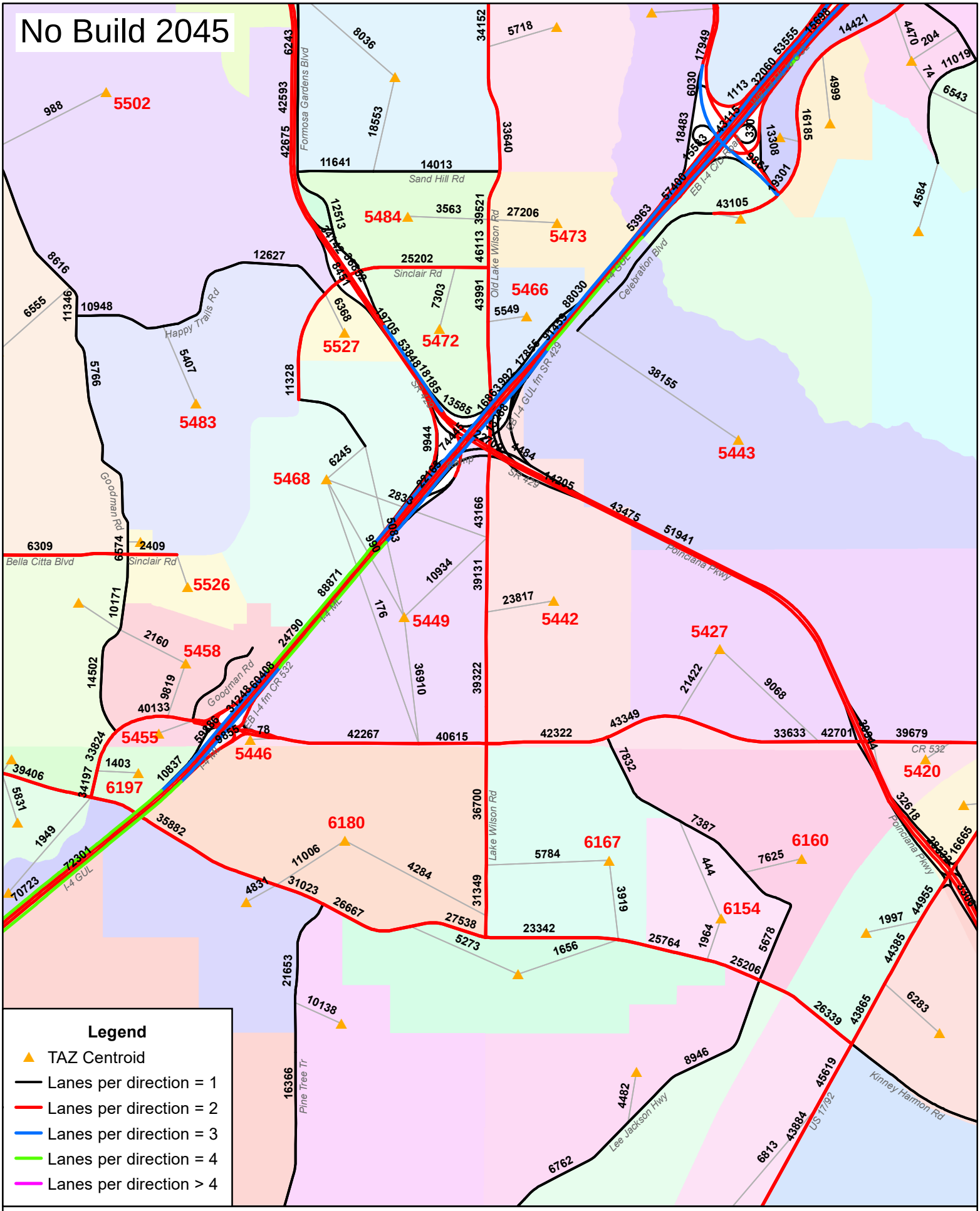
CFRPMv7 Model Outputs



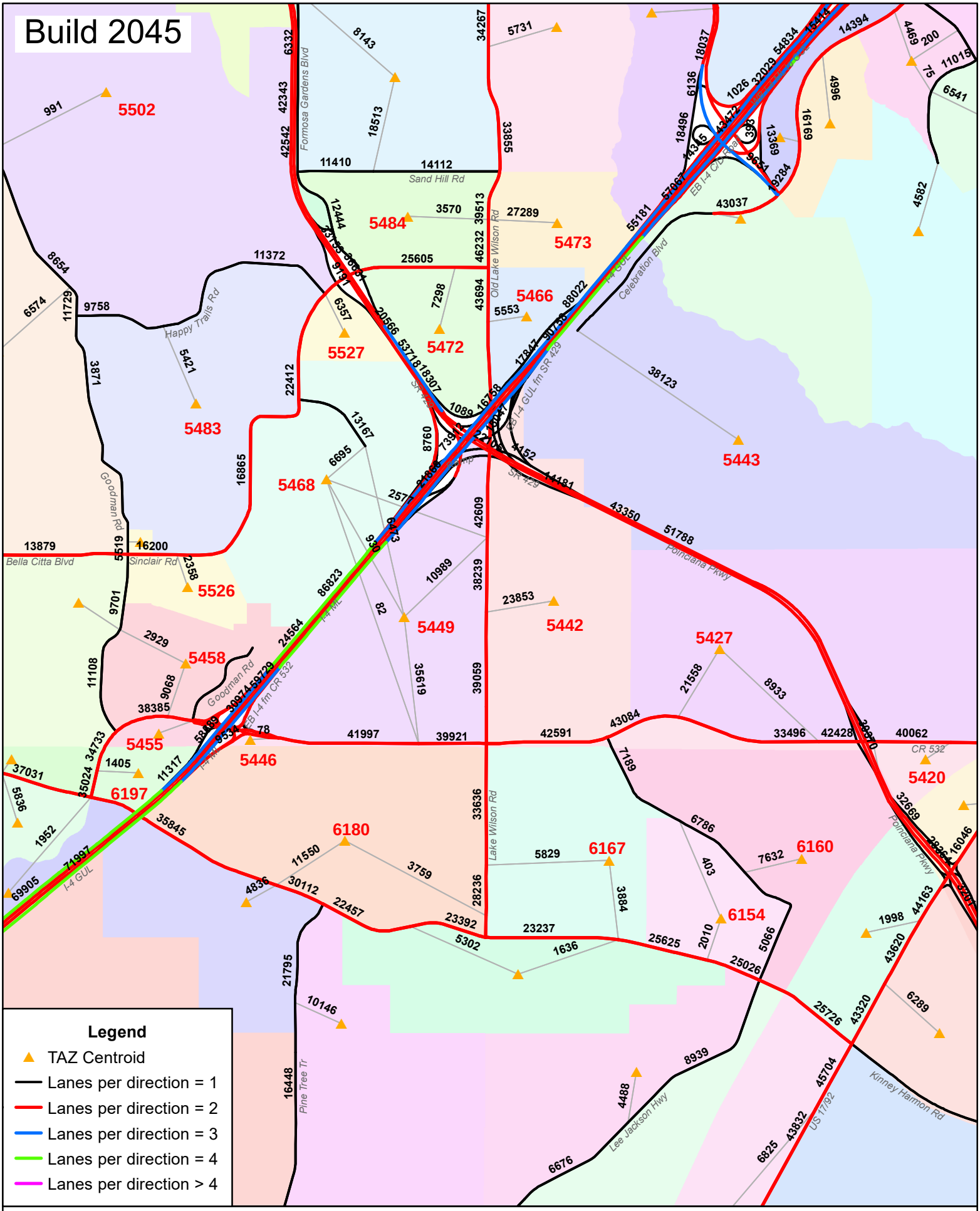
Sinclair Road Extension - 2015 Directional Daily Counts
CFRPMv7 - 2015 Base - 4/22/2022



Sinclair Road Extension - Total Two-Way Daily Volumes
CFRPMv7 - 2015 Base - 12/20/2021



Sinclair Road Extension - Total Two-Way Daily Volumes
CFRPMv7 - 2045H - 1/4/2022



Sinclair Road Extension - Total Two-Way Daily Volumes
CFRPMv7 - 2045G - 1/4/2022

APPENDIX I

Sinclair Road Extension – CFRPM7 Representation of Reunion Development Technical Memorandum

Kimley»Horn

MEMORANDUM

To: Robert Denney, PE
Transportation & Transit Department
Osceola County

From: James M. Taylor, P.E.
Kimley-Horn and Associates, Inc.

Date: May 11, 2022

Subject: Sinclair Road Extension | CFRPM v7 Representation of Reunion Development

Introduction

Kimley-Horn and Associates, Inc. is preparing a Project Traffic Analysis Report (PTAR) to provide design traffic volumes and traffic analyses in support of the Alternatives Evaluation Study for Sinclair Road Extension, from Tradition Boulevard to Bella Citta Boulevard. During the development of the PTAR, Osceola County requested clarification of the travel demand model's representation of the Reunion Development of Regional Impact (DRI). This memorandum documents the latest adopted Central Florida Regional Planning Model (CFRPM v7) socioeconomic data in and around the Reunion development and compares this information with the approved development levels in the Reunion DRI.

Reunion DRI

Figure 1 illustrates the "Map H" for the Reunion DRI (Map H is the concept plan for the development). The total development plan approved for the Reunion DRI is summarized in **Table 1**. Because the travel demand model uses employment instead of square footage to account for office and retail space, the square footage from the Reunion DRI Map H has been converted to number of service and commercial employees.

Table 1: Reunion DRI Development Plan

Type of Development	Development Intensity	Employees
Residential Resort (Single-Family & Multifamily)	6,233 DU	-
Hotel Rooms	1,574 DU	-
Office	140,000 SF	560 Service
Retail	484,000 SF	1,210 Commercial
Golf	54 Holes	60 Commercial

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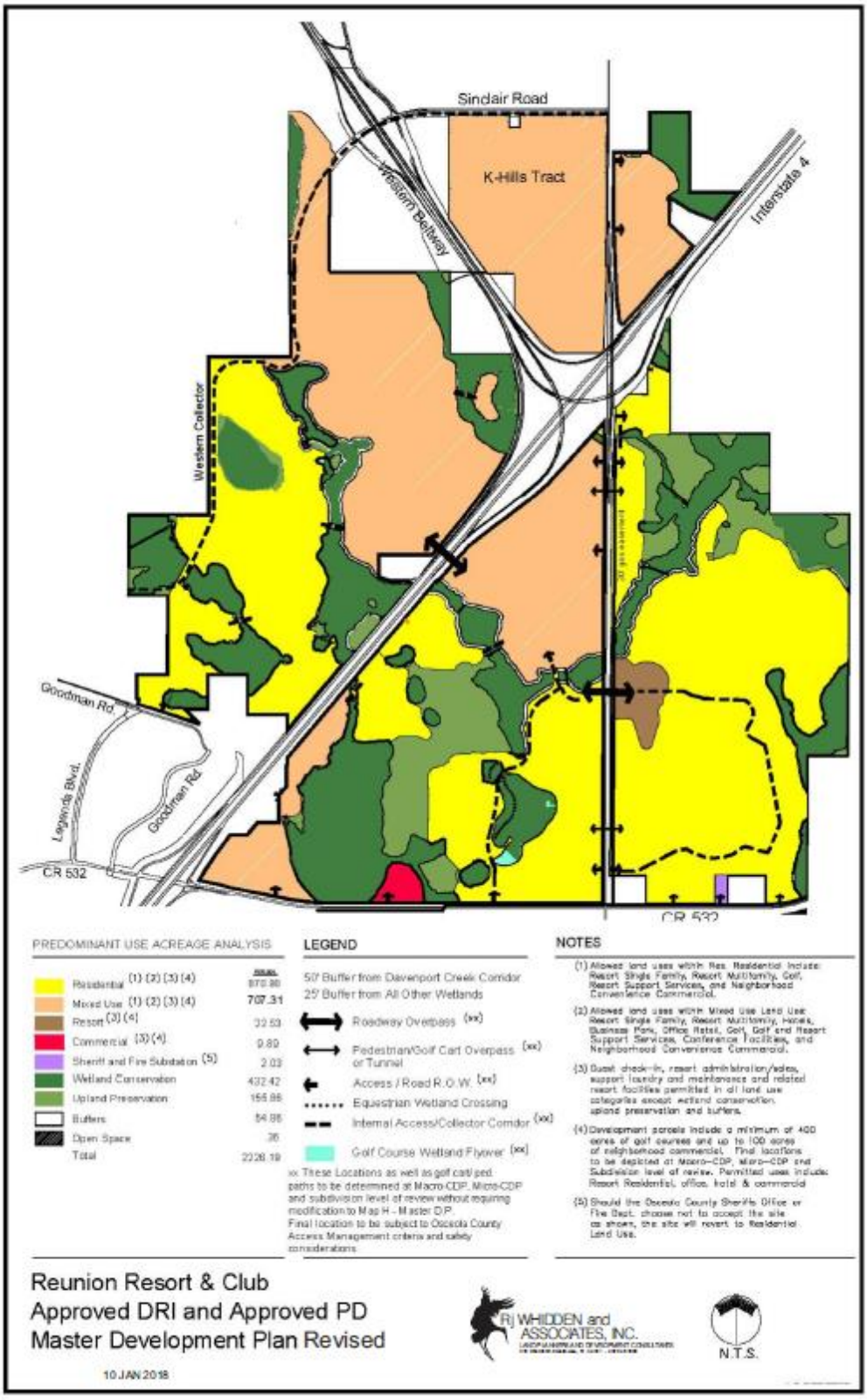
Figure 1: Reunion DRI Map H



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Travel Demand Model Socioeconomic Data

Results from the CFRPM v7 were considered in the development of forecasted design year 2045 traffic for the PTAR. The socioeconomic data (dwelling units, employment, etc.) in the 2045 model are approved by the metropolitan planning organizations (MPOs) and local governments. Thus, it is understood that Osceola County approved the socioeconomic data (at the traffic analysis zone (TAZ) level) that is included in the 2045 model. The socioeconomic data forecasts utilize the population forecasts developed by the Bureau of Economic and Business Research (BEBR) at the county level. These forecasts are spread across each county's TAZs based on assumptions by the local governments. With Osceola County's historic and projected high level of growth, some areas within the County are anticipated to have higher intensity and density of development in the future than what currently exists today. While it is recognized that not all the actual 2045 development will be located in the specific TAZs assumed, these forecasts are as accurate as possible given the available information at the time they are developed.

Figure 2 illustrates the Sinclair Road Extension study area, the area covered by the Reunion DRI, and the adjacent TAZ boundaries in the original unedited CFRPM v7.

As part of the review of the socioeconomic data in the CFRPM v7 2045 model set, TAZs 5468 and 5483 (which border the Sinclair Road Extension study area) were modified to separate out planned development in the area. **Figure 3** illustrates the original boundaries of TAZs 5468 and 5483. **Figure 4** illustrates the revised boundaries of TAZs 5468 and 5483 and the addition of TAZs 5525, 5526 and 5527. TAZ 5525 was separated from TAZ 5483 to represent the planned Goodman Road Charter School in the northeast quadrant of Bella Citta Boulevard and Goodman Road. TAZ 5526 was separated from TAZ 5468 to represent the development of the Dewan/Elevation parcel. TAZ 5527 was separated from TAZ 5468 to represent the development of the Sinclair Road Property project.

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Figure 2: Sinclair Road Extension Study Area, Reunion DRI, and Original TAZ Boundaries

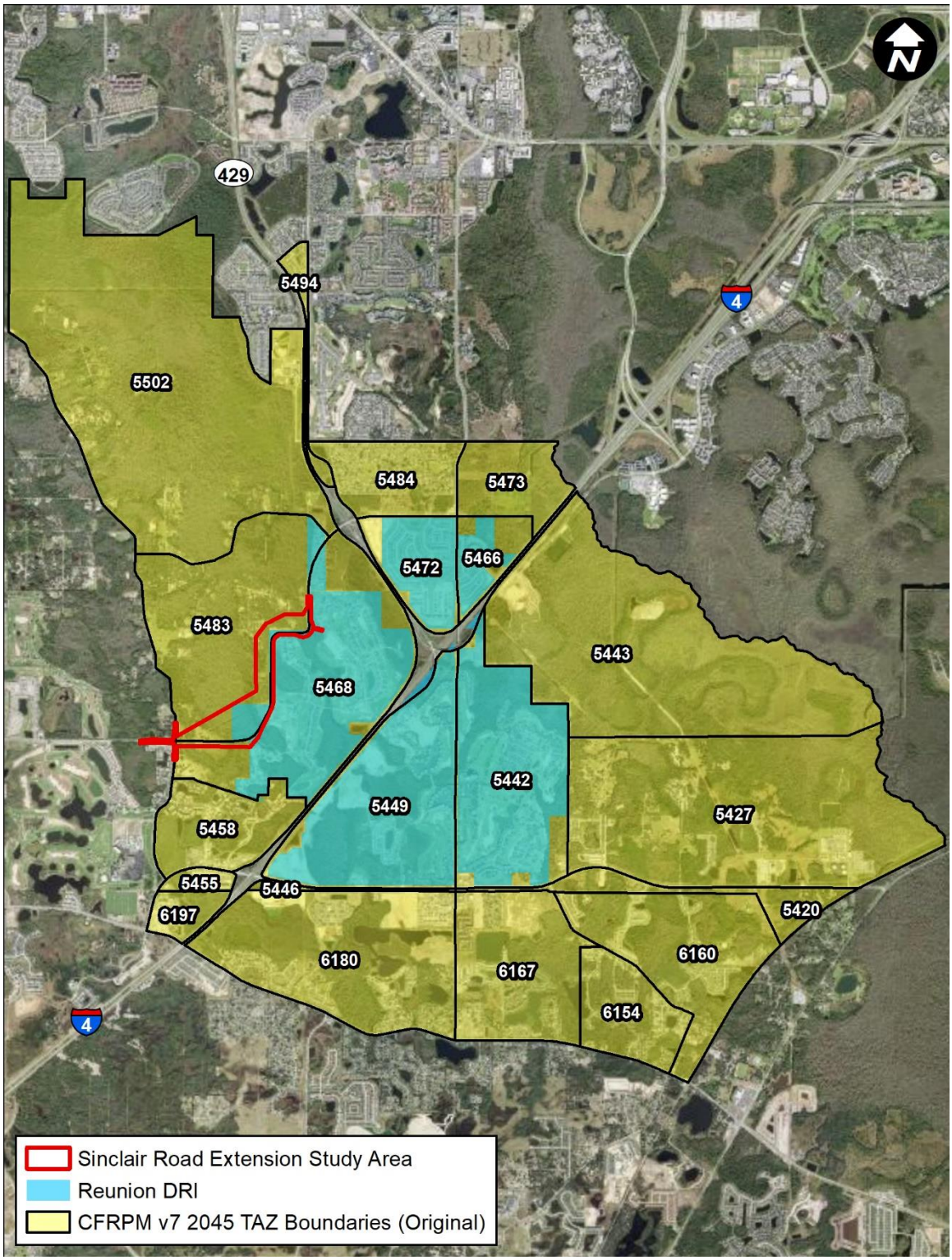

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Figure 3: Original Boundaries of TAZs 5468 and 5483

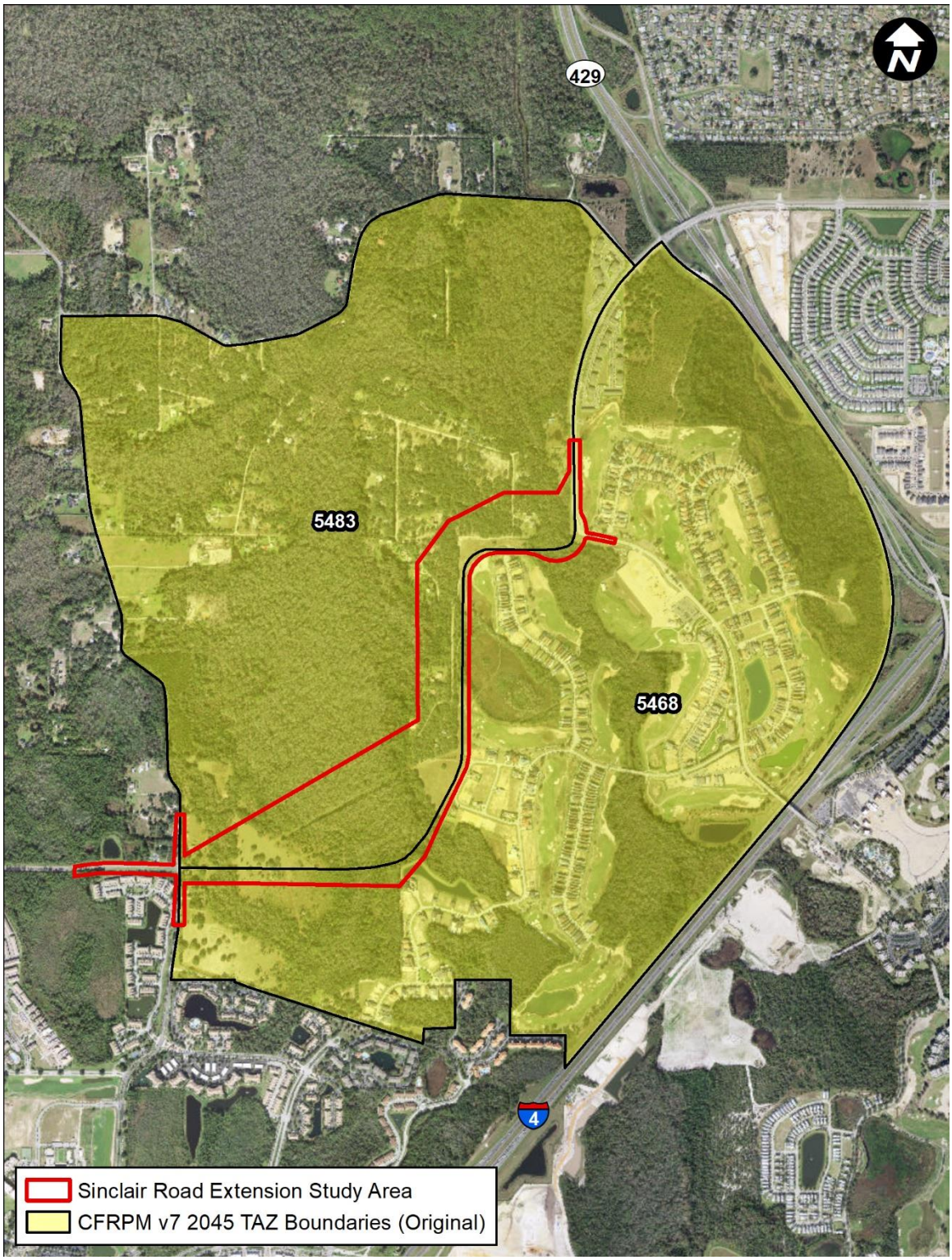

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Figure 4: Revised Boundaries of TAZs 5468 and 5483 and Addition of TAZs 5525, 5526 and 5527

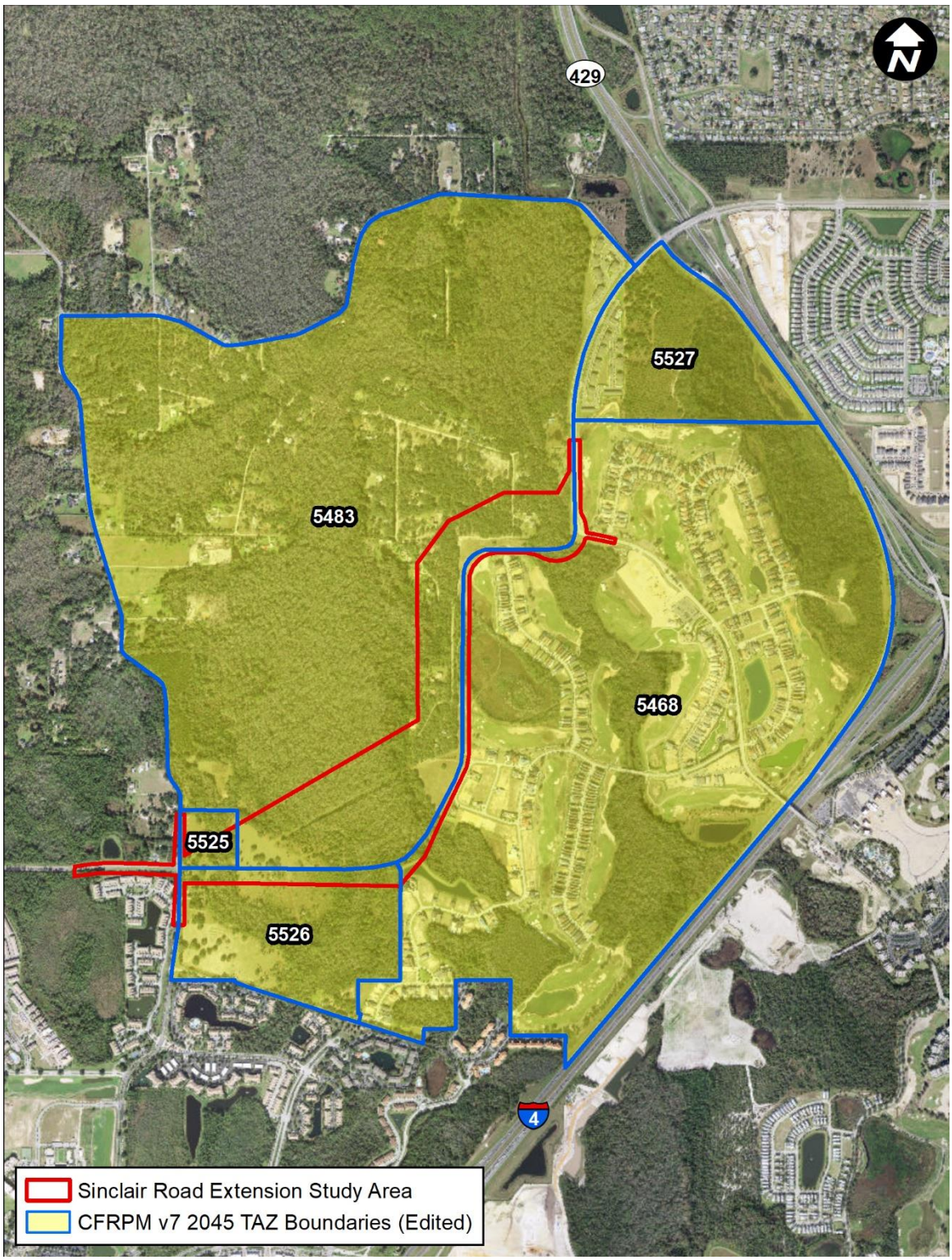

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Table 2 summarizes the adjustments to the 2045 multifamily dwelling units, commercial employment, service employment, and school enrollment for these TAZs. There were no changes to the single-family dwelling units, hotel/motel rooms, or industrial employment. In total, the number of multifamily dwelling units increased by 1,026 (from 1,546 to 2,572); commercial employment increased by 13 (from 487 to 500); service employment increased by 29 (from 1,144 to 1,173); and school enrollment increased by 2,550 (from 0 to 2,550). While the school enrollment is 850 students, this was increased by a factor of 3.0 to get the model to align with the Institute of Transportation Engineer's (ITE) trip generation for an 850-student school.

Table 2: TAZ Splits and Socioeconomic Data Revisions

TAZ	Dwelling Units		Employees				Students	
	Multifamily		Commercial		Service		K-12	
	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised
5468	1,206	316	334	328	495	481	0	0
5483	340	340	153	153	649	649	0	0
5525 [1]	0	0	0	0	0	0	0	2,550
5526 [2]	0	533	0	0	0	0	0	0
5527 [2]	0	1,383	0	19	0	43	0	0
Total	**1,546**	**2,572**	**487**	**500**	**1,144**	**1,173**	**0**	**2,550**

Notes:

1. New TAZ, split from 5483 for the planned Goodman Road Charter School (850 students) (includes a factor of 3.0 to align with ITE trip generation)

2. New TAZ, split from 5468 for Dewan/Elevation (444 Multifamily DU) and Sinclair Road Property (446 Multifamily DU, 3.5 KSF restaurant, and 10 pump gas station) (includes a factor of 1.2 for TAZ 5526 and 3.1 for TAZ 5527 to better reflect ITE estimated daily trips).

Table 3 summarizes the socioeconomic data in the TAZs illustrated on **Figure 2**, including the splits and revisions identified on **Figure 4** and in **Table 2**. The TAZs which include portions of the Reunion DRI are highlighted in blue. **Figure 5** illustrates the Reunion DRI and the adjacent and associated TAZs. All TAZs except 5447 and 5468 include some non-Reunion development. As identified in **Table 3**, the TAZs which include portions of the Reunion DRI represent a development level higher than what is in the Reunion DRI Map H.

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Figure 5: Reunion DRI and the Adjacent and Associated TAZs

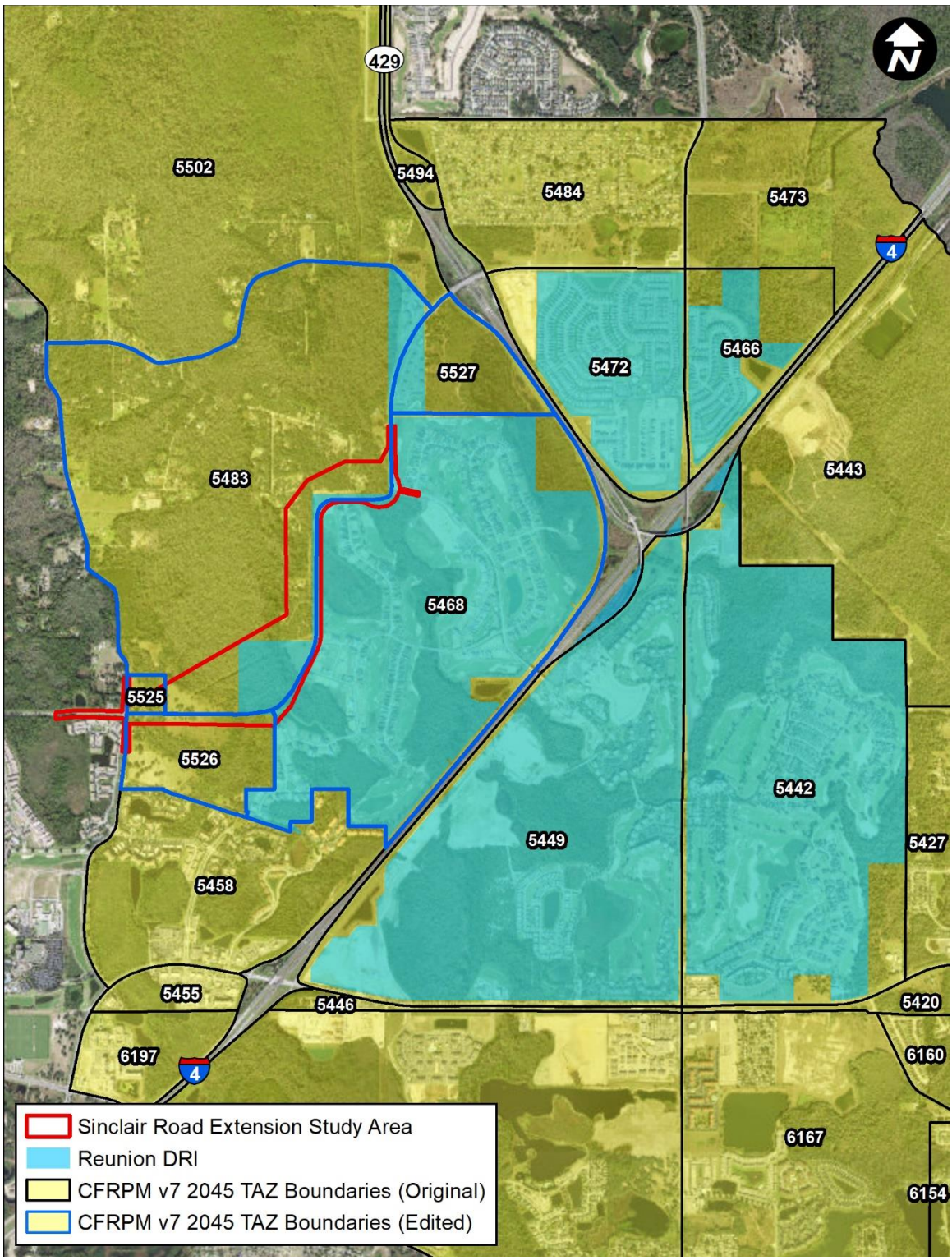

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Table 3: Summary of 2045 Socioeconomic Data by TAZ

TAZ	Single Family Dwelling Units	Multifamily Dwelling Units	Hotel/Motel Dwelling Units	Commercial Employees	Service Employees	Industrial Employees	Students
5420	15	17	0	165	977	0	0
5427	171	14	0	2,145	3,958	15	0
5442	711	1,656	1,320	579	2,444	4	0
5443	4,147	1,265	1,067	345	1,277	178	0
5446	0	0	0	8	5	0	0
5449	401	2,978	3,276	2,620	4,022	2	1,986
5455	0	308	74	98	186	2	0
5458	512	1,052	616	218	563	11	0
5466	197	241	36	161	224	0	0
5468	509	316	834	328	481	25	0
5472	427	474	711	0	482	0	0
5473	0	0	0	2,133	3,281	0	0
5483	154	340	33	153	649	4	0
5484	500	0	97	52	240	12	0
5494	60	0	59	0	6	1	0
5502	197	0	0	0	9	0	0
5525	0	0	0	0	0	0	2,550
5526	0	533	0	0	0	0	0
5527	0	1,383	0	19	43	0	0
6154	432	62	0	0	52	12	0
6160	772	84	853	8	486	0	0
6167	438	1,054	751	0	376	10	0
6180	884	587	192	465	716	7	0
6197	0	0	0	43	175	250	10
Total	**10,527**	**12,364**	**9,919**	**9,540**	**20,652**	**533**	**4,546**
Reunion TAZs	**9,787**		**6,210**	**3,860**	**8,345**	**35**	**1,986**
Reunion DRI	**6,233**		**1,574**	**1,270**	**560**	**0**	**0**

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Conclusion

The socioeconomic data used in the CFRPM v7 model for 2045 is reasonable, consistent with projected growth in Osceola County, and appropriate for developing projected traffic demands on the roadway network, including for Sinclair Road Extension.

It is important to recognize that the Reunion DRI is represented by seven TAZs (the blue highlighted TAZs in **Table 3**) and most of these TAZs also include non-Reunion development, and/or higher levels of development than currently approved in the Reunion DRI. Thus, the identification of Reunion traffic in the model will need to include a more detailed analysis than summarizing the trips from the TAZs that include the Reunion DRI.

APPENDIX J

BEBR Population Projections

Projections of Florida Population by County, 2025–2045, with Estimates for 2020 (continued)

County and State	Estimates April 1, 2020	2025	2030	2035	2040	2045
MIAMI-DADE	2,832,794					
Low		2,791,500	2,844,300	2,871,900	2,880,900	2,876,900
Medium		2,992,700	3,128,300	3,234,600	3,322,200	3,398,200
High		3,186,900	3,423,300	3,621,000	3,799,900	3,964,600
MONROE	77,823					
Low		73,600	72,200	70,500	68,700	66,700
Medium		78,800	79,400	79,800	80,000	80,200
High		84,300	87,500	90,100	92,200	94,200
NASSAU	89,258					
Low		89,500	93,600	96,800	99,300	100,800
Medium		99,200	107,500	114,600	121,100	126,900
High		108,200	121,600	134,900	148,200	161,400
OKALOOSA	203,951					
Low		200,200	202,800	204,000	204,500	203,800
Medium		214,600	223,200	230,000	236,000	241,100
High		228,500	244,000	257,200	269,700	280,900
OKEECHOBEE	42,112					
Low		40,600	40,500	40,300	39,900	39,500
Medium		43,400	44,500	45,300	46,000	46,700
High		46,500	49,100	51,500	53,700	55,900
ORANGE	1,415,260					
Low		1,429,800	1,494,500	1,542,300	1,577,800	1,602,500
Medium		1,558,700	1,678,400	1,777,900	1,864,300	1,941,800
High		1,674,800	1,857,100	2,021,600	2,179,700	2,331,800
OSCEOLA	387,055					
Low		409,200	447,500	476,000	499,500	518,300
Medium		453,600	512,500	560,700	603,600	643,100
High		491,900	574,500	649,300	723,900	798,500
PALM BEACH	1,466,494					
Low		1,440,900	1,465,500	1,482,000	1,491,200	1,491,500
Medium		1,544,900	1,612,200	1,668,600	1,717,000	1,758,500
High		1,645,000	1,763,800	1,868,600	1,966,800	2,055,400
PASCO	542,638					
Low		543,900	565,700	578,700	586,200	589,400
Medium		593,000	635,700	668,800	696,400	720,500
High		637,100	703,000	758,500	809,700	857,600
PINELLAS	984,054					
Low		960,600	959,500	953,100	943,000	930,500
Medium		1,011,800	1,031,400	1,045,200	1,055,500	1,063,800
High		1,067,900	1,116,700	1,153,300	1,184,100	1,210,200
POLK	715,090					
Low		718,300	747,800	770,200	785,000	794,600
Medium		783,100	840,200	888,400	929,300	965,800
High		841,400	929,200	1,009,500	1,084,500	1,156,200
PUTNAM	73,723					
Low		69,300	67,900	66,400	64,800	63,300
Medium		74,200	74,700	75,100	75,500	75,800
High		79,400	82,200	84,900	87,100	89,400
ST. JOHNS	261,900					
Low		274,700	297,000	314,400	328,600	339,400
Medium		304,600	340,500	370,900	398,000	422,800
High		330,200	381,300	428,800	476,200	522,900
ST. LUCIE	322,265					
Low		326,300	342,800	353,400	360,300	364,400
Medium		355,800	384,800	407,500	426,400	443,100
High		382,300	426,000	463,200	497,800	530,300

APPENDIX K

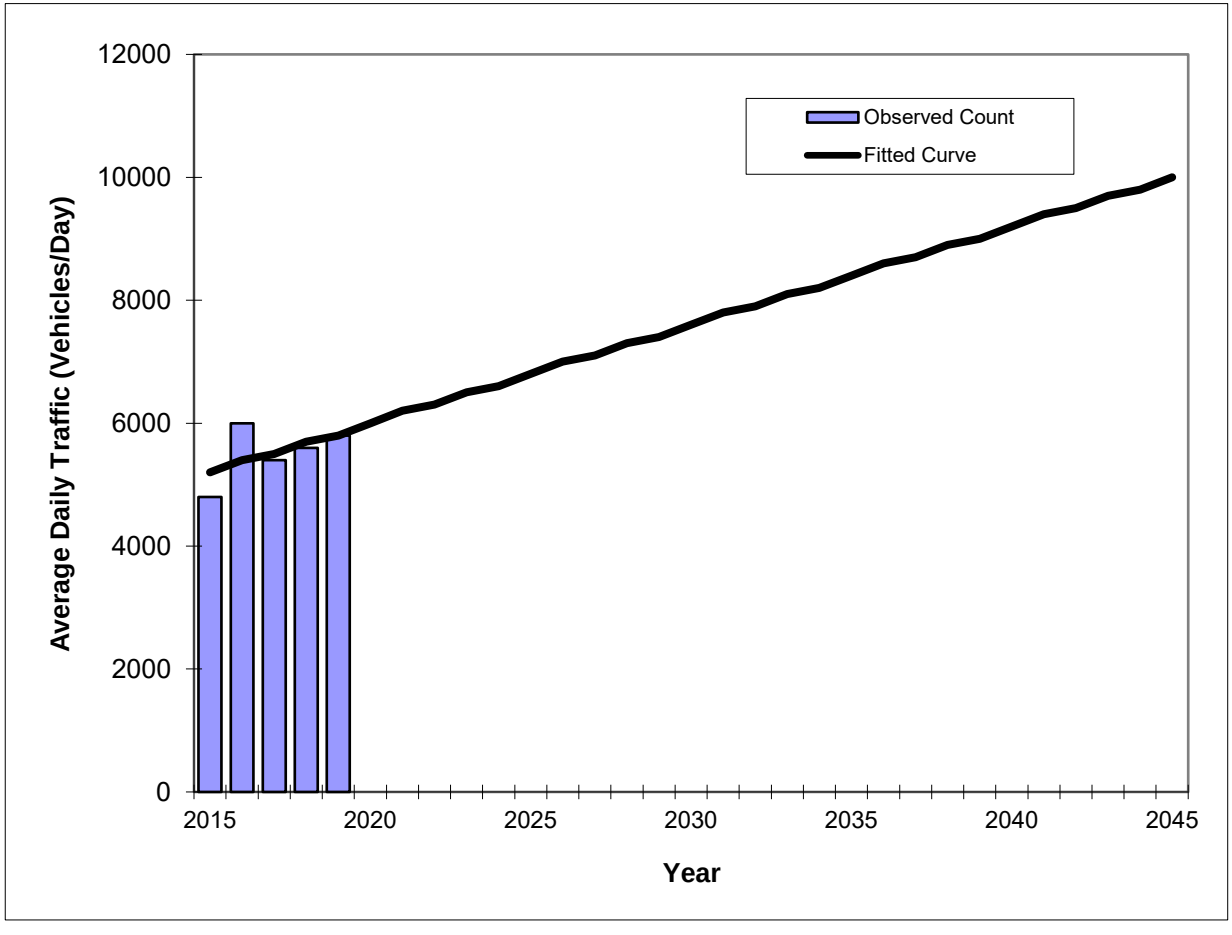
Growth Trend Analysis

Traffic Trends - V03.a

BELLA CITTA BLVD -- WEST OF GOODMAND RD

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	BELLA CITTA BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2015	4800	5200
2016	6000	5400
2017	5400	5500
2018	5600	5700
2019	5800	5800
2025 Opening Year Trend		
2025	N/A	6800
2035 Mid-Year Trend		
2035	N/A	8400
2045 Design Year Trend		
2045	N/A	10000
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	160
Trend R-squared:	30.19%
Trend Annual Historic Growth Rate:	2.88%
Trend Growth Rate (2019 to Design Year):	2.79%
Printed:	17-May-22
Straight Line Growth Option	

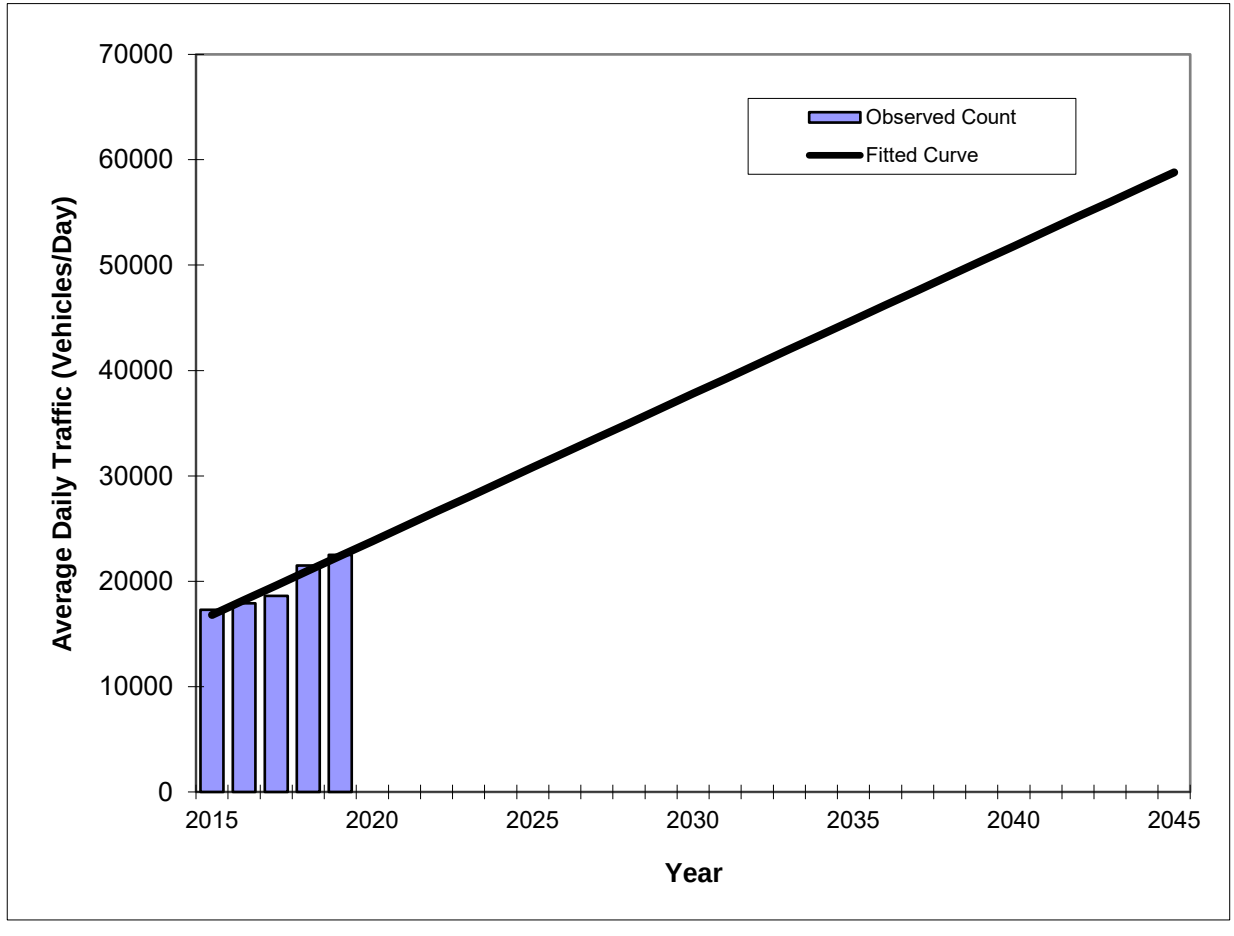
*Axle-Adjusted

Traffic Trends - V03.a

CHAMPIONS GATE BLVD -- EAST OF MASTERS BLVD

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	CHAMPIONS GATE BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2015	17300	16800
2016	17900	18200
2017	18600	19600
2018	21500	21000
2019	22500	22400
2025 Opening Year Trend		
2025	N/A	30800
2035 Mid-Year Trend		
2035	N/A	44800
2045 Design Year Trend		
2045	N/A	58800
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	1,400
Trend R-squared:	92.49%
Trend Annual Historic Growth Rate:	8.33%
Trend Growth Rate (2019 to Design Year):	6.25%
Printed:	17-May-22

Straight Line Growth Option

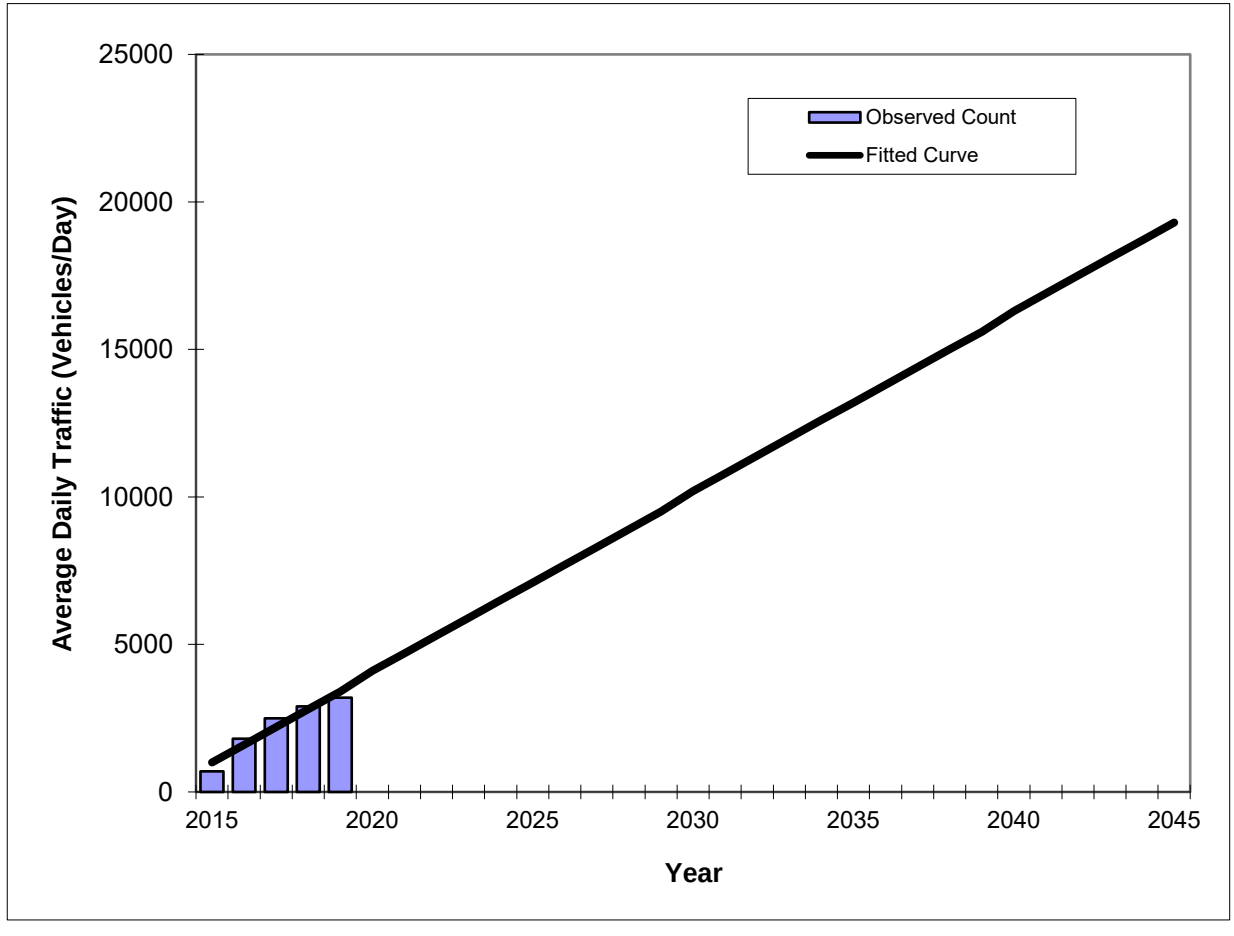
*Axle-Adjusted

Traffic Trends - V03.a

GOODMAN ROAD -- NORTH OF BELLA CITTA BLVD

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	GOODMAN ROAD



Year	Traffic (ADT/AADT) Count*	Trend**
2015	700	1000
2016	1800	1600
2017	2500	2200
2018	2900	2800
2019	3200	3400
2025 Opening Year Trend		
2025	N/A	7100
2035 Mid-Year Trend		
2035	N/A	13200
2045 Design Year Trend		
2045	N/A	19300
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	610
Trend R-squared:	93.30%
Trend Annual Historic Growth Rate:	60.00%
Trend Growth Rate (2019 to Design Year):	17.99%
Printed:	17-May-22
Straight Line Growth Option	

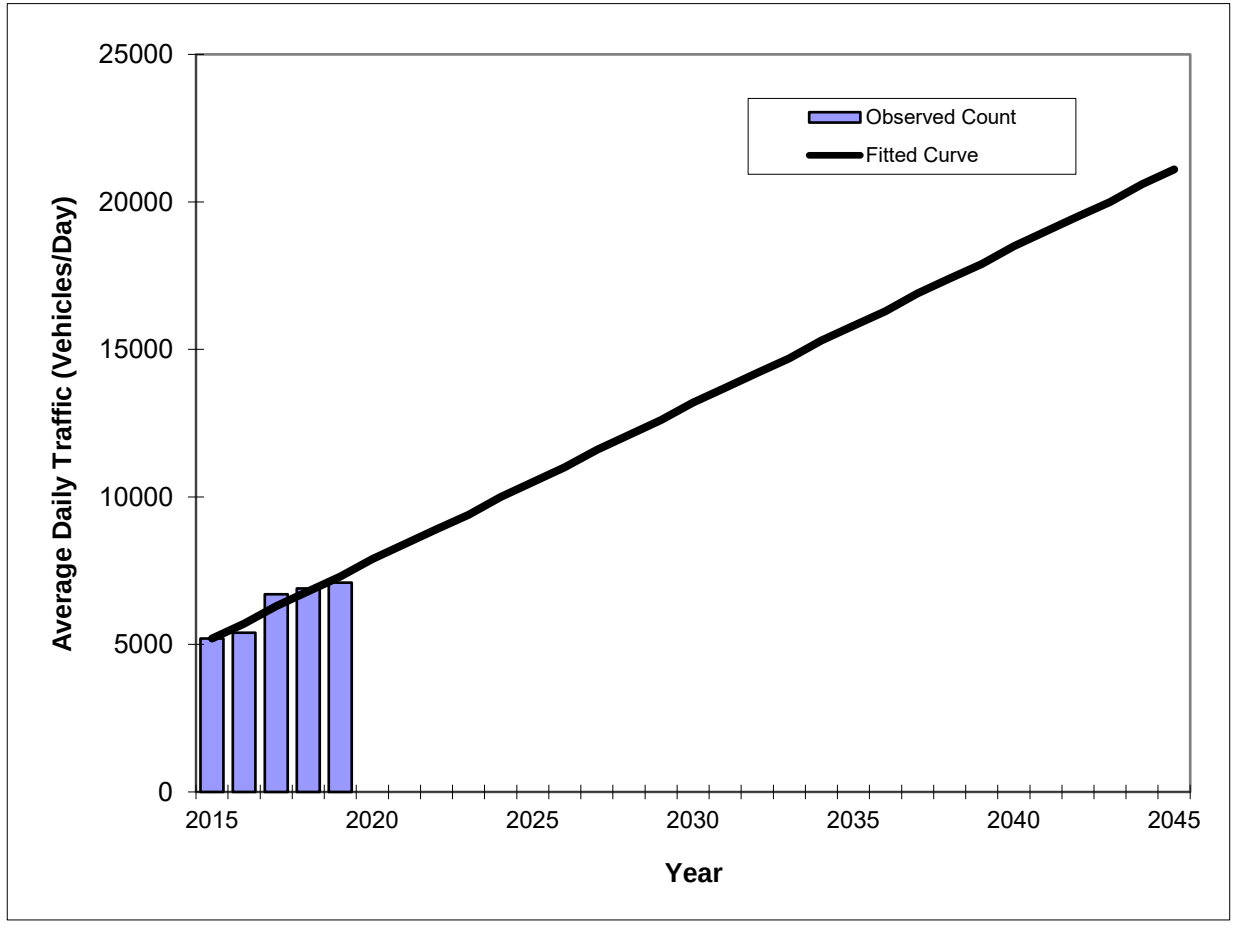
*Axle-Adjusted

Traffic Trends - V03.a

GOODMAN ROAD -- SOUTH OF BELLA CITTA BLVD

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	GOODMAN ROAD



Year	Traffic (ADT/AADT) Count*	Trend**
2015	5200	5200
2016	5400	5700
2017	6700	6300
2018	6900	6800
2019	7100	7300
2025 Opening Year Trend		
2025	N/A	10500
2035 Mid-Year Trend		
2035	N/A	15800
2045 Design Year Trend		
2045	N/A	21100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	530
Trend R-squared:	88.56%
Trend Annual Historic Growth Rate:	10.10%
Trend Growth Rate (2019 to Design Year):	7.27%
Printed:	17-May-22
Straight Line Growth Option	

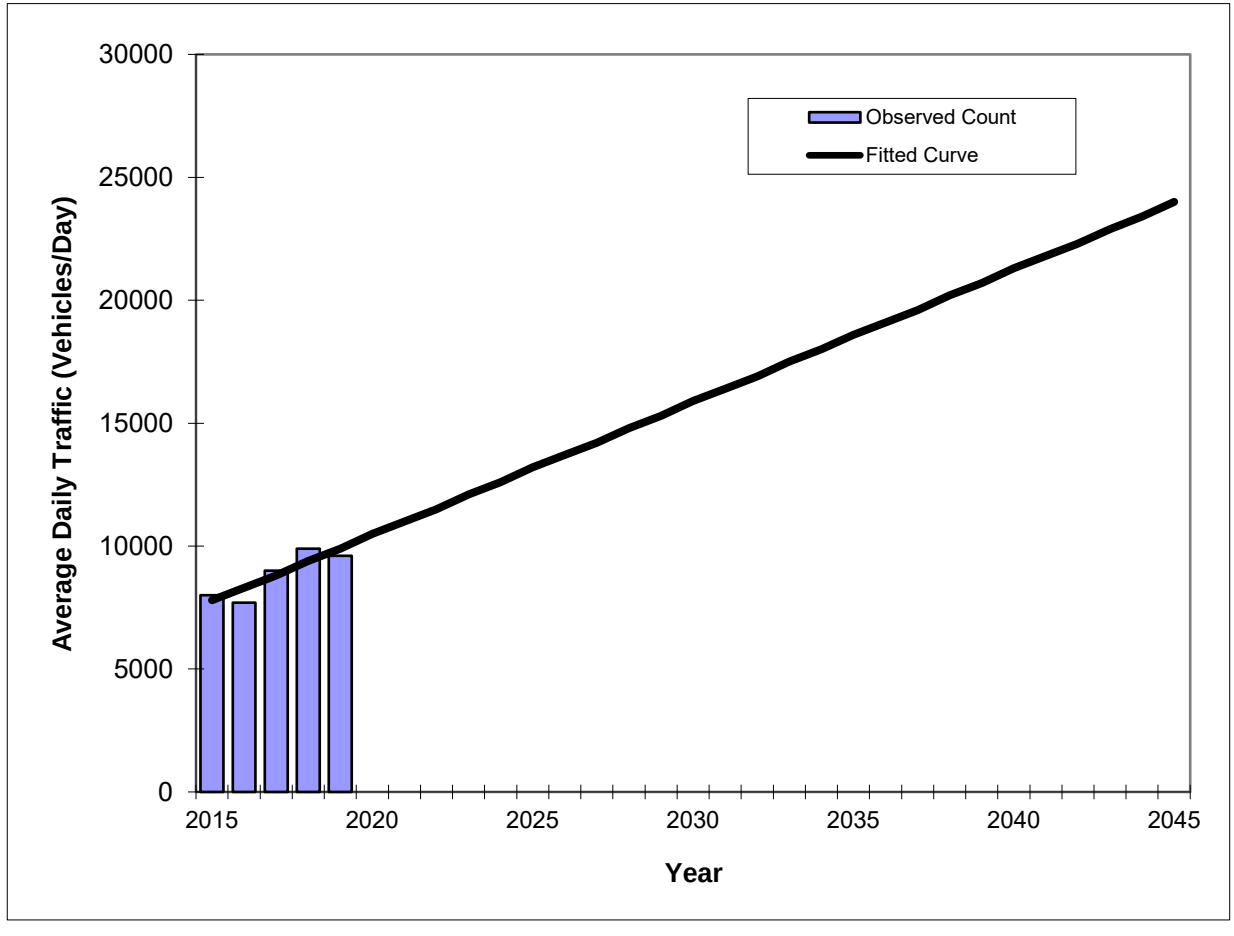
*Axle-Adjusted

Traffic Trends - V03.a

MASTERS BLVD -- NORTH OF CHAMPIONS GATE BLVD

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	MASTERS BLVD



Year	Traffic (ADT/AADT) Count*	Trend**
2015	8000	7800
2016	7700	8300
2017	9000	8800
2018	9900	9400
2019	9600	9900
2025 Opening Year Trend		
2025	N/A	13200
2035 Mid-Year Trend		
2035	N/A	18600
2045 Design Year Trend		
2045	N/A	24000
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	540
Trend R-squared:	78.14%
Trend Annual Historic Growth Rate:	6.73%
Trend Growth Rate (2019 to Design Year):	5.48%
Printed:	17-May-22

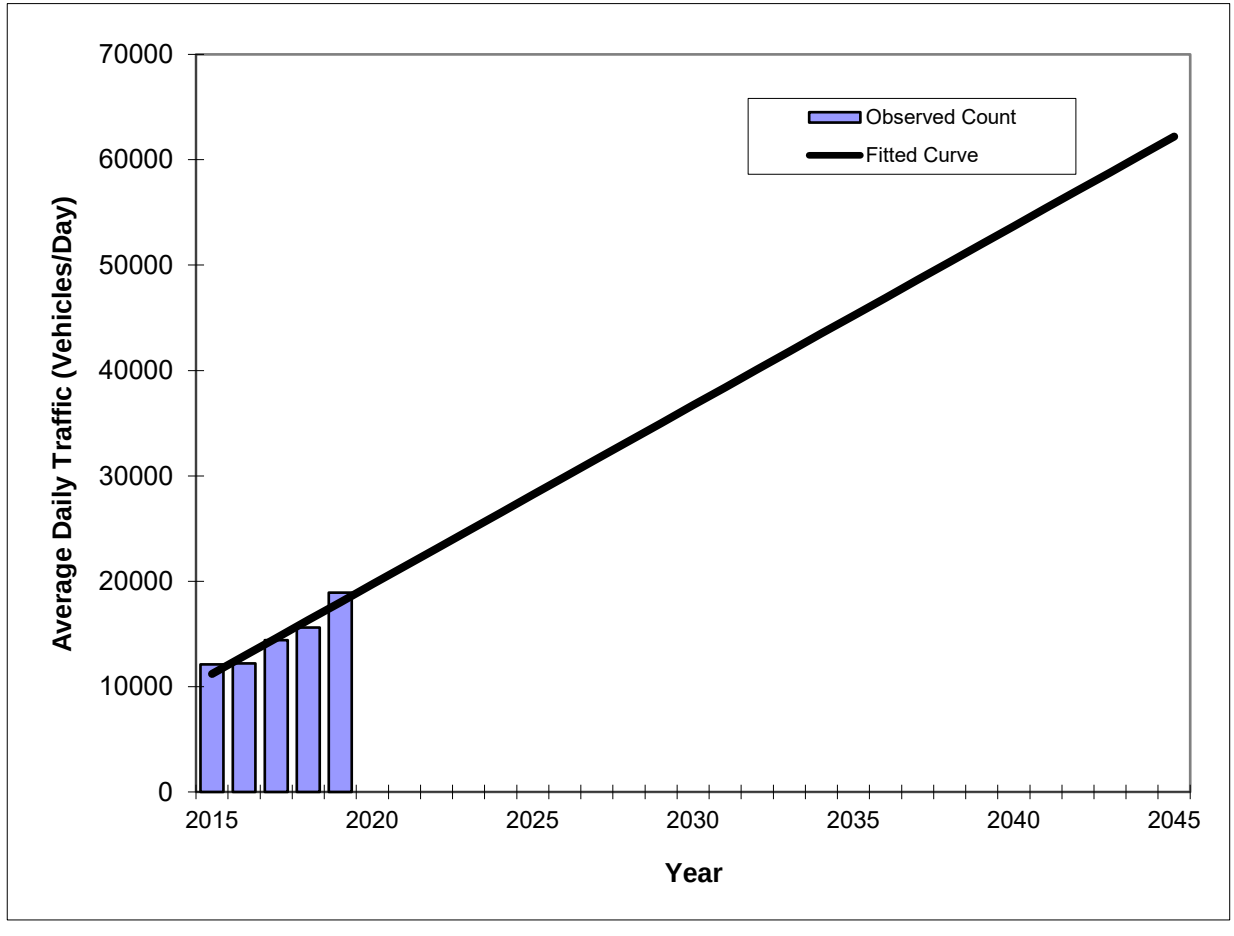
Straight Line Growth Option

Traffic Trends - V03.a

S OLD LAKE WILSON -- NORTH OF SINCLAIR ROAD

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	S OLD LAKE WILSON



Year	Traffic (ADT/AADT) Count*	Trend**
2015	12100	11200
2016	12200	12900
2017	14400	14600
2018	15600	16300
2019	18900	18000
2025 Opening Year Trend		
2025	N/A	28200
2035 Mid-Year Trend		
2035	N/A	45200
2045 Design Year Trend		
2045	N/A	62200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	1,700
Trend R-squared:	91.65%
Trend Annual Historic Growth Rate:	15.18%
Trend Growth Rate (2019 to Design Year):	9.44%
Printed:	17-May-22

Straight Line Growth Option

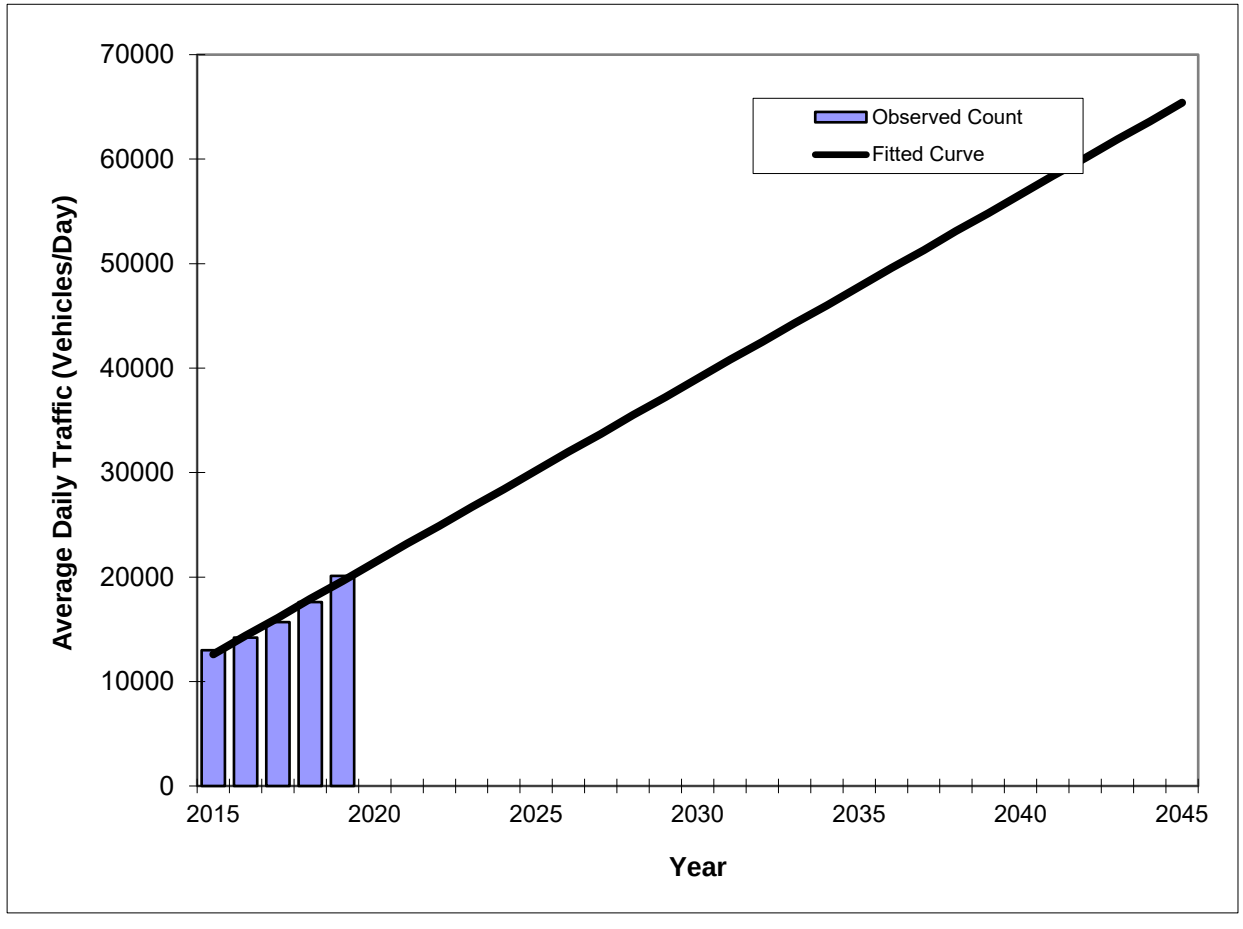
*Axle-Adjusted

Traffic Trends - V03.a

S OLD LAKE WILSON -- SOUTH OF SINCLAIR RD

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	S OLD LAKE WILSON



Year	Traffic (ADT/AADT) Count*	Trend**
2015	13000	12600
2016	14200	14400
2017	15700	16100
2018	17600	17900
2019	20100	19600
2025 Opening Year Trend		
2025	N/A	30200
2035 Mid-Year Trend		
2035	N/A	47800
2045 Design Year Trend		
2045	N/A	65400
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	1,760
Trend R-squared:	97.94%
Trend Annual Historic Growth Rate:	13.89%
Trend Growth Rate (2019 to Design Year):	8.99%
Printed:	17-May-22

Straight Line Growth Option

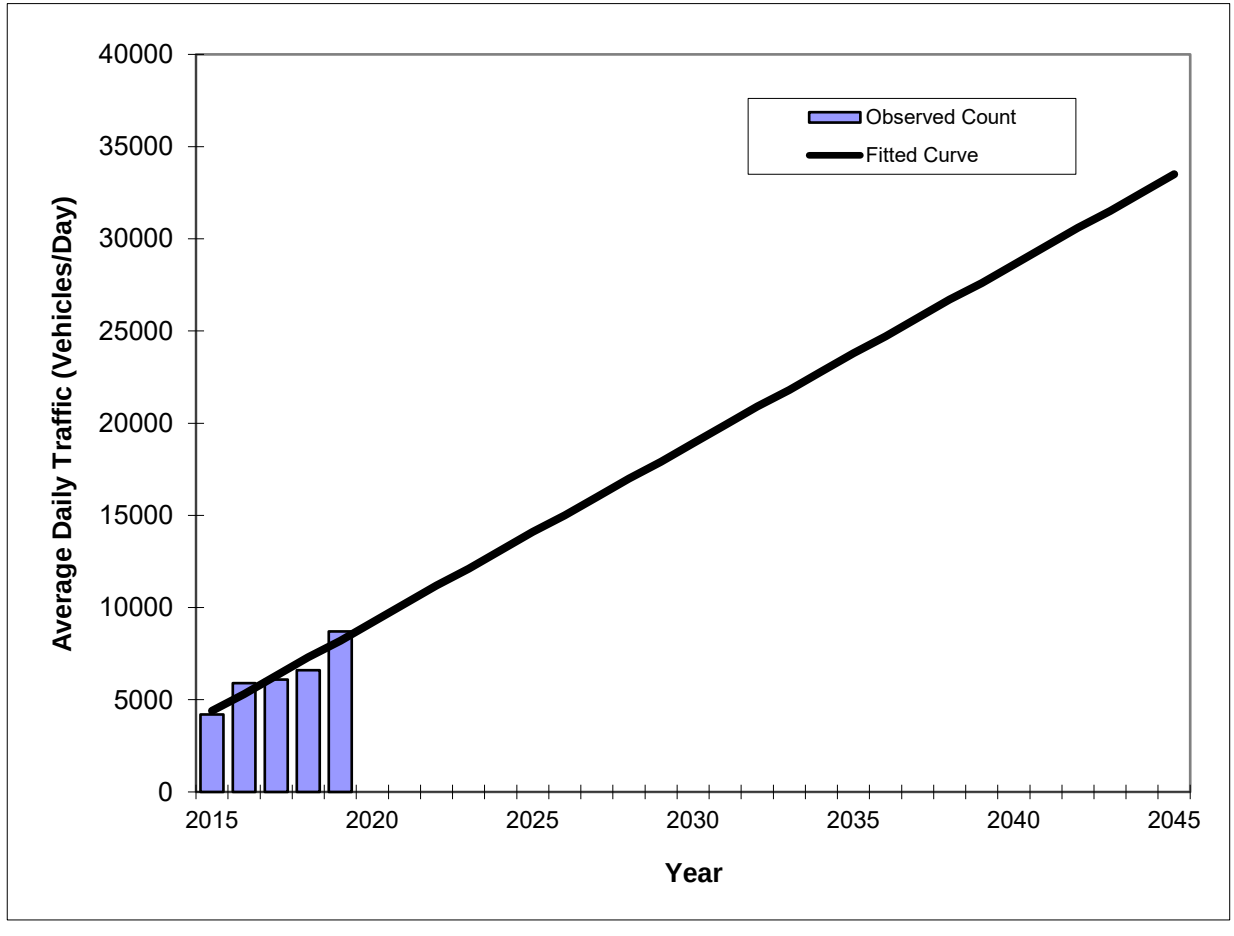
*Axle-Adjusted

Traffic Trends - V03.a

SINCLAIR ROAD -- EAST OF SR 429

FIN#	0
Location	1

County:	Osceola (92)
Station #:	0
Highway:	SINCLAIR ROAD



Year	Traffic (ADT/AADT) Count*	Trend**
2015	4200	4400
2016	5900	5300
2017	6100	6300
2018	6600	7300
2019	8700	8200
2025 Opening Year Trend		
2025	N/A	14100
2035 Mid-Year Trend		
2035	N/A	23800
2045 Design Year Trend		
2045	N/A	33500
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	970
Trend R-squared:	89.95%
Trend Annual Historic Growth Rate:	21.59%
Trend Growth Rate (2019 to Design Year):	11.87%
Printed:	17-May-22

Straight Line Growth Option

*Axle-Adjusted

APPENDIX L

TURNS5 Outputs

TURNS5 ANALYSIS SHEET - INPUT

Analyst: KHA
Date: 20-May-22
Highway: Sinclair Road
Intersection: Tradition Boulevard
Project: Sinclair Road PD&E
County: Osceola

Is the Mainline Oriented North/South? (Enter Yes or No) (●) Yes ( ) No

Is this a 4 way intersection?
( ) Yes, my intersection has four approaches
If not, which 3 approaches exist in the intersection?
( ) EB, WB, and SB
( ) EB, WB, and NB
( ) EB, SB, and NB
(●) WB, SB, and NB

K Factors	Mainline
	9.00%
	Side street
	9.00%

D Factors	*Mainline*
Northbound (NB)	61.0%
Southbound (SB)	39.0%
	Side street
Westbound (WB)	61.0%
Eastbound (EB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N) (Enter Yes or No) (●) Yes ( ) No

If "Yes" go to cell C47 — If "No" go to cell C31

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2021		
Opening	2025		
Mid	2035	0.00%	0.00%
Design	2045		

Mainline Growth Function: (●) Linear ( ) Exponential ( ) Decaying

Side Street Growth Function: (●) Linear ( ) Exponential ( ) Decaying

Enter Base Year AADTs for Volume Comparison:
(growth rates are used to calculate other project years)

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
0	0	0	0	0

Enter Project and Model Years

	Year
Base	2021
Opening	2025
Mid	2035
Design	2045
Model	2045

Enter Base and Model Year AADTs for Volume Comparison:
(volumes for other project years are calculated by interpolation)

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2021	0	3500	3500	0	7000
2045	0	12000	22500	17500	52000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2021**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	0.0%	0
(EB RT)	*West-to-South*	0.0%	0
(WB LT)	*East-to-South*	33.2%	0
(WB THRU)	*East-to-West*	0.0%	0
(WB RT)	*East-to-North*	66.8%	0
(SB LT)	*North-to-East*	40.7%	0
(SB THRU)	*North-to-South*	59.3%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	0.0%	0
(NB THRU)	*South-to-North*	74.6%	0
(NB RT)	*South-to-East*	25.4%	0

Desired Closure: 0.01

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

Only the FSUTMS model year departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

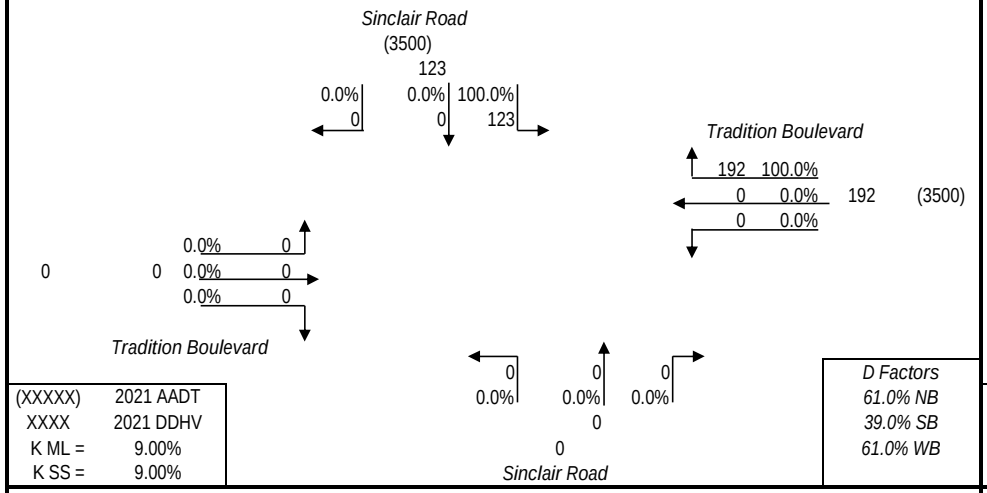
TURNS5 INITIAL TURNING VOLUME SUMMARY

Highway:	Sinclair Road	**County:**	Osceola
Intersection:	Tradition Boulevard		
Project:	Sinclair Road PD&E	**Analyst:**	KHA
		Date:	20-May-22

Approach-To-Approach	2021 Initial Estimate	2021 Final Estimate	2021 Calculated Volume	2025 Final Estimate	2025 Calculated Volume	2035 Final Estimate	2035 Calculated Volume	2045 Final Estimate	2045 Calculated Volume
West-To-North (LT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
West-To-East (Thru)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
West-To-South (RT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
Total Flow From West:			**0**		**0**		**0**		**0**
East-To-South (LT)	0.332	0.000	0	0.093	25	0.195	90	0.239	158
East-To-West (Thru)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
East-To-North (RT)	0.668	1.000	192	0.907	245	0.805	374	0.761	501
Total Flow From East:			**192**		**270**		**464**		**659**
North-To-East (LT)	0.407	1.000	123	0.654	153	0.438	224	0.374	295
North-To-South (Thru)	0.593	0.000	0	0.346	81	0.562	288	0.626	495
North-To-West (RT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
Total Flow From North:			**123**		**234**		**512**		**790**
South-To-West (LT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
South-To-North (Thru)	0.746	0.000	0	0.838	134	0.841	471	0.842	809
South-To-East (RT)	0.254	0.000	0	0.162	26	0.159	89	0.158	152
Total Flow From South:			**0**		**160**		**560**		**961**

PROJECT TRAFFIC FOR Sinclair Road AT Tradition Boulevard

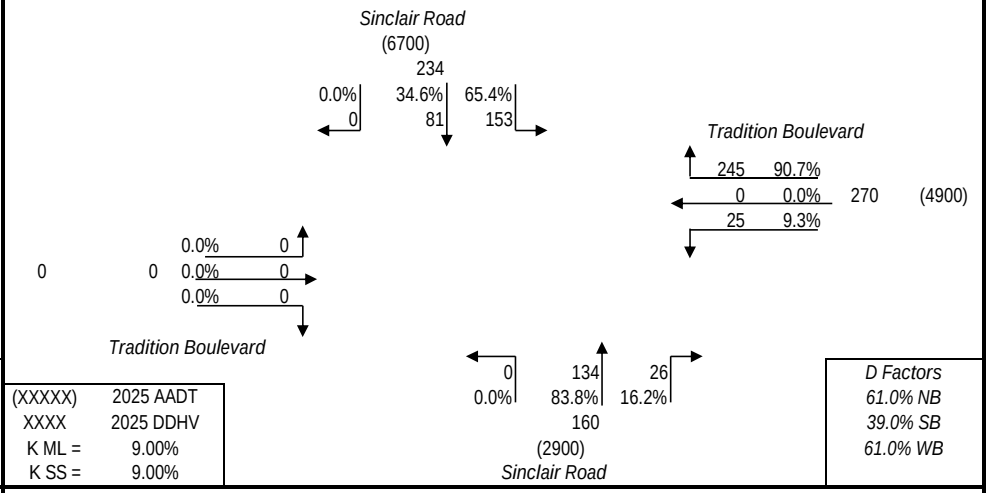
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2021



(XXXXX)	2021 AADT
XXXX	2021 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
61.0% NB
39.0% SB
61.0% WB

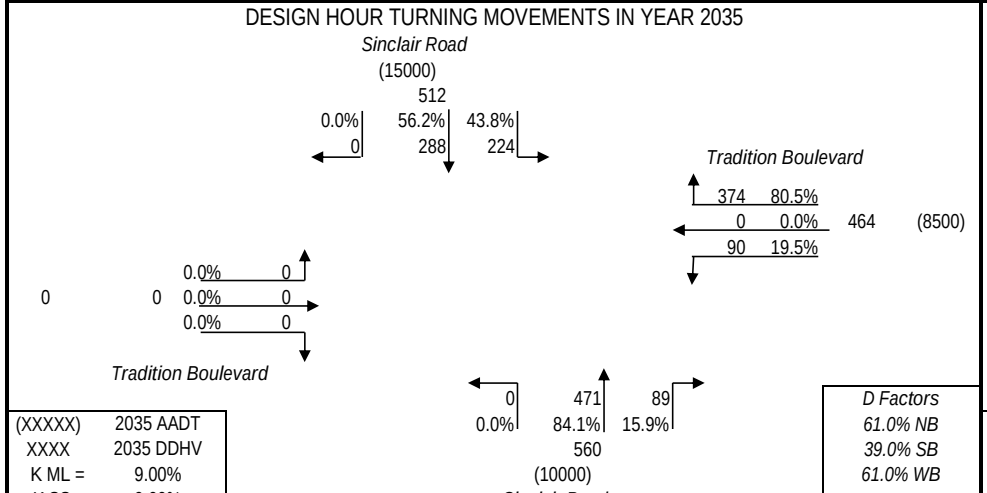
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2025



(XXXXX)	2025 AADT
XXXX	2025 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
61.0% NB
39.0% SB
61.0% WB

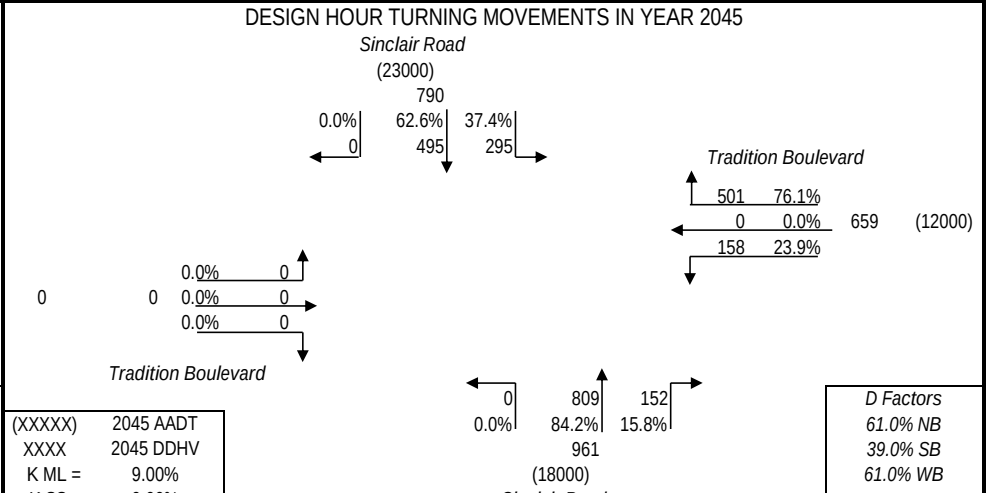
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2035



(XXXXX)	2035 AADT
XXXX	2035 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
61.0% NB
39.0% SB
61.0% WB

DESIGN HOUR TURNING MOVEMENTS IN YEAR 2045

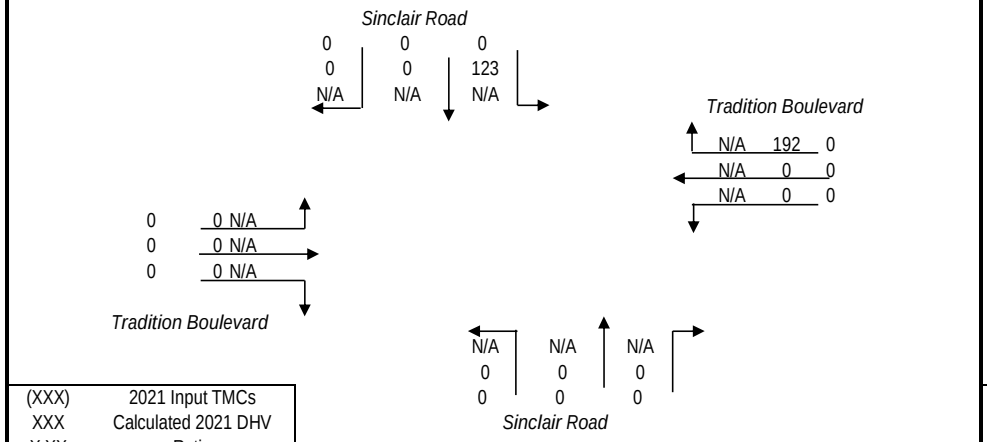


(XXXXX)	2045 AADT
XXXX	2045 DDHV
K ML =	9.00%
K SS =	9.00%

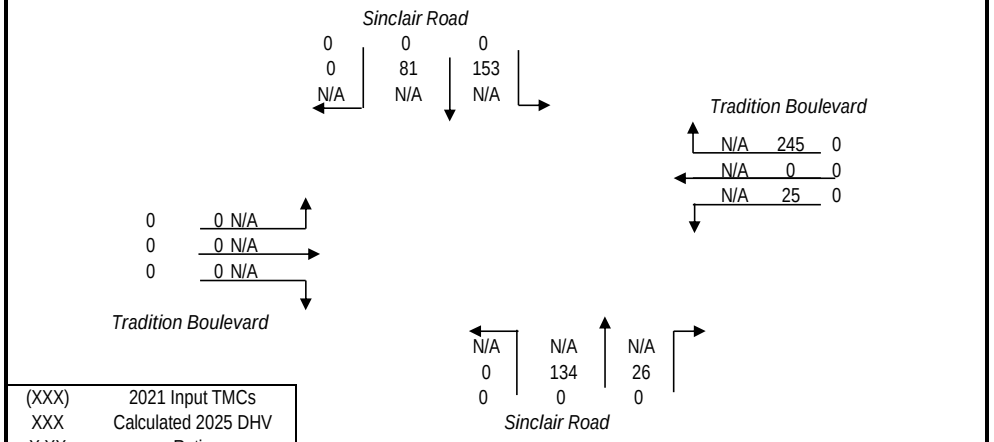
D Factors
61.0% NB
39.0% SB
61.0% WB

PROJECT TRAFFIC FOR Sinclair Road AT Tradition Boulevard

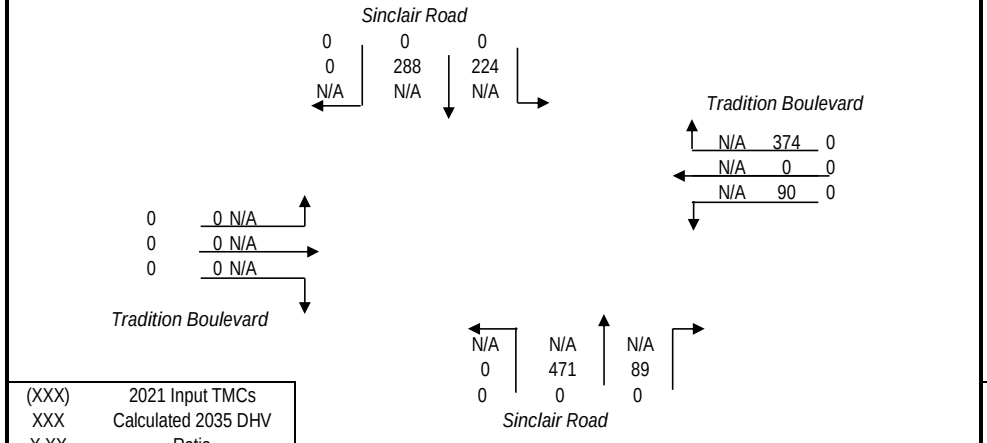
2021 INPUT TMCs COMPARED TO 2021 DHV



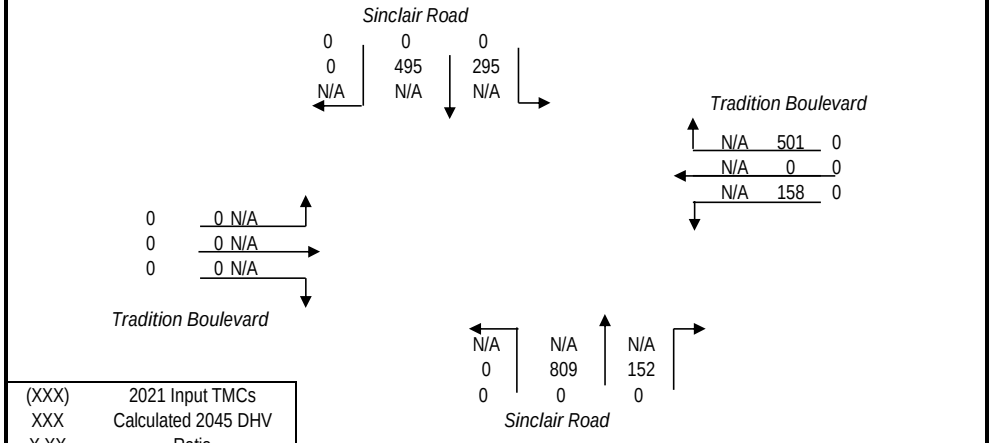
2021 INPUT TMCs COMPARED TO 2025 DHV



2021 INPUT TMCs COMPARED TO 2035 DHV



2021 INPUT TMCs COMPARED TO 2045 DHV



TURNS5 ANALYSIS SHEET - INPUT

Analyst: KHA
Date: 20-May-22
Highway: Sinclair Road
Intersection: Tradition Boulevard
Project: Sinclair Road PD&E
County: Osceola

Is this a 4 way intersection?
- ○ Yes, my intersection has four approaches

If not, which 3 approaches exist in the intersection?
- ○ EB, WB, and SB
- ○ EB, WB, and NB
- ○ EB, SB, and NB
- ◉ WB, SB, and NB

Is the Mainline Oriented North/South? Enter Yes or No
- ◉ Yes
- ○ No

K Factors	Mainline
	9.00%
	Side street
	9.00%

D Factors	*Mainline*
Northbound (NB)	39.0%
Southbound (SB)	61.0%
	Side street
Westbound (WB)	39.0%
Eastbound (EB)	0.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N) Enter Yes or No
- ◉ Yes
- ○ No

If "Yes" go to cell C47 — If "No" go to cell C31

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base	2021		
Opening	2025	0.00%	0.00%
Mid	2035		
Design	2045		

Mainline Growth Function
- ◉ Linear
- ○ Exponential
- ○ Decaying

Side Street Growth Function
- ◉ Linear
- ○ Exponential
- ○ Decaying

Enter Base Year AADTs for Volume Comparison:
(growth rates are used to calculate other project years)

From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
0	0	0	0	0

Enter Project and Model Years

	Year
Base	2021
Opening	2025
Mid	2035
Design	2045
Model	2045

Enter Base and Model Year AADTs for Volume Comparison:
(volumes for other project years are calculated by interpolation)

	From West: *EB Approach*	*From East:* *WB Approach*	*From North:* *SB Approach*	*From South:* *NB Approach*	***TOTAL***
2021	0	3500	3500	0	7000
2045	0	12000	22500	17500	52000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2021**
(EB LT)	*West-to-North*	0.0%	0
(EB THRU)	*West-to-East*	0.0%	0
(EB RT)	*West-to-South*	0.0%	0
(WB LT)	*East-to-South*	54.9%	0
(WB THRU)	*East-to-West*	0.0%	0
(WB RT)	*East-to-North*	45.1%	0
(SB LT)	*North-to-East*	40.7%	0
(SB THRU)	*North-to-South*	59.3%	0
(SB RT)	*North-to-West*	0.0%	0
(NB LT)	*South-to-West*	0.0%	0
(NB THRU)	*South-to-North*	54.5%	0
(NB RT)	*South-to-East*	45.5%	0

Desired Closure: 0.01

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

Only the FSUTMS model year departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

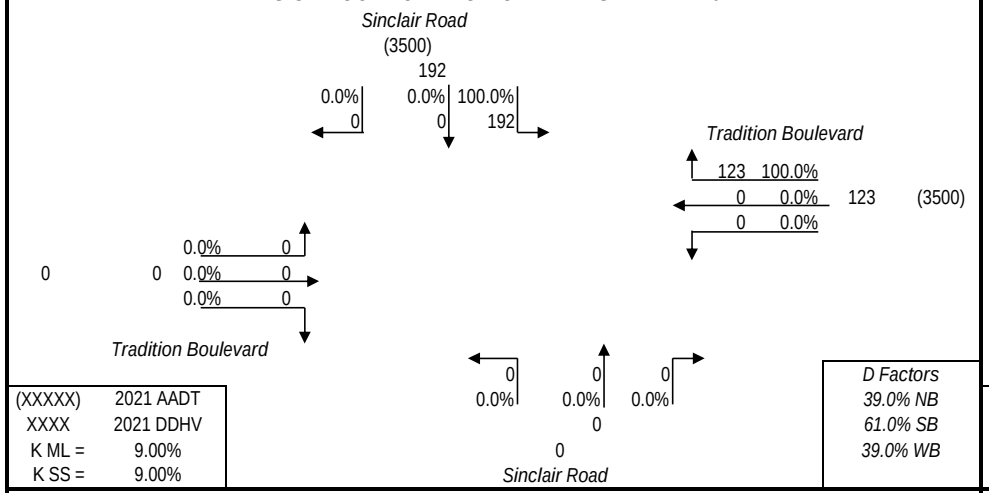
TURNS5 INITIAL TURNING VOLUME SUMMARY

Highway:	Sinclair Road	**County:**	Osceola
Intersection:	Tradition Boulevard		
Project:	Sinclair Road PD&E	**Analyst:**	KHA
		Date:	20-May-22

Approach-To-Approach	2021 Initial Estimate	2021 Final Estimate	2021 Calculated Volume	2025 Final Estimate	2025 Calculated Volume	2035 Final Estimate	2035 Calculated Volume	2045 Final Estimate	2045 Calculated Volume
West-To-North (LT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
West-To-East (Thru)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
West-To-South (RT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
Total Flow From West:			**0**		**0**		**0**		**0**
East-To-South (LT)	0.549	0.000	0	0.145	25	0.284	84	0.411	173
East-To-West (Thru)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
East-To-North (RT)	0.451	1.000	123	0.855	148	0.716	213	0.589	248
Total Flow From East:			**123**		**173**		**297**		**421**
North-To-East (LT)	0.407	1.000	192	0.646	236	0.442	354	0.361	446
North-To-South (Thru)	0.593	0.000	0	0.354	130	0.558	447	0.639	789
North-To-West (RT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
Total Flow From North:			**192**		**366**		**801**		**1235**
South-To-West (LT)	0.000	0.000	0	0.000	0	0.000	0	0.000	0
South-To-North (Thru)	0.545	0.000	0	0.763	78	0.761	272	0.717	440
South-To-East (RT)	0.455	0.000	0	0.237	24	0.239	86	0.283	174
Total Flow From South:			**0**		**102**		**358**		**614**

PROJECT TRAFFIC FOR Sinclair Road AT Tradition Boulevard

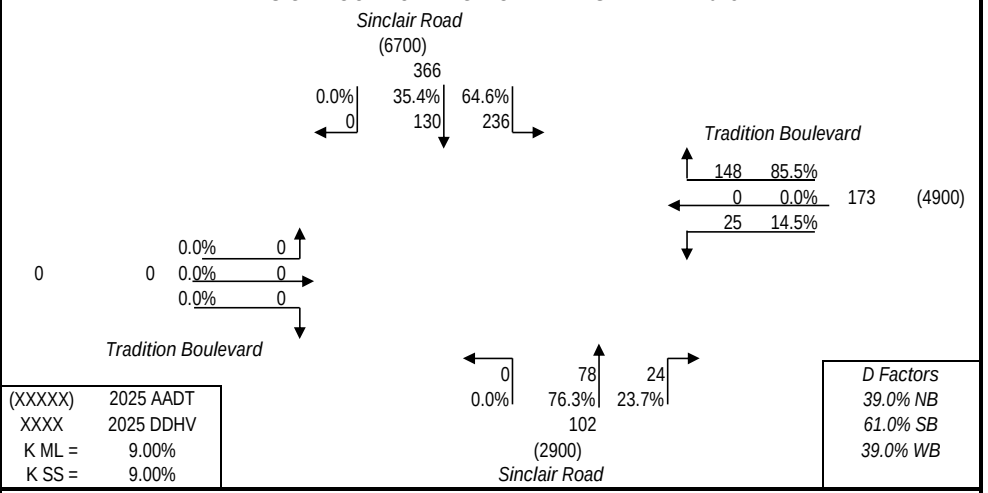
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2021



(XXXXX)	2021 AADT
XXXX	2021 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
39.0% NB
61.0% SB
39.0% WB

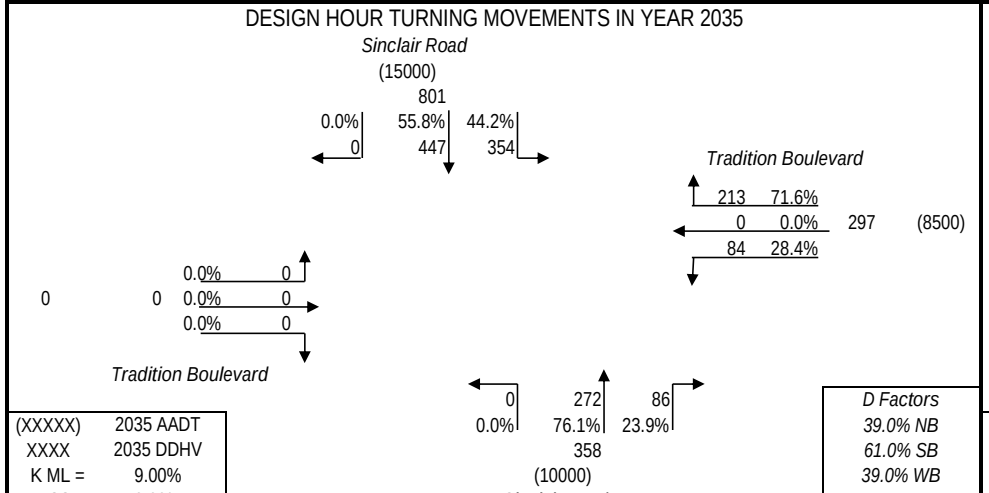
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2025



(XXXXX)	2025 AADT
XXXX	2025 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
39.0% NB
61.0% SB
39.0% WB

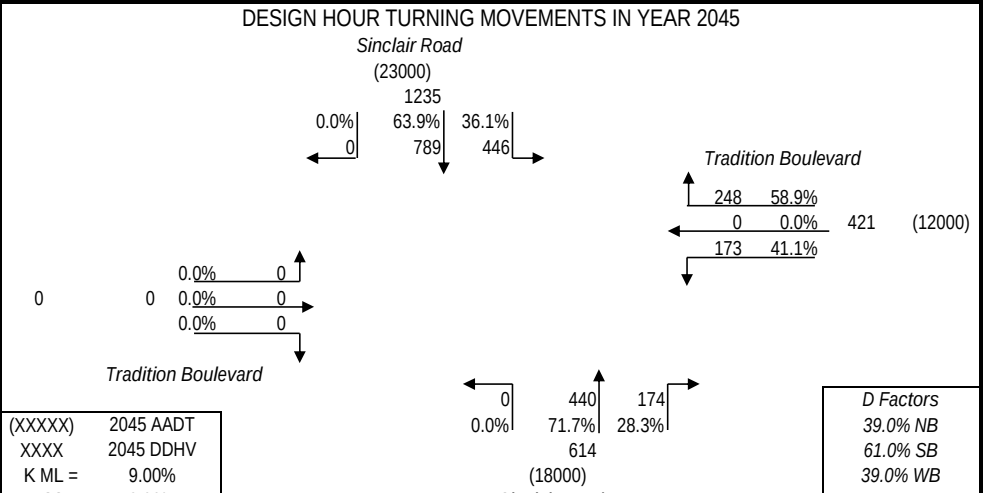
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2035



(XXXXX)	2035 AADT
XXXX	2035 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
39.0% NB
61.0% SB
39.0% WB

DESIGN HOUR TURNING MOVEMENTS IN YEAR 2045

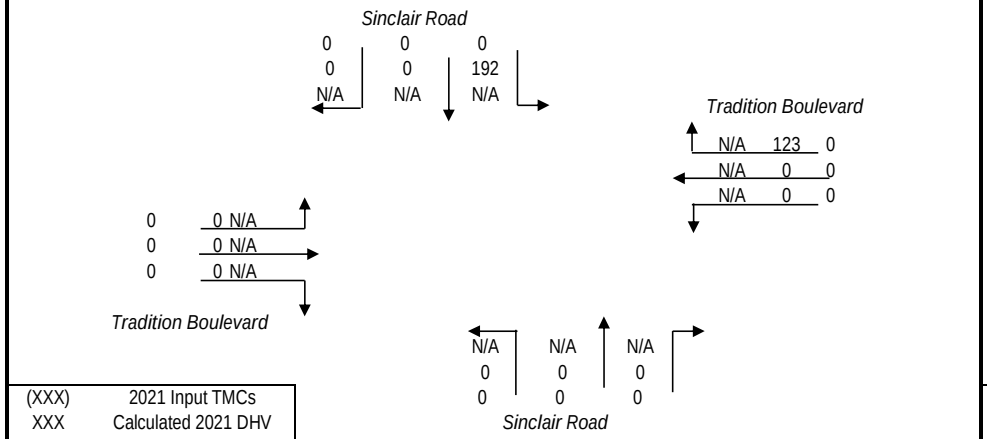


(XXXXX)	2045 AADT
XXXX	2045 DDHV
K ML =	9.00%
K SS =	9.00%

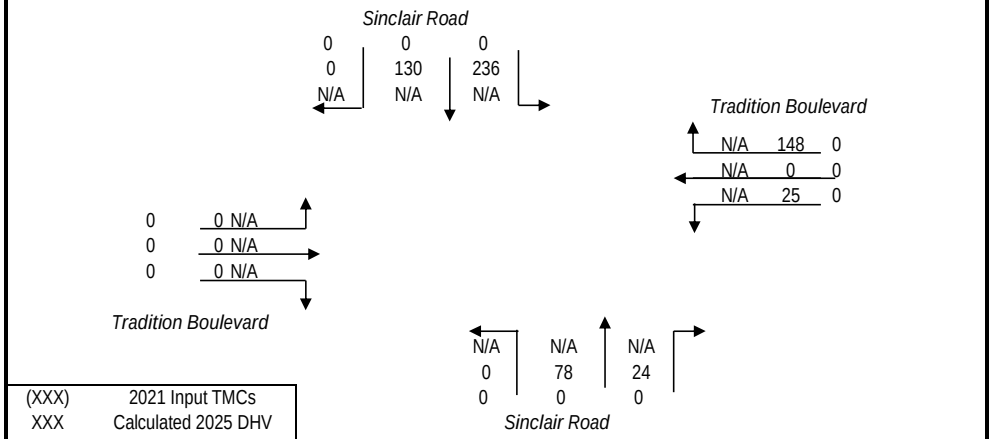
D Factors
39.0% NB
61.0% SB
39.0% WB

PROJECT TRAFFIC FOR Sinclair Road AT Tradition Boulevard

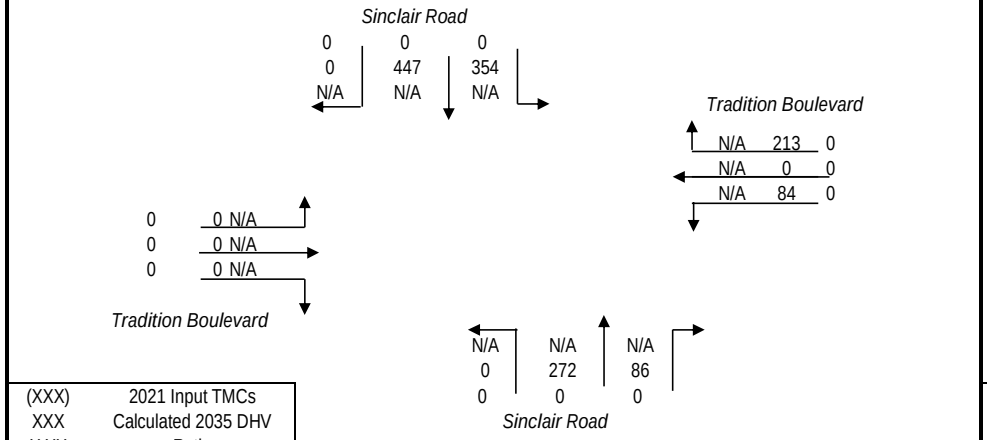
2021 INPUT TMCs COMPARED TO 2021 DHV



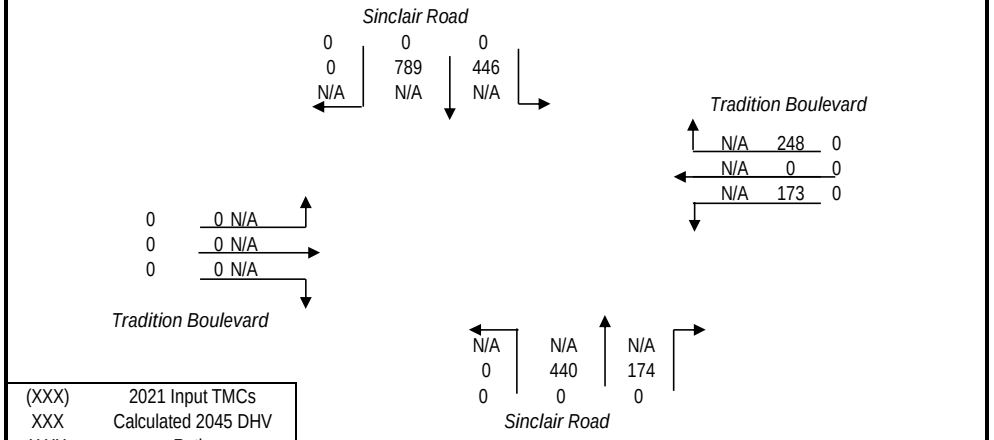
2021 INPUT TMCs COMPARED TO 2025 DHV



2021 INPUT TMCs COMPARED TO 2035 DHV



2021 INPUT TMCs COMPARED TO 2045 DHV



TURNS5 ANALYSIS SHEET - INPUT

Analyst: KHA
Date: 20-May-22
Highway: Sinclair Rd/Bella Citta Blvd
Intersection: Goodman Rd
Project: Sinclair Road PD&E
County: Osceola

Is this a 4 way intersection?
(●) Yes, my intersection has four approaches
If not, which 3 approaches exist in the intersection?
( ) EB, WB, and SB
( ) EB, WB, and NB
( ) EB, SB, and NB
( ) WB, SB, and NB

Is the Mainline Oriented North/South? Enter Yes or No: ( ) Yes (●) No

K Factors	
Mainline	9.00%
Side street	9.00%

D Factors	*Mainline*
Westbound (WB)	39.0%
Eastbound (EB)	61.0%
Side street	
Northbound (NB)	49.0%
Southbound (SB)	51.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N) Enter Yes or No: (●) Yes ( ) No

If "Yes" go to cell C47 — If "No" go to cell C31

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base			
Opening			
Mid			
Design			

Mainline Growth Function: (●) Linear ( ) Exponential ( ) Decaying

Side Street Growth Function: (●) Linear ( ) Exponential ( ) Decaying

Enter Base Year AADTs for Volume Comparison:
(growth rates are used to calculate other project years)

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
0	0	0	0	0

Enter Project and Model Years

	Year
Base	2021
Opening	2025
Mid	2035
Design	2045
Model	2045

Enter Base and Model Year AADTs for Volume Comparison:
(volumes for other project years are calculated by interpolation)

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2021	9000	0	4400	11000	24400
2045	17000	17500	5000	14500	54000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2021**
(EB LT)	*West-to-North*	11.9%	61
(EB THRU)	*West-to-East*	52.1%	0
(EB RT)	*West-to-South*	36.0%	303
(WB LT)	*East-to-South*	44.9%	0
(WB THRU)	*East-to-West*	40.2%	0
(WB RT)	*East-to-North*	14.9%	0
(SB LT)	*North-to-East*	43.2%	0
(SB THRU)	*North-to-South*	30.0%	63
(SB RT)	*North-to-West*	26.8%	33
(NB LT)	*South-to-West*	33.6%	201
(NB THRU)	*South-to-North*	12.4%	123
(NB RT)	*South-to-East*	54.0%	0
Desired Closure:		0.01	

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

Only the FSUTMS model year departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

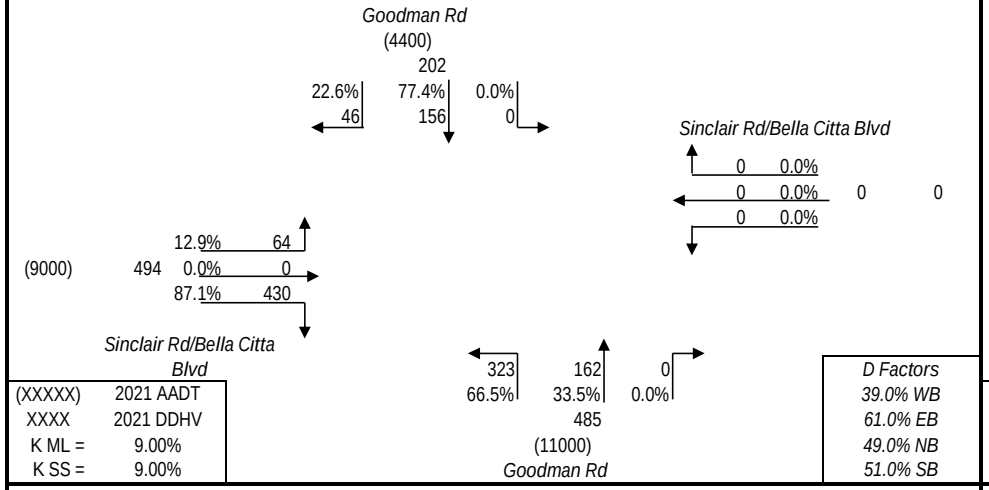
TURNS5 INITIAL TURNING VOLUME SUMMARY

Highway:	Sinclair Rd/Bella Citta Blvd	**County:**	Osceola
Intersection:	Goodman Rd		
Project:	Sinclair Road PD&E	**Analyst:**	KHA
		Date:	20-May-22

Approach-To-Approach	2021 Initial Estimate	2021 Final Estimate	2021 Calculated Volume	2025 Final Estimate	2025 Calculated Volume	2035 Final Estimate	2035 Calculated Volume	2045 Final Estimate	2045 Calculated Volume
West-To-North (LT)	0.119	0.129	64	0.156	88	0.127	95	0.095	89
West-To-East (Thru)	0.521	0.000	0	0.120	68	0.381	286	0.548	511
West-To-South (RT)	0.360	0.871	430	0.724	411	0.492	369	0.357	333
Total Flow From West:			**494**		**567**		**750**		**933**
East-To-South (LT)	0.449	0.000	0	0.565	58	0.461	165	0.428	263
East-To-West (Thru)	0.402	0.000	0	0.313	32	0.419	150	0.458	281
East-To-North (RT)	0.149	0.000	0	0.122	12	0.120	43	0.114	70
Total Flow From East:			**0**		**102**		**358**		**614**
North-To-East (LT)	0.432	0.000	0	0.095	20	0.287	63	0.424	98
North-To-South (Thru)	0.300	0.774	156	0.583	120	0.374	81	0.278	63
North-To-West (RT)	0.268	0.226	46	0.322	67	0.339	74	0.298	69
Total Flow From North:			**202**		**207**		**218**		**230**
South-To-West (LT)	0.336	0.665	323	0.594	304	0.470	270	0.375	240
South-To-North (Thru)	0.124	0.335	162	0.231	118	0.133	77	0.093	59
South-To-East (RT)	0.540	0.000	0	0.175	89	0.397	228	0.532	340
Total Flow From South:			**485**		**511**		**575**		**639**

PROJECT TRAFFIC FOR Sinclair Rd/Bella Citta Blvd AT Goodman Rd

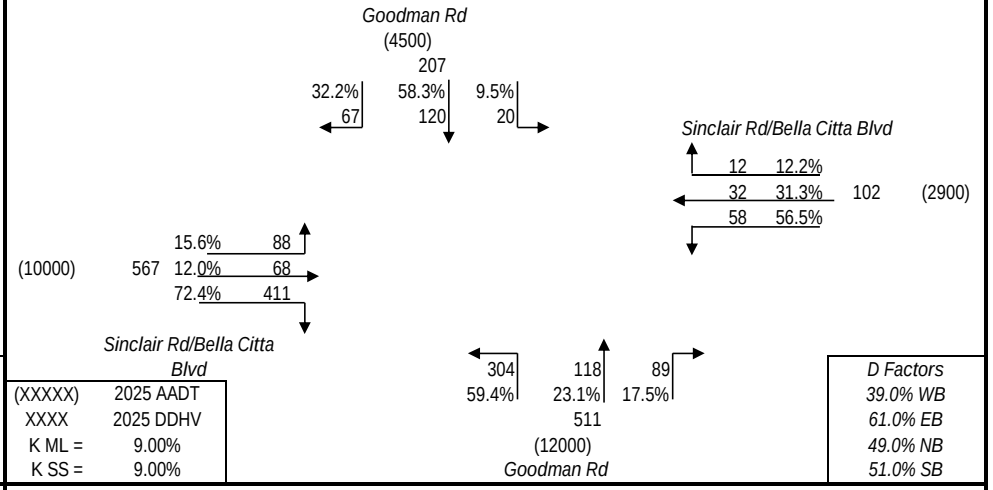
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2021



(XXXXX)	2021 AADT
XXXX	2021 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
39.0% WB
61.0% EB
49.0% NB
51.0% SB

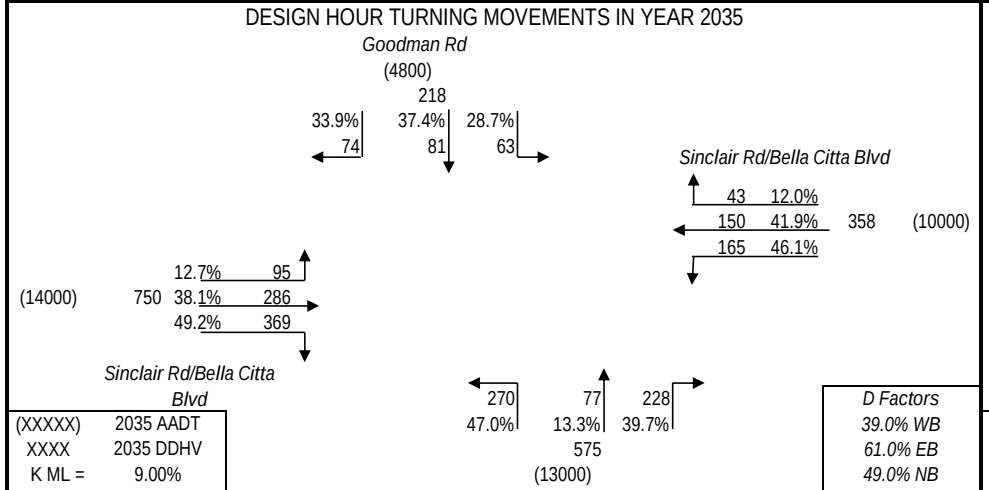
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2025



(XXXXX)	2025 AADT
XXXX	2025 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
39.0% WB
61.0% EB
49.0% NB
51.0% SB

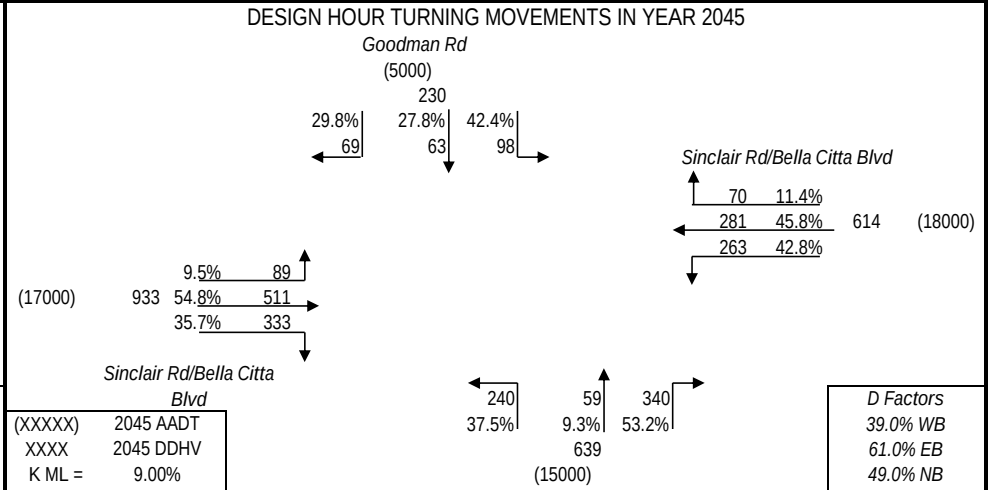
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2035



(XXXXX)	2035 AADT
XXXX	2035 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
39.0% WB
61.0% EB
49.0% NB
51.0% SB

DESIGN HOUR TURNING MOVEMENTS IN YEAR 2045

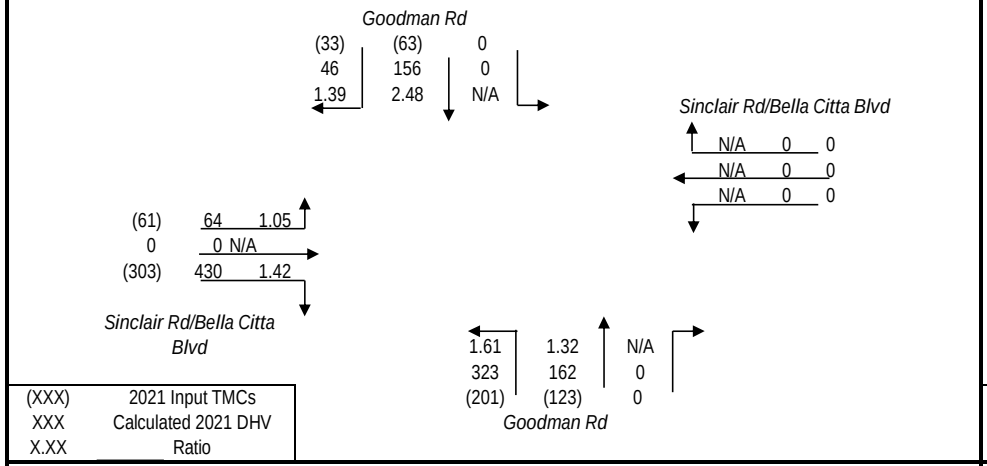


(XXXXX)	2045 AADT
XXXX	2045 DDHV
K ML =	9.00%
K SS =	9.00%

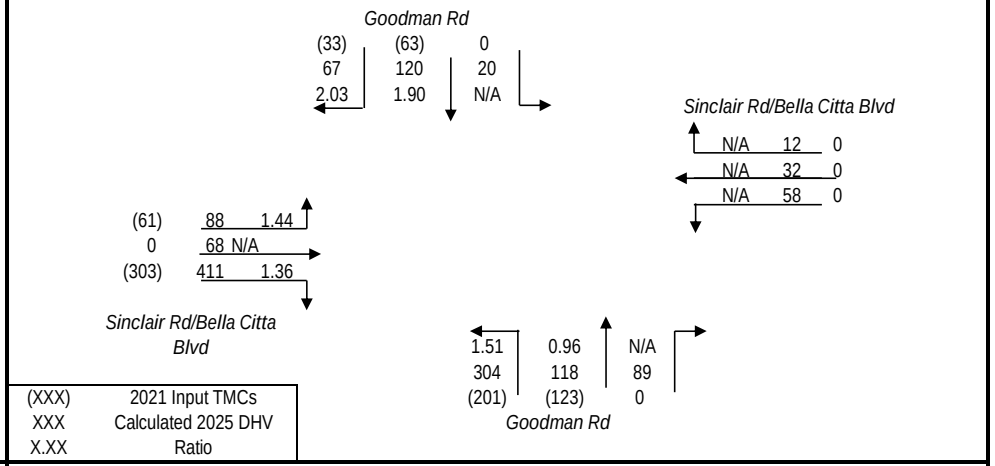
D Factors
39.0% WB
61.0% EB
49.0% NB
51.0% SB

PROJECT TRAFFIC FOR Sinclair Rd/Bella Citta Blvd AT Goodman Rd

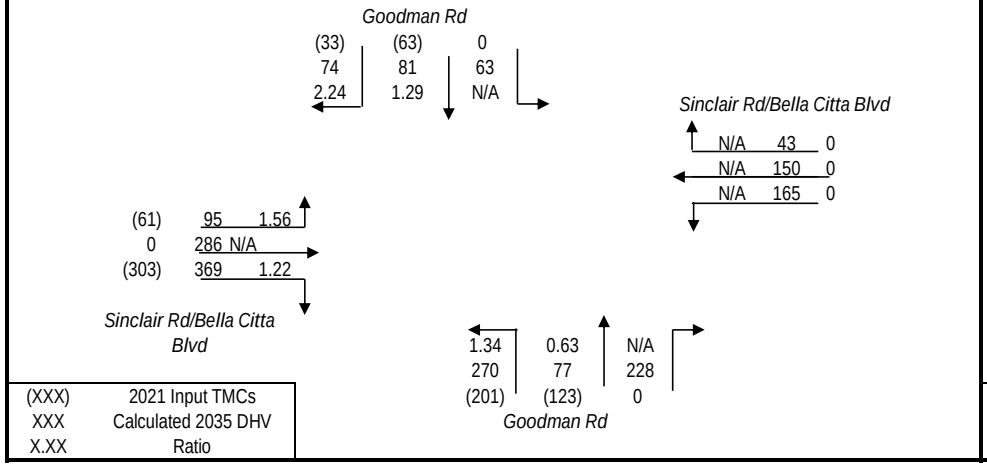
2021 INPUT TMCs COMPARED TO 2021 DHV



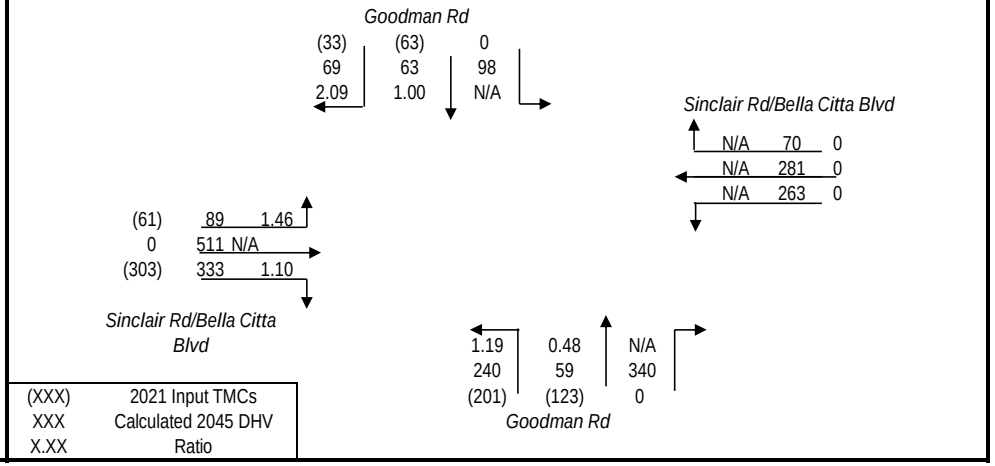
2021 INPUT TMCs COMPARED TO 2025 DHV



2021 INPUT TMCs COMPARED TO 2035 DHV



2021 INPUT TMCs COMPARED TO 2045 DHV



TURNS5 ANALYSIS SHEET - INPUT

Analyst: KHA
Date: 20-May-22
Highway: Sinclair Rd/Bella Citta Blvd
Intersection: Goodman Rd
Project: Sinclair Road PD&E
County: Osceola

Is this a 4 way intersection?
(●) Yes, my intersection has four approaches

If not, which 3 approaches exist in the intersection?
( ) EB, WB, and SB
( ) EB, WB, and NB
( ) EB, SB, and NB
( ) WB, SB, and NB

Is the Mainline Oriented North/South? Enter Yes or No
( ) Yes
(●) No

K Factors	Mainline
	9.00%
	Side street
	9.00%

D Factors	*Mainline*
Westbound (WB)	53.0%
Eastbound (EB)	47.0%
	Side street
Northbound (NB)	30.0%
Southbound (SB)	70.0%

Do you have FTSUTMS Model Year traffic from which you would like to interpolate/extrapolate for project years? (Y/N) Enter Yes or No
(●) Yes
( ) No

If "Yes" go to cell C47 — If "No" go to cell C31

Enter Year and Growth Rates from Base Year:

	Year	*Rate* (1.0% = 0.01) Mainline	Side Street
Base			
Opening			
Mid			
Design			

Mainline Growth Function
(●) Linear
( ) Exponential
( ) Decaying

Side Street Growth Function
(●) Linear
( ) Exponential
( ) Decaying

Enter Base Year AADTs for Volume Comparison:
(growth rates are used to calculate other project years)

From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
0	0	0	0	0

Enter Project and Model Years

	Year
Base	2021
Opening	2025
Mid	2035
Design	2045
Model	2045

Enter Base and Model Year AADTs for Volume Comparison:
(volumes for other project years are calculated by interpolation)

	From West: EB Approach	*From East: WB Approach*	*From North: SB Approach*	*From South: NB Approach*	***TOTAL***
2021	9000	0	4400	11000	24400
2045	17000	17500	5000	14500	54000

		1st Guess Turning %'s for AADT Balancing	**Actual/Counted Traffic for 2021**
(EB LT)	*West-to-North*	7.5%	17
(EB THRU)	*West-to-East*	41.4%	0
(EB RT)	*West-to-South*	51.1%	273
(WB LT)	*East-to-South*	49.1%	0
(WB THRU)	*East-to-West*	43.6%	0
(WB RT)	*East-to-North*	7.3%	0
(SB LT)	*North-to-East*	30.0%	0
(SB THRU)	*North-to-South*	37.1%	340
(SB RT)	*North-to-West*	32.9%	114
(NB LT)	*South-to-West*	48.1%	210
(NB THRU)	*South-to-North*	8.0%	92
(NB RT)	*South-to-East*	43.9%	0

Desired Closure: 0.01

Existing Year AADTs

Existing Turning Movement Counts

FSUTMS Model Year AADTs

First Guess Turning % Option Used
FSUTMS Model Year AADTs

Only the existing year total departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

The turning percentages first guess is the same as the ***actual distribution of turning volumes entered***. No balancing technique is used.

Only the FSUTMS model year departure volumes [AADT*K*(1-D)] will be used to calculate the turning percentages first guess.

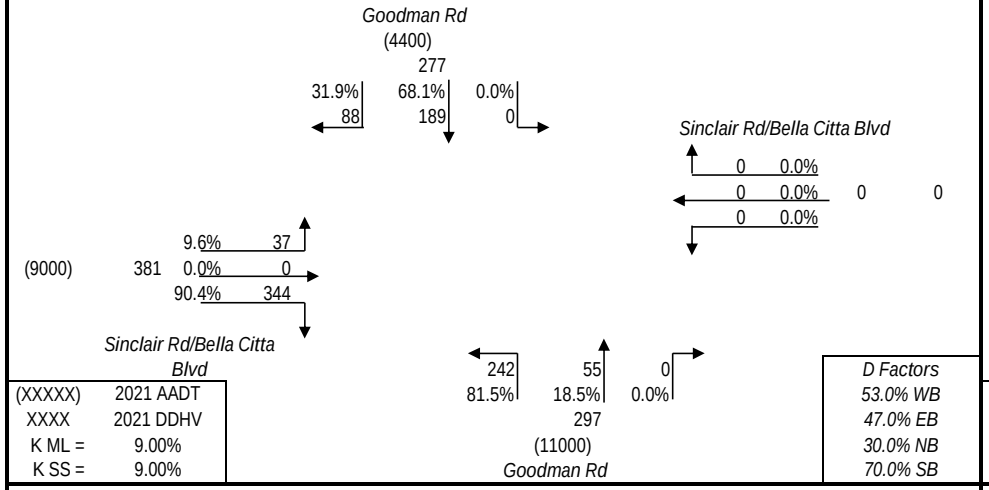
TURNS5 INITIAL TURNING VOLUME SUMMARY

Highway:	Sinclair Rd/Bella Citta Blvd	**County:**	Osceola
Intersection:	Goodman Rd		
Project:	Sinclair Road PD&E	**Analyst:**	KHA
		Date:	20-May-22

Approach-To-Approach	2021 Initial Estimate	2021 Final Estimate	2021 Calculated Volume	2025 Final Estimate	2025 Calculated Volume	2035 Final Estimate	2035 Calculated Volume	2045 Final Estimate	2045 Calculated Volume
West-To-North (LT)	0.075	0.096	37	0.103	45	0.081	47	0.060	43
West-To-East (Thru)	0.414	0.000	0	0.094	41	0.322	186	0.474	341
West-To-South (RT)	0.511	0.904	344	0.803	351	0.597	345	0.466	335
Total Flow From West:			**381**		**437**		**578**		**719**
East-To-South (LT)	0.491	0.000	0	0.547	76	0.472	230	0.462	386
East-To-West (Thru)	0.436	0.000	0	0.382	53	0.463	225	0.478	399
East-To-North (RT)	0.073	0.000	0	0.071	10	0.065	32	0.060	50
Total Flow From East:			**0**		**139**		**487**		**835**
North-To-East (LT)	0.300	0.000	0	0.064	18	0.214	64	0.333	105
North-To-South (Thru)	0.371	0.681	189	0.551	157	0.397	119	0.328	103
North-To-West (RT)	0.329	0.319	88	0.385	109	0.389	116	0.339	107
Total Flow From North:			**277**		**284**		**299**		**315**
South-To-West (LT)	0.481	0.815	242	0.740	232	0.592	208	0.474	186
South-To-North (Thru)	0.080	0.185	55	0.136	42	0.083	30	0.060	23
South-To-East (RT)	0.439	0.000	0	0.124	39	0.325	114	0.466	183
Total Flow From South:			**297**		**313**		**352**		**392**

PROJECT TRAFFIC FOR Sinclair Rd/Bella Citta Blvd AT Goodman Rd

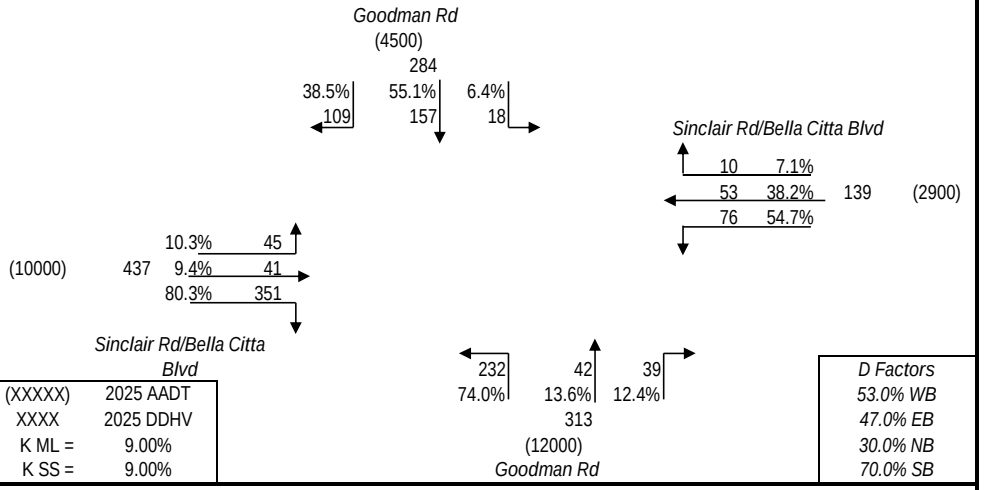
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2021



(XXXXX)	2021 AADT
XXXX	2021 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
53.0% WB
47.0% EB
30.0% NB
70.0% SB

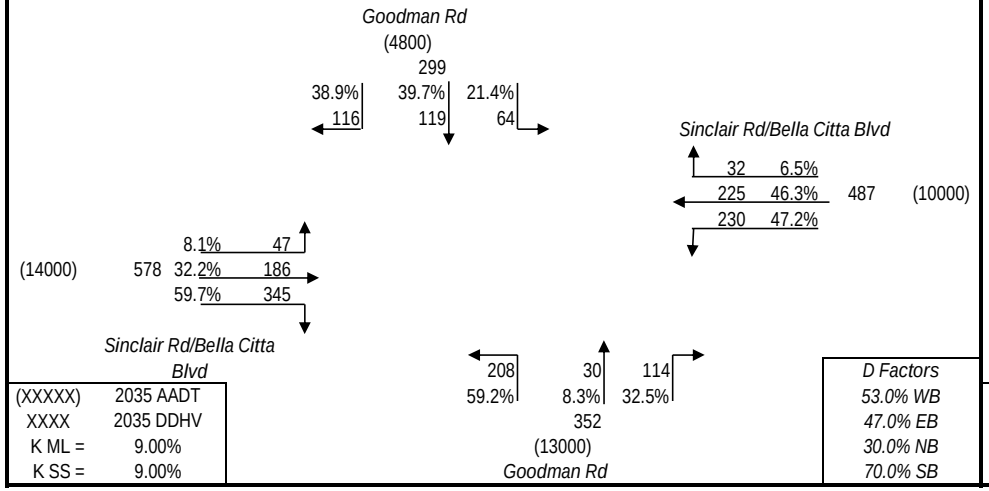
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2025



(XXXXX)	2025 AADT
XXXX	2025 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
53.0% WB
47.0% EB
30.0% NB
70.0% SB

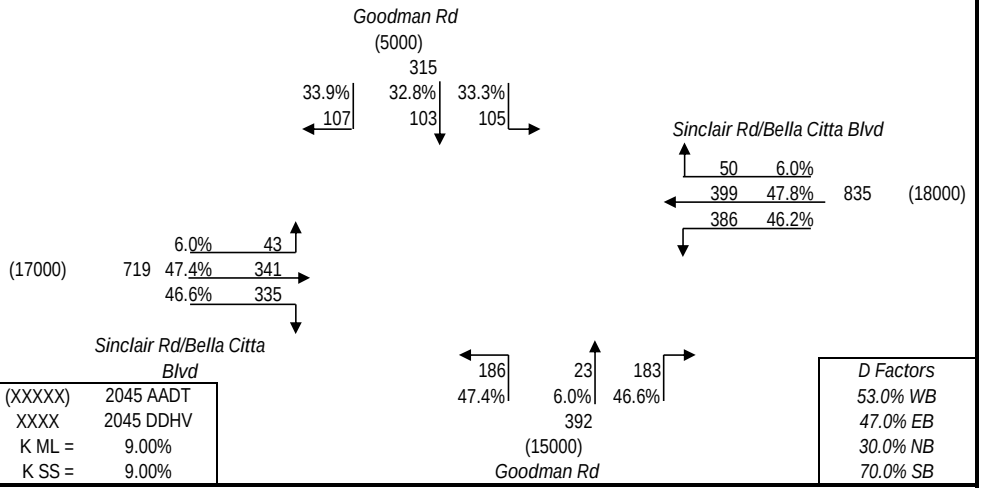
DESIGN HOUR TURNING MOVEMENTS IN YEAR 2035



(XXXXX)	2035 AADT
XXXX	2035 DDHV
K ML =	9.00%
K SS =	9.00%

D Factors
53.0% WB
47.0% EB
30.0% NB
70.0% SB

DESIGN HOUR TURNING MOVEMENTS IN YEAR 2045

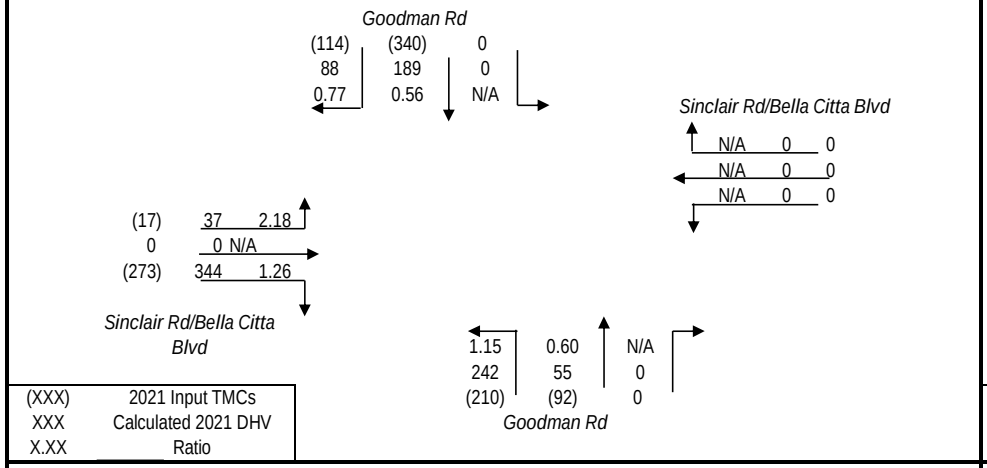


(XXXXX)	2045 AADT
XXXX	2045 DDHV
K ML =	9.00%
K SS =	9.00%

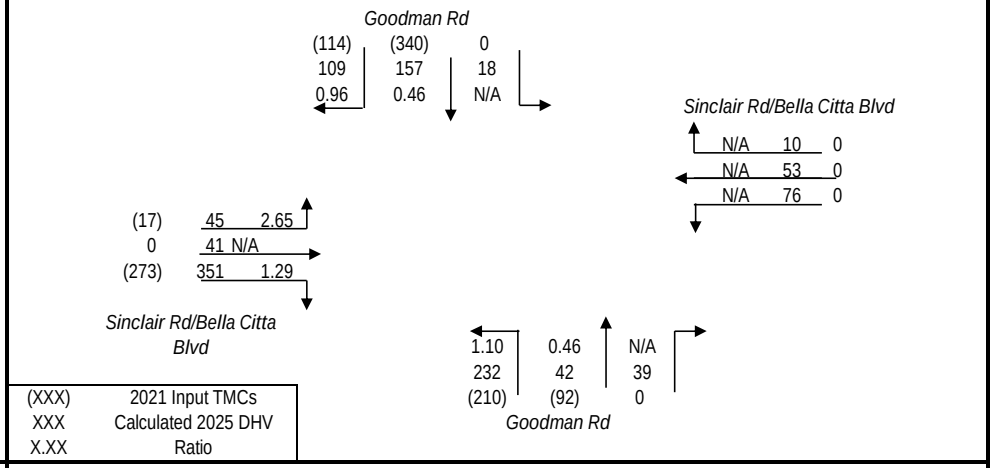
D Factors
53.0% WB
47.0% EB
30.0% NB
70.0% SB

PROJECT TRAFFIC FOR Sinclair Rd/Bella Citta Blvd AT Goodman Rd

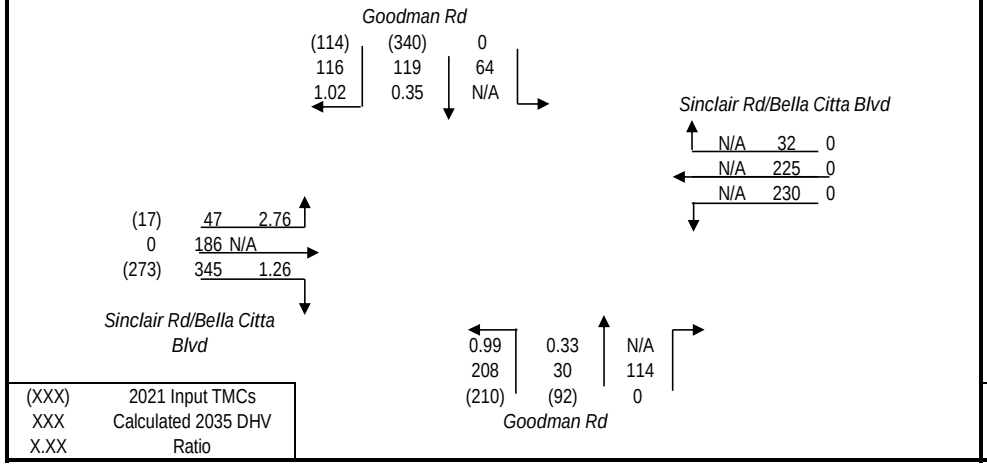
2021 INPUT TMCs COMPARED TO 2021 DHV



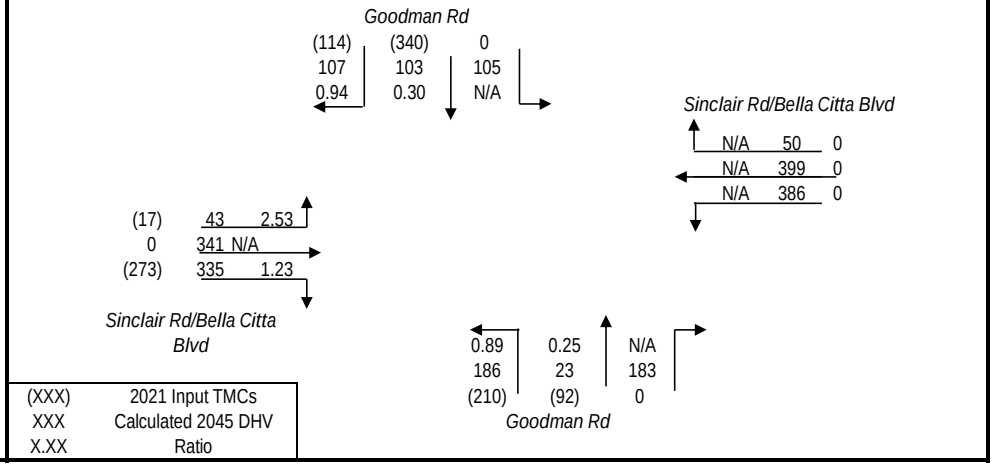
2021 INPUT TMCs COMPARED TO 2025 DHV



2021 INPUT TMCs COMPARED TO 2035 DHV



2021 INPUT TMCs COMPARED TO 2045 DHV



APPENDIX M

Sinclair Road Preliminary Traffic Analysis Technical Memorandum

Kimley»Horn

MEMORANDUM

To: Conroy Jacobs, AICP, MPA
Transportation & Transit Department
Osceola County

From: James M. Taylor, P.E.
Kimley-Horn and Associates, Inc.

Date: May 23, 2022

Subject: Sinclair Road Extension Preliminary Traffic Evaluation

Introduction

This memorandum summarizes the development of 2045 average annual daily traffic (AADT) volumes and peak hour turning movement volumes (TMVs) at the intersections of Sinclair Road Extension with Goodman Road and Tradition Boulevard. These TMVs were used to develop lane requirements at these two intersections. This information will be incorporated into the more detailed Project Traffic Analysis Report (PTAR). This analysis was performed consistent with the approved PTAR Methodology.

Existing (2021) Traffic Volumes

Daily roadway volumes were collected at the study roadway segments during three (3) consecutive days from Tuesday, November 16, 2021, to Thursday, November 18, 2021. The average volume during the three days was calculated and adjusted by applying the seasonal factor (SF) published in the Florida Department of Transportation (FDOT) Florida Traffic Online (FTO) database for the volumes were collected. **Table 1** shows a summary of the adjusted Average Annual Daily Traffic (AADT) for each segment. **Figure 1** depicts the existing AADT.

Table 1: Existing Average Annual Daily Traffic (AADT)

Roadway Segment	Average Daily Traffic (ADT)				SF[1]	Adjusted AADT	Adjusted AADT (Rounded
	Day 1	Day 2	Day 3	Average			
Happy Trails							
west of Sinclair Road	820	794	869	828		**795**	**800**
Sinclair Road							
north of Tradition Boulevard	3,480	3,484	4,062	3,675		**3,528**	**3,500**
Bella Citta Boulevard					0.96		
west of S Goodman Road	9,129	9,005	10,077	9,404		**9,028**	**9,000**
S Goodman Rd							
north of Bella Citta Boulevard	4,524	4,308	4,849	4,560		**4,378**	**4,400**
south of Bella Citta Boulevard	11,115	11,091	12,071	11,426		**10,969**	**11,000**

Notes:

1. Per FDOT's Florida Traffic Online for Osceola County

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The eight (8) highest hours during the day were determined and used to collect turning movement counts (TMC) at the study intersections. The eight highest hours occur from 7:00 AM to 11:00 AM and from 2:00 PM to 6:00 PM. Existing volumes were adjusted by applying the seasonal factor (SF) published in the Florida Traffic Online (FTO) database for the week turning movement counts were collected. Raw existing traffic volumes are provided in the **Attachments**. Adjusted existing (2021) AM and PM peak hour turning movement volumes are shown in **Figure 2.**

Model Calibration

The latest adopted Central Florida Regional Planning Model (CFRPM v7) was used to forecast unadjusted horizon year (2045) daily traffic volumes at the future intersection approaches. The base year 2015 model was reviewed by comparing the model volumes to the historic counts on nearby roadway segments within the study area. The model showed to underrepresent the volumes along Goodman Road south of Bella Citta Boulevard and Bella Citta Boulevard west of Goodman Road. This observation was taken into account when developing year 2045 volumes as described in the subsequent section. No modifications were made in the model to roadway segment attributes (speed, area type, facility type, etc.). **Figure 3** shows a comparison of the base year 2015 model volumes and 2015 historical volumes.

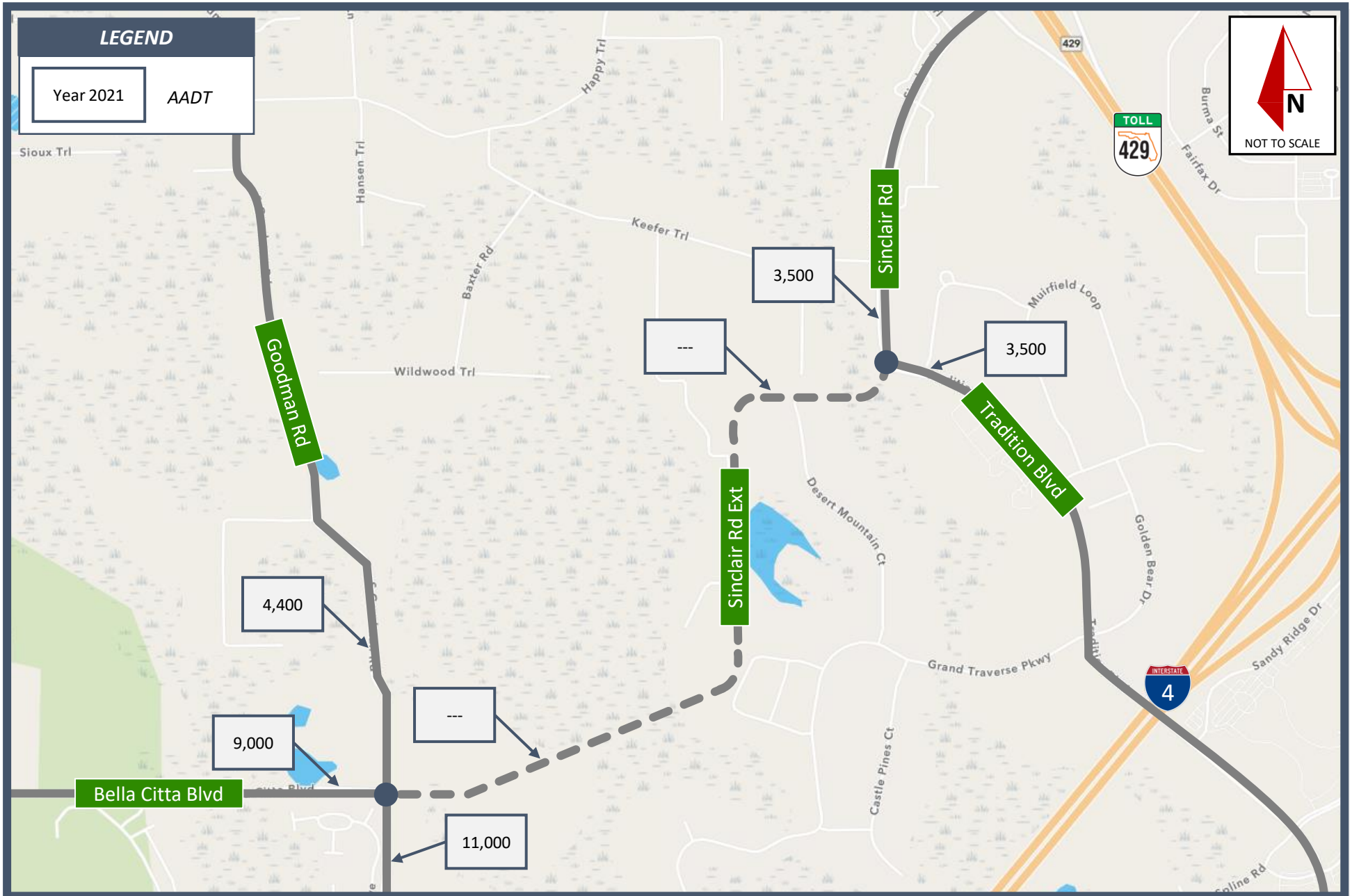

Figure 1: Existing (2021) Average Daily Traffic (ADT)

Sinclair Road Extension | Preliminary Traffic Evaluation

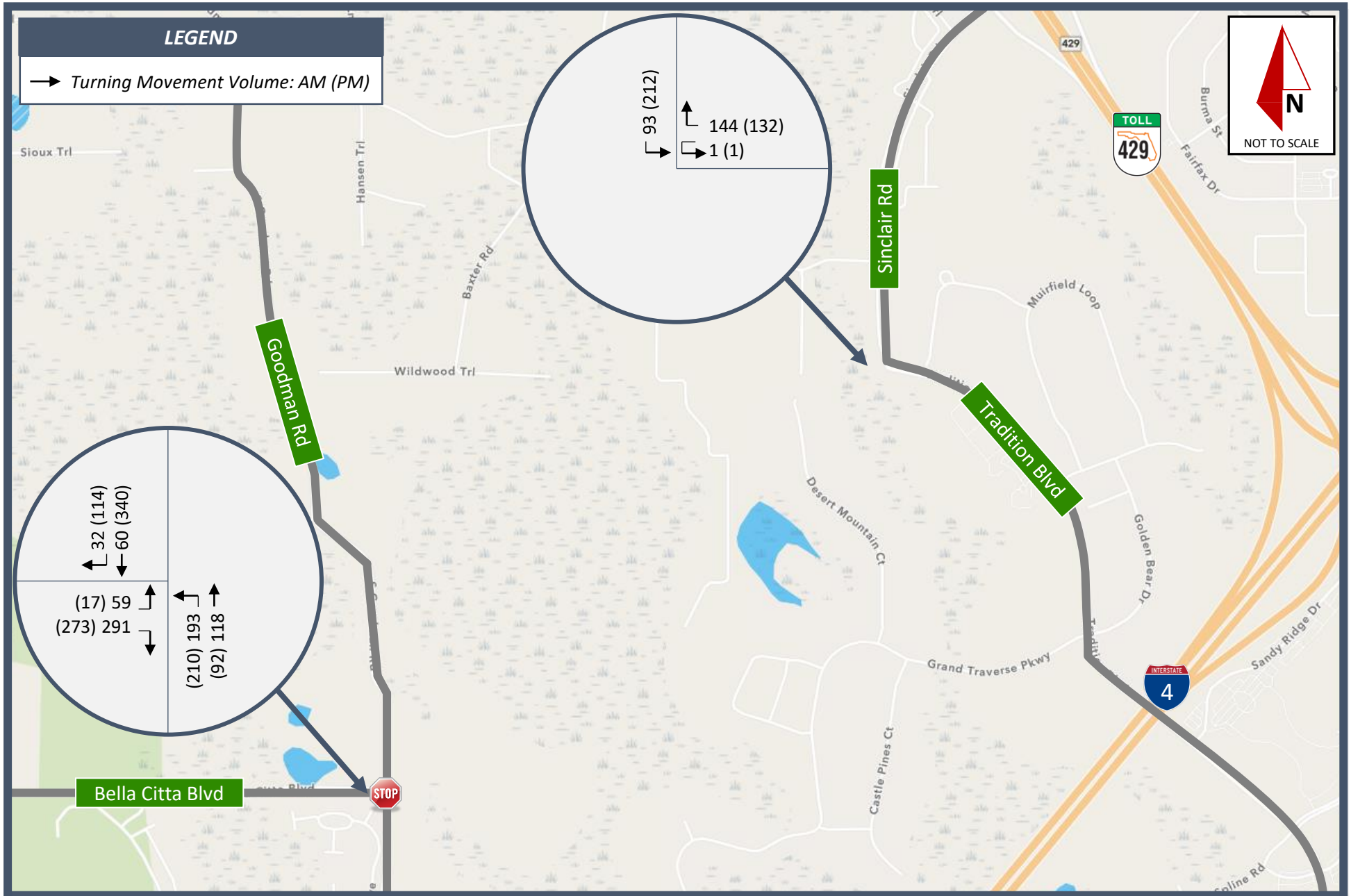

Figure 2: Existing (2021) Intersection Turning Movement Volumes

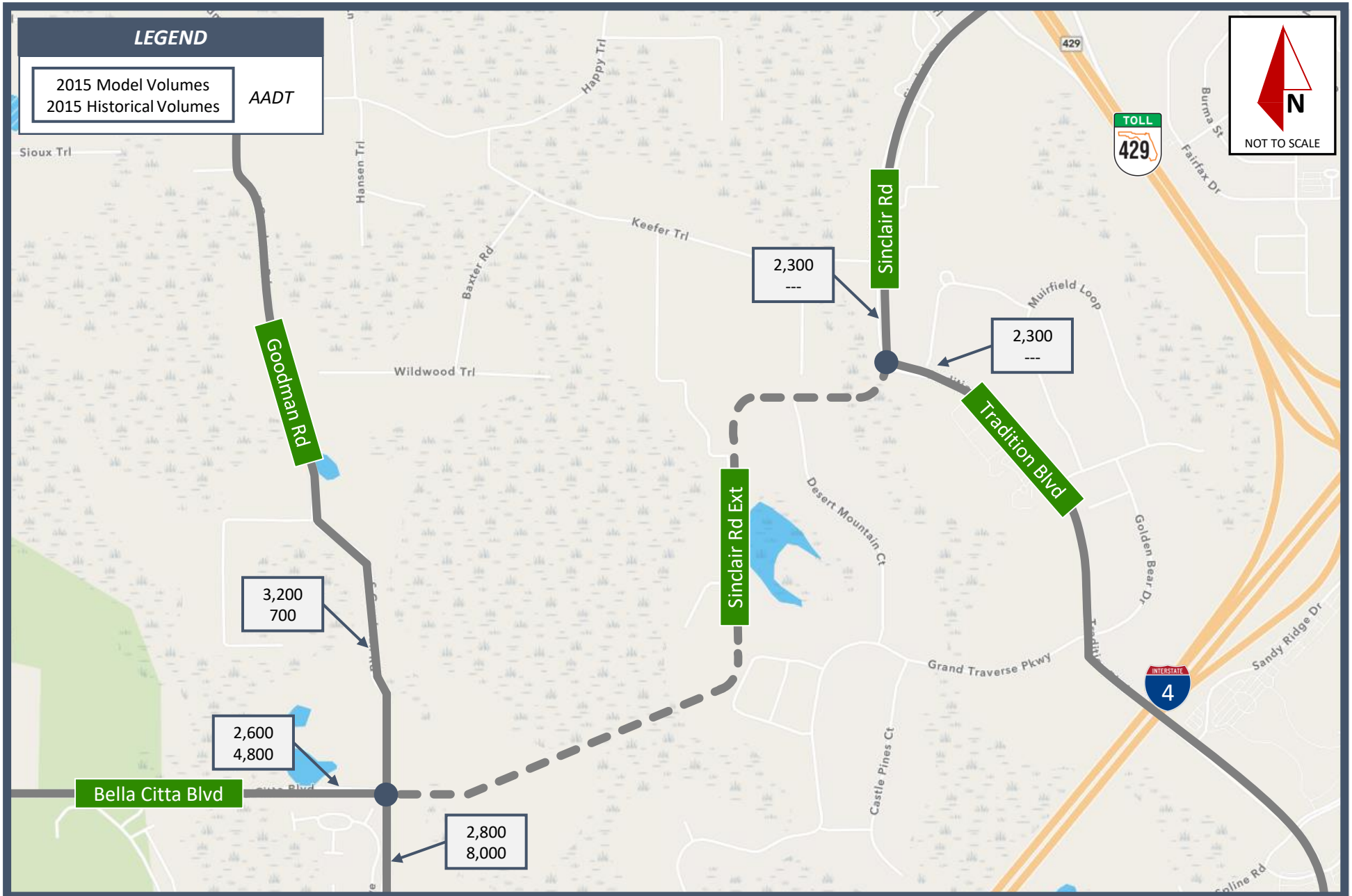

Figure 3: Base (2015) Model Volumes vs. Year 2015 Historical Volumes

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Project 2045 AADT's

The Cost Feasible (CF) 2045 roadway network and socioeconomic data (ZDATA) were reviewed to determine if all known roadway projects and existing/future developments (Reunion, Goodman Road Charter School, Elevation/Dewan Property, Sinclair Road Property, and Illuminate Church) were accounted for. The resulting revisions made to the CF 2045 roadway network and ZDATA are listed below. A summary of the TAZ and ZDATA edits is included in **Table 2**.

- The 2045 CF roadway network did not include the Poinciana Parkway Extension north of CR 532 (Osceola Polk Line Road) to the Interstate 4 (I-4)/SR 429 interchange; therefore, the connection from CR 532 and I-4/SR 429 was coded into the network. The connection at the I-4/SR 429 interchange was assumed to be full access.
- Sinclair Road Extension was coded into the model as a 4-lane road with similar attributes to the existing portion of Sinclair Road north of Tradition Boulevard.
- A segment of Tradition Boulevard was added into the model to represent the existing/future T-intersection at Sinclair Road.
- Westside Boulevard is planned to be fully connected to the north and south by the year 2045, and it was coded in the model as a 4-lane road connecting from and to Bella Citta Boulevard and Sand Mine Road.
- The 2045 ZDATA sufficiently accounted for all planned developments in the area except for the Goodman Road Charter School. A separate TAZ (5525) was coded into the network with a connection to Goodman Road north of Sinclair Road to represent the school's access.
- The TAZ located south of Sinclair Road and north of I-4 was divided into three (3) separate TAZs (5468, 5526, and 5527) to better represent future developments' access points along Sinclair Road.
- Tradition Boulevard currently provides access between the northern and southern portions of Reunion via an overpass on I-4 and allows for vehicles on either side of I-4 to access Sinclair Road, S Old Lake Wilson Road, and CR 532. Centroid connectors were added to the model to represent the connections between Reunion TAZs as well as access to the roadway network.

Table 2: CF 2045 TAZ and ZDATA Revisions

TAZ	Dwelling Units						Employees						Students	
	Single-Family		Multifamily		Hotel/Motel		Commercial		Service		Industrial		K-12	
	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised	Initial	Revised
5468	509	509	1206	**316**	834	834	334	**328**	495	**481**	25	25	0	0
5483	154	154	340	340	33	33	153	153	649	649	4	4	0	0
5484 [1]	500	500	0	0	97	97	52	52	240	240	12	12	0	0
5525 [2]	-	0	-	0	-	0	-	0	-	0	-	0	-	**2550**
5526 [3]	-	0	-	**533**	-	0	-	0	-	0	-	0	-	0
5527 [3]	-	0	-	**1383**	-	0	-	**19**	-	**43**	-	0	-	0

Notes:

1. Planned Illuminate Church is accounted for within the initial 2045 ZDATA.

2. New TAZ, split from 5483 for the planned Goodman Road Charter School (850 students) (includes a factor of 3.0 to align with ITE trip generation)

3. New TAZ, split from 5468 for Dewan/Elevation (444 Multifamily DU) and Sinclair Road Property (446 Multifamily DU, 3.5 KSF restaurant, and 10 pump gas station) (includes a factor of 1.2 for TAZ 5526 and 3.1 for TAZ 5527 to better reflect ITE estimated daily trips).

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Two (2) main CF 2045 models were run to determine the impacts of Sinclair Road Extension: No-Build Scenario (without Sinclair Road extension) and Build Scenario (with the Sinclair Road extension). Raw model volumes are shown in **Figure 4**. Model volumes were adjusted using the Osceola County Model Output Conversion Factor (MOCF). The MOCF is identified in the FDOT FTO seasonal factor sheet, included in the **Attachments**. The Sinclair Road Extension is shown to serve as a major connection between Polk County to the west of Reunion and the major freeway interchange of Interstate 4 (I-4) & SR 429. The proposed Sinclair Road extension is shown to reduce traffic along most parallel routes from/to I-4/SR429 and Bella Citta Boulevard & US 27.

Build 2045 volumes were adjusted to account for base year 2015 model underrepresentation of volumes along portions of Goodman Road and Bella Citta Boulevard. Two sets of adjustments were performed:

- **Adjustment #1:** Historical 2015 AADTs were compared to the adjusted 2015 daily model volume. The model showed to underrepresent the volumes along Goodman Road south of Bella Citta Boulevard and Bella Citta Boulevard west of Goodman Road. The difference in volume (historical 2015 AADT – 2015 model vol.) was added to the Build 2045 model daily volume.
- **Adjustment #2:** The major corridor volumes (Sinclair Road and Bella Citta Boulevard) were increased by ±10% of the highest volume along the segment (2,000 daily trips) to be conservative.

Table 3 shows a summary of the build 2045 volume development.

Table 3: Build 2045 Volume Development

Roadway	Adj. Existing 2021 AADT[1]	Raw 2015 Model Vol.	Adj. 2015 Model Vol.[2]	Historical County 2015 AADT	2015 Volume Diff. (AADT - Model Vol.)	2045 AADT Model Volume			Build 2045 AADT Volume Determination		
						No-Build Model Vol.	Build Model Vol.[2]	Model Vol. Diff.	Build 2045 Model AADT	Adj. #1 Build 2045 Model AADT[3]	Adj. #2 Build 2045 Model AADT[4]
Sinclair Rd											
North of Tradition Blvd	3,500	2,300	2,100	-	-	10,500	20,500	10,000	20,500	20,500	22,500
South of Tradition Blvd	-	-	-	-	-	0	15,500	15,500	15,500	15,500	17,500
Tradition Blvd											
East of Sinclair Rd	3,500	2,300	2,100	-	-	10,500	12,000	1,500	12,000	12,000	12,000
Goodman Rd											
South of Bella Citta Blvd	11,000	2,800	2,500	8,039	5,539	9,300	8,800	-500	8,800	14,339	14,339
North of Bella Citta Blvd	4,400	3,200	2,900	698	-2,202	6,000	5,000	-1,000	5,000	5,000	5,000
Bella Citta Blvd											
West of Goodman Rd	9,000	2,600	2,400	4,800	2,400	5,700	12,500	6,800	12,500	14,900	16,900

Notes:

1. Adjusted by applying the seasonal factor (SF) for Osceola County 0.96, based on FDOT FTO.

2. Raw model volumes adjusted per MOCF = 0.91

3. Build 2045 model AADT volumes adjusted where model volumes were underestimated.

4. Build 2045 model AADT volumes adjusted by adding 10% of the highest volume (2,000) along the Sinclair Rd mainline.

Projected Turning Movement Volumes

Future intersection design hour volumes (DHV) for the horizon year 2045 were developed at the study intersections using TURNS5. A K-factor of 0.09 was used, and the D-factors for each intersection were calculated based on existing traffic counts. Adjusted model volumes, shown in **Table 3** above, were used as seed volumes in TURNS5 to generate build 2045 turning movement volumes. TURNS5 outputs are provided in the **Attachments**. **Figure 5** shows the Build 2045 design hourly turning movement volumes.

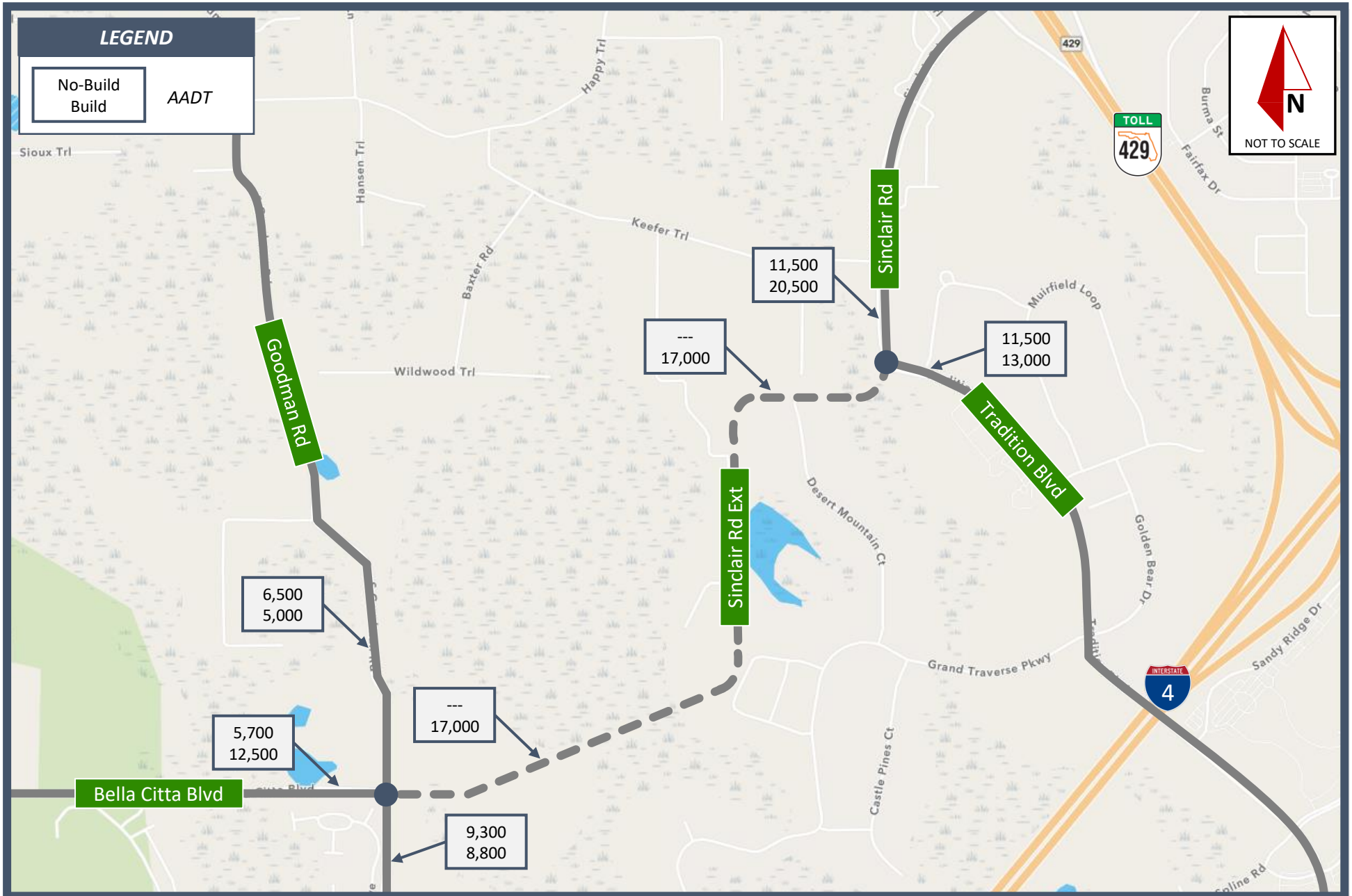

Figure 4: Horizon Year (2045) No-Build and Build Raw Average Daily Traffic (AADT)

Exhibit 10: Horizon Year (2045) Intersection Turning Movement Volumes

Sinclair Road Extension | Preliminary Traffic Evaluation

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Operational Analysis and Lane Requirements

Synchro v11 was used to evaluate the Build 2045 conditions potential intersection configurations. The intersections were evaluated with multiple control types (unsignalized, signalized, and roundabout) and lane configurations to determine the appropriate intersection configuration needed during the horizon year (2045).

Additionally, an FDOT Intersection Control Evaluation (ICE) Stage 1 was performed using the Capacity Analysis for Planning of Junctions (CAP-X) for the intersection of Sinclair Road & Tradition Boulevard during the AM and PM peak hour conditions. The evaluation concluded the Continuous Green T-intersection to operate with the best volume-to-capacity (v/c) ratio of 0.56 and a traffic signal as the second-best alternative with a maximum v/c ratio of 0.63. Two-lane roundabouts were ranked 3rd (v/c = 0.94) and 4th (v/c = 0.98). CAP-X outputs are provided in the **Attachments**.

The signalized intersection control was selected to evaluate both intersections. As shown in **Table 4** below, all study intersection movements are shown to operate with acceptable LOS and v/c ratio less than one (1.0) during the peak hours with the following lane configuration:

Sinclair Road (N/S) & Tradition Boulevard (E/W)

- Northbound: 1 through lane and 1 shared through/right lane
- Southbound: 1 left-turn lane and 2 through lanes
- Westbound: 1 left-turn lane and 1 right-turn lane

Sinclair Road/Bella Citta Boulevard & S Goodman Road

- Northbound: 1 left-turn lane and 1 shared through/right lane
- Southbound: 1 left-turn lane and 1 shared through/right lane
- Westbound: 1 left-turn lane, 1 through lane, and 1 shared through/right lane
- Eastbound: 1 left-turn lane, 1 through lane, and 1 shared through/right lane

Synchro outputs and supporting documentation are included in the **Attachments**.

Turn lane length needs were evaluated for all approaches of the study intersections. One (1) vehicle was assumed to be 25 feet. **Table 5** shows a summary of the recommended queue storage lengths for the turn lanes.

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Table 4: 2045 Operational Results

	Build 2045 Conditions	LOS	Delay (sec/veh)	V/C	95th % Queue (veh)	LOS	Delay (sec/veh)	V/C	95th % Queue (veh)
Sinclair Rd & Tradition Blvd	**Approach**	**AM Peak Hour**				**PM Peak Hour**			
	Northbound	E	58.5	-	-	B	18.8	-	-
	L	-	-	-	-	-	-	-	-
	T	*E*	*58.4*	*0.94*	*23*	*B*	*18.7*	*0.41*	*8*
	*R**	*E*	*58.6*	*0.94*	*23*	*B*	*18.8*	*0.42*	*8*
	Southbound	C	32.0	-	-	A	9.3	-	-
	L	*E*	*62.6*	*0.95*	*12*	*B*	*14.0*	*0.78*	*6*
	T	*B*	*13.8*	*0.30*	*6*	*A*	*6.7*	*0.36*	*6*
	R	-	-	-	-	-	-	-	-
	Westbound	D	50.7	-	-	D	51.2	-	-
	L	*C*	*22.6*	*0.27*	*5*	*D*	*36.6*	*0.54*	*10*
	T	-	-	-	-	-	-	-	-
	R	*E*	*59.5*	*0.96*	*24*	*D*	*61.5*	*0.89*	*10*
	Overall	**D**	**47.7**	**-**	**-**	**B**	**19.7**	**-**	**-**
	Approach	**AM Peak Hour**				**PM Peak Hour**			
Sinclair Rd/Bella Citta Rd & Goodman Rd	Northbound	E	62.3	-	-	C	33.7	-	-
	L	*D*	*38.5*	*0.63*	*6*	*C*	*31.5*	*0.64*	*7*
	T	*A*	*0.0*	*0.00*	*0*	*A*	*0.0*	*0.00*	*0*
	*R**	*E*	*76.7*	*0.97*	*28*	*D*	*35.7*	*0.68*	*8*
	Southbound	D	48.00	-	-	D	38	-	-
	L	*E*	*60.0*	*0.78*	*7*	*C*	*29.6*	*0.39*	*4*
	T	*A*	*0.0*	*0.00*	*0*	*A*	*0.0*	*0.00*	*0*
	*R**	*D*	*39.0*	*0.34*	*8*	*D*	*42.2*	*0.81*	*9*
	Eastbound	E	69.5	-	-	C	31.3	-	-
	L	*C*	*28.5*	*0.24*	*4*	*C*	*21.1*	*0.12*	*1*
	T	*E*	*73.1*	*0.96*	*29*	*C*	*31.00*	*0.73*	*12*
	*R**	*E*	*74.7*	*0.93*	*27*	*C*	*33.00*	*0.80*	*12*
	Westbound	D	45.9	-	-	C	29.7	-	-
	L	*E*	*71.8*	*0.93*	*20*	*D*	*44.5*	*0.93*	*14*
	T	*C*	*26.3*	*0.29*	*8*	*B*	*17.0*	*0.32*	*6*
	*R**	*C*	*26.4*	*0.30*	*8*	*B*	*17.0*	*0.32*	*6*
	Overall	**E**	**59.6**	**-**	**-**	**C**	**32.1**	-	-

Notes:
** Shared movements.*

Table 5: Recommended Queue Storage Lengths for Turn Lanes

Intersection	Turn Lane Queue Length (feet)			
	EBL	WBL	NBL	SBL
Sinclair Rd & Tradition Bvld	-	250	-	300
Sinclair Rd/Bella Citta Blvd & Goodman Rd	100	500	175	175

Note: 1 95th-percentile queue as reported in the Synchro outputs. Turn lane queue length rounded to the nearest 25 ft.

APPENDIX N

Highway Safety Manual (HS) Crash Prediction Outputs

WORKSHEET 1A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

General Information		Location Information	
Analyst	EDRM	Roadway	Sinclair Rd
Agency or Company	Kimley-Horn	Roadway Section	from Tradition Blvd to Goodman Rd
Date Performed	05/19/22	Jurisdiction	Osceola County
Segment for Analysis	Segment 1	Analysis Year	2045

Input Data		Site Conditions	Base Conditions
Roadway type (2U, 3T, 4U, 4D, 5T)		4D	--
Length of segment, L (mi)		1.5	--
AADT (veh/day) is within range	$AADT_{MAX}$ = 66,000 (veh/day)	17,500	--
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		0	--
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		0	--
Minor commercial driveways (number)		0	--
Major industrial / institutional driveways (number)		0	--
Minor industrial / institutional driveways (number)		0	--
Major residential driveways (number)		1	--
Minor residential driveways (number)		1	--
Other driveways (number)		0	--
Speed Category		Posted Speed Greater than 30 mph	--
Roadside fixed object density (fixed objects / mi)		0	0
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	1.00

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle driveway crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0
Multiple vehicle nondriveway crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 1B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.91	1.00	0.91

WORKSHEET 1C -- MULTIPLE-VEHICLE NONDRIVEWAY COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients from Table 12-3		Overdispersion Parameter, k from Table 12-3	Initial N_{brmv} from Equation 12-10	Proportion of Total Crashes	Adjusted N_{brmv} $(4)_{TOTAL}$*(5)	Combined CMFs (6) from Worksheet 1B	Calibration Factor, Cr	Predicted N_{brmv} (6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.867	1.000	3.867	0.91	1.00	3.534
Fatal and Injury (FI)	-12.76	1.28	1.31	1.163	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.284	1.097	0.91	1.00	1.002
Property Damage Only (PDO)	-12.81	1.38	1.34	2.939	$(5)_{TOTAL}-(5)_{FI}$ 0.716	2.771	0.91	1.00	2.532

WORKSHEET 1D -- MULTIPLE-VEHICLE NONDRIVEWAY COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type(FI)	Predicted N *brmv* (FI) (crashes/year)	Proportion of Collision Type (PDO)	Predicted N *brmv* (PDO) (crashes/year)	Predicted N *brmv* (TOTAL) (crashes/year)
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	1.002	1.000	2.532	3.534
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.832	0.834	0.662	1.676	2.510
Head-on collision	0.020	0.020	0.007	0.018	0.038
Angle collision	0.040	0.040	0.036	0.091	0.131
Sideswipe, same direction	0.050	0.050	0.223	0.565	0.615
Sideswipe, opposite direction	0.010	0.010	0.001	0.003	0.013
Other multiple-vehicle collision	0.048	0.048	0.071	0.180	0.228

WORKSHEET 1E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients from Table 12-5		Overdispersion Parameter, k from Table 12-5	Initial N_{brsv} from Equation 12-13	Proportion of Total Crashes	Adjusted N_{brsv} $(4)_{TOTAL}$*(5)	Combined CMFs (6) from Worksheet 1B	Calibration Factor, Cr	Predicted N_{brsv} (6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.949	1.000	0.949	0.91	1.00	0.867
Fatal and Injury (FI)	-8.71	0.66	0.28	0.156	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.165	0.157	0.91	1.00	0.143
Property Damage Only (PDO)	-5.04	0.45	1.06	0.788	$(5)_{TOTAL}-(5)_{FI}$ 0.835	0.792	0.91	1.00	0.724

WORKSHEET 1F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type(FI)	Predicted N *brsv* (FI) (crashes/year)	Proportion of Collision Type (PDO)	Predicted N *brsv* (PDO) (crashes/year)	Predicted N *brsv* (TOTAL) (crashes/year)
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.143	1.000	0.724	0.867
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.001	0.000	0.063	0.046	0.046
Collision with fixed object	0.500	0.072	0.813	0.588	0.660
Collision with other object	0.028	0.004	0.016	0.012	0.016
Other single-vehicle collision	0.471	0.068	0.108	0.078	0.146

WORKSHEET 1G -- MULTIPLE-VEHICLE DRIVEWAY-RELATED COLLISIONS BY DRIVEWAY TYPE FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	Number of driveways, n_j	Crashes per driveway per year, N_j	Coefficient for traffic adjustment, t	Initial N_{brdwy}	Overdispersion parameter, k
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	1	0.018	1.106	0.021	
Minor residential	1	0.003	1.106	0.004	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.025	1.39

WORKSHEET 1H -- MULTIPLE-VEHICLE DRIVEWAY-RELATED COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Initial N_{brdwy}	Proportion of total crashes (f_{dwy})	Adjusted N_{brdwy}	Combined CMFs	Calibration factor, C_r	Predicted N_{brdwy}
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.025	1.000	0.025	0.91	1.00	0.023
Fatal and injury (FI)	--	0.284	0.007	0.91	1.00	0.006
Property damage only (PDO)	--	0.716	0.018	0.91	1.00	0.016

WORKSHEET 1I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{pedr}	Calibration factor, C_r	Predicted N_{pedr}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.534	0.867	0.023	4.424	0.019	1.00	0.084
Fatal and injury (FI)	--	--	--	--	--	1.00	0.084

WORKSHEET 1J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	Predicted N_{brmv}	Predicted N_{brsv}	Predicted N_{brdwy}	Predicted N_{br}	f_{biker}	Calibration factor, C_r	Predicted N_{biker}
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.534	0.867	0.023	4.424	0.005	1.00	0.022
Fatal and injury (FI)	--	--	--	--	--	1.00	0.022

WORKSHEET 1K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.834	1.676	2.510
Head-on collisions (from Worksheet 1D)	0.020	0.018	0.038
Angle collisions (from Worksheet 1D)	0.040	0.091	0.131
Sideswipe, same direction (from Worksheet 1D)	0.050	0.565	0.615
Sideswipe, opposite direction (from Worksheet 1D)	0.010	0.003	0.013
Driveway-related collisions (from Worksheet 1H)	0.006	0.016	0.023
Other multiple-vehicle collision (from Worksheet 1D)	0.048	0.180	0.228
Subtotal	1.009	2.549	3.557
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.046	0.046
Collision with fixed object (from Worksheet 1F)	0.072	0.588	0.660
Collision with other object (from Worksheet 1F)	0.004	0.012	0.016
Other single-vehicle collision (from Worksheet 1F)	0.068	0.078	0.146
Collision with pedestrian (from Worksheet 1I)	0.084	0.000	0.084
Collision with bicycle (from Worksheet 1J)	0.022	0.000	0.022
Subtotal	0.250	0.724	0.973
Total	1.258	3.272	4.530

WORKSHEET 1L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ROADWAY SEGMENTS

(1)	(2)	(3)	(4)
Crash Severity Level	Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)	Roadway segment length, L (mi)	Crash rate (crashes/mi/year)
	(Total) from Worksheet 1K		(2) / (3)
Total	4.5	1.50	3.0
Fatal and injury (FI)	1.3	1.50	0.8
Property damage only (PDO)	3.3	1.50	2.2

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	4.5	0.0	0.0	1.3	0.0	0.0	3.3	0.0	0.0

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		Location Information	
Analyst	EDRM	Roadway	Sinclair Rd & Tradition Blvd
Agency or Company	Kimley-Horn	Location Information	0
Date Performed	5/19/2022	Jurisdiction	Osceola County
Intersection	Intersection 1	Analysis Year	2045
Signalized/Unsignalized	Signalized	Ped Volume (after Intx Type)	Not Known

Input Data				Site Conditions	Base Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)				3SG	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	58,100	(veh/day)	20,900	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	16,400	(veh/day)	5,300	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
Number of major-road approaches with left-turn lanes (0,1,2)				0	0
Number of major-road approaches with right-turn lanes (0,1,2)				0	0
Data for signalized intersections only:					
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]				2	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]				1	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]				2	--
Type of left-turn signal phasing for Leg #1				Protected/Permissive	Permissive
Type of left-turn signal phasing for Leg #2				Protected	--
Type of left-turn signal phasing for Leg #3				Not Applicable	--
Type of left-turn signal phasing for Leg #4 (if applicable)				Not Applicable	--
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]				0	0
Intersection red light cameras (present/not present)				Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only				50	--
Maximum number of lanes crossed by a pedestrian (n_{lanesx})				4	--
Number of bus stops within 300 m (1,000 ft) of the intersection				0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)				Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection				0	0

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0
Single-vehicle crashes	KABC	Fatal and Injury Only	1.0
	PDO	Property Damage Only	3.0

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF* $_{COMB}$
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.8600	0.9306	0.9600	1.0000	0.9661	1.0000	0.7422

WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	SPF Coefficients from Table 12-10			Overdispersion Parameter, k from Table 12-10	Initial N_{bimv} from Equation 12-21	Proportion of Total Crashes	Adjusted N_{bimv} $(4)_{TOTAL}$*(5)	Combined CMFs (7) from Worksheet 2B	Calibration Factor, C_i	Predicted N_{bimv}
	a	b	c							
Total	-12.13	1.11	0.26	0.33	3.131	1.000	3.131	0.74	1.00	2.324
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	1.025	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.343	1.075	0.74	1.00	0.798
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	1.960	$(5)_{TOTAL}-(5)_{FI}$ = 0.657	2.056	0.74	1.00	1.526

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type$_{(FI)}$	Predicted N $_{bimv\ (FI)}$ (crashes/year)	Proportion of Collision Type $_{(PDO)}$	Predicted N $_{bimv\ (PDO)}$ (crashes/year)	Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.798	1.000	1.526	2.324
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.549	0.438	0.546	0.833	1.271
Head-on collision	0.038	0.030	0.020	0.031	0.061
Angle collision	0.280	0.223	0.204	0.311	0.535
Sideswipe	0.076	0.061	0.032	0.049	0.109
Other multiple-vehicle collision	0.057	0.045	0.198	0.302	0.348

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients from Table 12-12			Overdispersion Parameter, k from Table 12-12	Initial N_{bisv} from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27	Proportion of Total Crashes	Adjusted N_{bimv} $(4)_{TOTAL}$*(5)	Combined CMFs (7) from Worksheet 2B	Calibration Factor, C_i	Predicted N_{bisv} (6)*(7)*(8)
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.244	1.000	0.244	0.74	1.00	0.181
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.068	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.286	0.070	0.74	1.00	0.052
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.170	$(5)_{TOTAL}-(5)_{FI}$ = 0.714	0.174	0.74	1.00	0.129

WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type$_{(FI)}$	Predicted N $_{bisv\ (FI)}$ (crashes/year)	Proportion of Collision Type $_{(PDO)}$	Predicted N $_{bisv\ (PDO)}$ (crashes/year)	Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.052	1.000	0.129	0.181
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.000	0.000
Collision with fixed object	0.653	0.034	0.895	0.116	0.149
Collision with other object	0.091	0.005	0.069	0.009	0.014
Other single-vehicle collision	0.045	0.002	0.018	0.002	0.005
Single-vehicle noncollision	0.209	0.011	0.014	0.002	0.013

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{pedi}	Calibration factor, C_i	Predicted N_{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	$N_{pedbase}$	Combined CMF	Calibration factor, C_i	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.012	1.00	1.00	0.012
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.012

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.324	0.181	2.505	0.011	1.00	0.028
Fatal and injury (FI)	--	--	--	--	1.00	0.028

WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI) (3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	Property damage only (PDO) (5) from Worksheet 2D and 2F	Total (6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.438	0.833	1.271
Head-on collisions (from Worksheet 2D)	0.030	0.031	0.061
Angle collisions (from Worksheet 2D)	0.223	0.311	0.535
Sideswipe (from Worksheet 2D)	0.061	0.049	0.109
Other multiple-vehicle collision (from Worksheet 2D)	0.045	0.302	0.348
Subtotal	0.798	1.526	2.324
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.034	0.116	0.149
Collision with other object (from Worksheet 2F)	0.005	0.009	0.014
Other single-vehicle collision (from Worksheet 2F)	0.002	0.002	0.005
Single-vehicle noncollision (from Worksheet 2F)	0.011	0.002	0.013
Collision with pedestrian (from Worksheet 2G or 2I)	0.012	0.000	0.012
Collision with bicycle (from Worksheet 2J)	0.028	0.000	0.028
Subtotal	0.091	0.129	0.220
Total	0.889	1.655	2.544

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	2.5
Fatal and injury (FI)	0.9
Property damage only (PDO)	1.7

PROJECT ELEMENT RESULTS SUMMARY[1]

Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	2.5	0	0	0.9	0	0	1.7	0	0

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

WORKSHEET 2A -- GENERAL INFORMATION AND INPUT DATA FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

General Information		Location Information	
Analyst	EDRM	Roadway	Goodman Rd & Bella Citta Blvd/Sinclair Rd
Agency or Company	Kimley-Horn	Location Information	0
Date Performed	5/19/2022	Jurisdiction	Osceola County
Intersection	Intersection 2	Analysis Year	2045
Signalized/Unsignalized	Signalized	Ped Volume (after Intx Type)	Not Known

Input Data				Site Conditions	Base Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)				4SG	--
AADT $_{major}$ (veh/day) (total entering on major approaches)*	$AADT_{MAX}$ =	67,700	(veh/day)	17,100	--
AADT $_{minor}$ (veh/day) (total entering on minor approaches)*	$AADT_{MAX}$ =	33,400	(veh/day)	9,800	--
Intersection lighting (present/not present)				Present	Not Present
Calibration factor, C_i				1.00	1.00
Data for unsignalized intersections only:					
~~Number of major-road approaches with left-turn lanes (0,1,2)~~				~~0~~	~~0~~
~~Number of major-road approaches with right-turn lanes (0,1,2)~~				~~0~~	~~0~~
Data for signalized intersections only:					
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]				4	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]				0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]				4	--
Type of left-turn signal phasing for Leg #1				Protected/Permissive	Permissive
Type of left-turn signal phasing for Leg #2				Protected/Permissive	--
Type of left-turn signal phasing for Leg #3				Protected/Permissive	--
Type of left-turn signal phasing for Leg #4 (if applicable)				Protected/Permissive	--
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]				0	0
Intersection red light cameras (present/not present)				Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only				50	--
Maximum number of lanes crossed by a pedestrian (n_{lanesx})				5	--
Number of bus stops within 300 m (1,000 ft) of the intersection				0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)				Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection				0	0

Average Annual Crash History (3 or 5-yr average)			
Multiple vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	0.0
Single-vehicle crashes	KABC	Fatal and Injury Only	0.0
	PDO	Property Damage Only	5.0

NOTES: * AADT: It is important to remember that the AADT(major) = AADT(major approach1) + AADT(minor approach2) (refer to p.12-8 in Part C of the HSM)

WORKSHEET 2B -- CRASH MODIFICATION FACTORS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF* $_{COMB}$
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.6600	0.9606	1.0000	1.0000	0.9661	1.0000	0.6125

WORKSHEET 2C -- MULTIPLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(6)*(7)*(8)
Crash Severity Level	SPF Coefficients from Table 12-10			Overdispersion Parameter, k from Table 12-10	Initial N_{bimv} from Equation 12-21	Proportion of Total Crashes	Adjusted N_{bimv} $(4)_{TOTAL}$*(5)	Combined CMFs (7) from Worksheet 2B	Calibration Factor, C_i	Predicted N_{bimv}
	a	b	c							
Total	-10.99	1.07	0.23	0.39	4.725	1.000	4.725	0.61	1.00	2.894
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	1.467	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.322	1.522	0.61	1.00	0.932
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	3.088	$(5)_{TOTAL}-(5)_{FI}$ 0.678	3.203	0.61	1.00	1.962

WORKSHEET 2D -- MULTIPLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type$_{(FI)}$	Predicted N $_{bimv\ (FI)}$ (crashes/year)	Proportion of Collision Type $_{(PDO)}$	Predicted N $_{bimv\ (PDO)}$ (crashes/year)	Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.932	1.000	1.962	2.894
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.450	0.419	0.483	0.948	1.367
Head-on collision	0.049	0.046	0.030	0.059	0.105
Angle collision	0.347	0.323	0.244	0.479	0.802
Sideswipe	0.099	0.092	0.032	0.063	0.155
Other multiple-vehicle collision	0.055	0.051	0.211	0.414	0.465

WORKSHEET 2E -- SINGLE-VEHICLE COLLISIONS BY SEVERITY LEVEL FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients from Table 12-12			Overdispersion Parameter, k from Table 12-12	Initial N_{bisv} from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27	Proportion of Total Crashes	Adjusted N_{bimv} $(4)_{TOTAL}$*(5)	Combined CMFs (7) from Worksheet 2B	Calibration Factor, C_i	Predicted N_{bisv} (6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.333	1.000	0.333	0.61	1.00	0.204
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.091	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.278	0.093	0.61	1.00	0.057
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.237	$(5)_{TOTAL}-(5)_{FI}$ 0.722	0.240	0.61	1.00	0.147

WORKSHEET 2F -- SINGLE-VEHICLE COLLISIONS BY COLLISION TYPE FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type$_{(FI)}$	Predicted N $_{bisv\ (FI)}$ (crashes/year)	Proportion of Collision Type $_{(PDO)}$	Predicted N $_{bisv\ (PDO)}$ (crashes/year)	Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.057	1.000	0.147	0.204
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.000	0.000
Collision with fixed object	0.744	0.042	0.870	0.128	0.170
Collision with other object	0.072	0.004	0.070	0.010	0.014
Other single-vehicle collision	0.040	0.002	0.023	0.003	0.006
Single-vehicle noncollision	0.141	0.008	0.034	0.005	0.013

WORKSHEET 2G -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL STOP-CONTROLLED INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{pedi}	Calibration factor, C_i	Predicted N_{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

WORKSHEET 2H -- CRASH MODIFICATION FACTORS FOR VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.35	1.00	1.35

WORKSHEET 2I -- VEHICLE-PEDESTRIAN COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL SIGNALIZED INTERSECTIONS

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	$N_{pedbase}$	Combined CMF	Calibration factor, C_i	Predicted N_{pedi}
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.026	1.35	1.00	0.036
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.036

WORKSHEET 2J -- VEHICLE-BICYCLE COLLISIONS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.894	0.204	3.098	0.015	1.00	0.046
Fatal and injury (FI)	--	--	--	--	1.00	0.046

WORKSHEET 2K -- CRASH SEVERITY DISTRIBUTION FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI) (3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	Property damage only (PDO) (5) from Worksheet 2D and 2F	Total (6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.419	0.948	1.367
Head-on collisions (from Worksheet 2D)	0.046	0.059	0.105
Angle collisions (from Worksheet 2D)	0.323	0.479	0.802
Sideswipe (from Worksheet 2D)	0.092	0.063	0.155
Other multiple-vehicle collision (from Worksheet 2D)	0.051	0.414	0.465
Subtotal	0.932	1.962	2.894
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.042	0.128	0.170
Collision with other object (from Worksheet 2F)	0.004	0.010	0.014
Other single-vehicle collision (from Worksheet 2F)	0.002	0.003	0.006
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.005	0.013
Collision with pedestrian (from Worksheet 2G or 2I)	0.036	0.000	0.036
Collision with bicycle (from Worksheet 2J)	0.046	0.000	0.046
Subtotal	0.139	0.147	0.286
Total	1.071	2.109	3.180

WORKSHEET 2L -- SUMMARY RESULTS FOR URBAN AND SUBURBAN ARTERIAL INTERSECTIONS

(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	3.2
Fatal and injury (FI)	1.1
Property damage only (PDO)	2.1

PROJECT ELEMENT RESULTS SUMMARY[1]

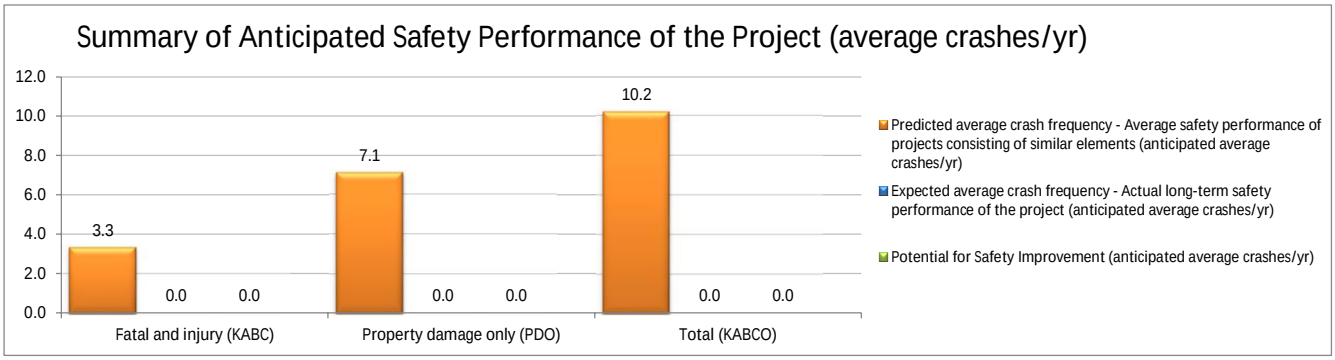
Summary for the project element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
	3.2	0	0	1.1	0	0	2.1	0	0

Special Note: When the project element is not included in the analysis the results will all be zeros. In addition if only the analysis only includes determining the predicted average crash frequency (i.e. EB analysis is not carried out), the results will show zero values where EB results are usually displayed.

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	Sinclair Rd PD&E
Project Description	Sinclair Road PTAR
Reference Number	-
Analyst	EDRM
Agency/Company	Kimley-Horn
Contact Email	-
Contact Phone	-
Date Completed	05/19/22

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)			Fatal and Injury Crashes/yr (KABC)			Property Damage Only Crashes/yr (PDO)		
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Expected average crash frequency $N_{expected\ (KABCO)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (KABC)}$	Expected average crash frequency $N_{expected\ (KABC)}$	Potential for Improvement	Predicted average crash frequency $N_{predicted\ (O)}$	Expected average crash frequency $N_{expected\ (O)}$	Potential for Improvement
INDIVIDUAL SEGMENTS									
Segment 1	4.5	0.0	0.0	1.3	0.0	0.0	3.3	0.0	0.0
INDIVIDUAL INTERSECTIONS									
Intersection 1	2.5	0.0	0.0	0.9	0.0	0.0	1.7	0.0	0.0
Intersection 2	3.2	0.0	0.0	1.1	0.0	0.0	2.1	0.0	0.0
COMBINED (sum of column)	10.2	0.0	0.0	3.3	0.0	0.0	7.1	0.0	0.0

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)	$N_{expected\ (PROJECT)}$ Expected average crash frequency - Actual long-term safety performance of the project (anticipated average crashes/yr)	$N_{potential\ for\ improvement\ (PROJECT)}$ Potential for Safety Improvement (anticipated average crashes/yr)
Fatal and injury (KABC)	3.3	0.0	N/A
Property damage only (PDO)	7.1	0.0	N/A
Total (KABCO)	10.2	0.0	N/A

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that the project will, on average, experience 0 crashes per year (0 fatal and injury crashes per year; and 0 property damage only crashes per year).

2. A similar project is anticipated, on average, to experience 10.2 crashes per year (3.3 fatal and injury crashes per year; and 7.1 property damage only crashes per year).